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A Study of Organizational Climate and Educational Change in Selected North Dakota High Schools

Edward J. Hill

A STUDY OF ORGANIZATIONAL CLIMATE AND EDUCATIONAL CHANGE IN SELECTED NORTH DAKOTA HIGH SCHOOLS

by

Edward J. Hill

Bachelor of Science, St. Cloud State College, 1959
Master of Science, St. Cloud State College, 1965

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ABSTRACT

Purpose

This study is postulated on the theory that a direct relationship exists between organizational climate and educational change. The primary purpose of the study was to analyze the relationships between organizational climate and educational changes in selected high schools. A further purpose was to determine if there were significant differences between the principals' and faculties' profile scores on each of the eight subtests of the Organizational Climate Description Questionnaire (OCDQ).

The study also attempted to determine which set of selected teacher biographical variables contributed most to the predictability of each subtest score of the OCDQ.

Method and Procedures

The population for the study was made up of 21 North Dakota high schools. It was limited to high schools with 15 to 30 teachers for grades 9 through 12. One high school was excluded from the study because the district was actively engaged in a national study, thereby, reducing the sample to 20 high schools. The 20 high schools had 382 professional staff under contract.

Instruments used to collect the data included the OCDQ, the Educational Change Checklist, and a biographical data questionnaire.

Each faculty member received the OCDQ and a biographical data questionnaire along with a stamped, addressed envelope for their return upon completion. The packets containing the questionnaires were sent to each superintendent for distribution at a special faculty meeting. Personal letters containing copies of the OCDQ and the Educational Change Checklist were sent to each of the high school principals.

Canonical correlation and Chi-square were the statistical treatments selected to test the first hypothesis. The statistical treatment selected to test the second hypothesis was a one-way regression analysis of variance. A setwise backward multiple linear regression approach was used to determine the best predictor set of teacher biographical variables for each of the eight OCDQ subtest scores.

Conclusions

The following conclusions are supported by the data obtained in this study:

1. There was no conclusive evidence found to indicate any definite overall relationships between school climate and educational change.

2. The principals as a group perceive the organizational climate dimension of their schools are being more favorable than do their faculties.

3. The teacher biographical variables of educational background, sex and age, were the best predictors for each of the eight OCDQ subtest scores.

Recommendations

This study revealed a number of questions that could be answered through further research. The following are submitted as recommendations for further study:

1. Research needs to be extended and expanded to provide a more complete view of any relationships between organizational climate and educational change.

2. A longitudinal study should be conducted to determine what effects, if any, the adoption of an educational change has on the organizational climate of a school.

3. The population should be expanded to establish OCDQ norms for high schools located in rural areas.

4. Research should be conducted to explore the possibility of relationships existing between organizational climate and the biographical characteristics of the principal.

CHAPTER I

INTRODUCTION

The Rationale of the Study

Modern society is in a period of tumultuous and unprecedented activity which is placing increasing demands upon its educational institutions. The last two decades have witnessed a continuous reappraisal of the ability of the educational institutions to cope with cultural change. The field of education is being confronted more and more with the problem of change. It would seem that the ever-increasing needs of a changing society would make it imperative that education move in new and divergent directions. Actually, the resulting quality of education will, to a large degree, depend on how well the public schools utilize their resources to meet society's changing needs. As Trump (1961, p. 3) stated: "The whole concept of the secondary school--its facilities, its purposes, its methods, its staff, its curriculum, its finances--must undergo basic, carefully considered changes."

Piaget (Duckworth, 1964, p. 499) emphasized that the basic role of education was not only to meet the current demands of society but to foster change within that society: "The principal goal of education is to create men who are capable of doing new things, not simply to repeating what other generations have done--men who are creative, inventive discoverers."

Behavioral psychologists believe the environment is the primary determinant of behavior for the student. Educators are becoming more aware that the problems found in man's academic education are directly related to the problems of his environment. There is a vast number of educators who believe that schools must adapt their teaching-learning process to meet the new demands placed upon them by society.

A number of studies have indicated that environment is a significant factor with respect to change. The Hawthorne studies at Western Electric (Roethlisberger and Dickson, 1939) revealed that simply by changing some aspects of plant environment there was a significant increase in output and in employee morale. The studies stressed the importance of human relations in industry and were of particular importance in the development of new theories in school administration.

Stern et al. (1956) found that environment conditions under which a given role must be fulfilled may be so intolerable to a person that his morale collapses and ceases to provide a basis for his ambition and power. These intolerable conditions are more often of a social rather than a physical nature; some of these conditions included incompatible associates, a domineering or inept supervisor, arbitrary and oppressive rulings, insufficient appreciation, and isolation.

Significant changes have occurred in the study of school administration in the last 23 years following the interdisciplinary involvement of the behavioral sciences. The behavioral sciences are placing greater emphasis on the socio-psychological behavior of the administrator rather than on his specific activities.

This investigation of high school organizational climate will utilize the socio-psychological approach to the study of administration, the premise being that the organizational climate of a school is determined by the behavior of its members, particularly its leaders.

Cornell (1955) identified a number of variables that were important in the development of the concept of organizational climate. The variables were analyzed in four schools during a four-year study. Cornell concluded that changes in the educational operations of a school are determined by complex factors. Also, the environment of administration may be more important than specific administrative activity.

Parsons (1958) proposed the systems concept for the study of organizations. Getzels and Guba (1957) developed a theoretical model of social behavior in which administration is considered as a social process based on the systems concept of Parsons. In essence, the Getzels model portrayed two dimensions of social behavior: (1) institutions having roles and expectations that fulfill the goals of the system (Nomothetic Dimension), and (2) the behavior of individuals based upon their personalities and needs dispositions (Ideographic Dimension). Getzels and Guba concluded also that the individual will have increased job satisfaction if he can satisfy his own needs while at the same time fulfilling his institutional role. The model is illustrated in later pages of this study.

The early 1960's witnessed a significant change in the study of administration. The new focus was directed toward the study of organizational theory rather than administrative theory. Halpin and Croft (1963a) sought to "map the domain" of organizational climate in

schools using these new theories. Their studies resulted in the development of a measuring instrument entitled Organizational Climate Description Questionnaire (OCDQ). This instrument purports to measure selected behavior characteristics of the principal and teacher within an organization.

Halpin and Croft (1963a) made a cluster analysis of the items in the Organizational Climate Description Questionnaire and were able to group the items into eight subtests. Four subtests measure the behavior characteristics of the teacher: (1) Disengagement, (2) Hindrance, (3) Esprit, and (4) Intimacy. The remaining four, (5) Aloofness, (6) Production Emphasis, (7) Thrust, and (8) Consideration, measure characteristics of the principal.

This study was primarily concerned with investigating the interactive behavior of teachers and principal and the relationship of their behavior to the educational changes occurring in each respective high school. Halpin and Croft's instrument, the Organizational Climate Description Questionnaire (OCDQ), was selected for the purpose of investigating the organizational climate found in selected public high schools.

Purpose of the Study

The primary purpose of this investigation was to analyze the relationships between the organizational climates, as measured by the OCDQ, and educational changes in selected North Dakota high schools.

This study was extended to examine the predictability of perceived organizational climate by selected biographical variables.

Dimensions of organizational climate and educational change were analyzed by testing the following null hypotheses:

1. There was no significant relationship between the school's profile scores on each of the eight subtests of the Organizational Climate Description Questionnaire and the five subtest scores of the Educational Change Checklist.
2. There were no significant differences between the principals' and faculties' profile scores on each of the eight subtests of the Organizational Climate Description Questionnaire.

The following research question was developed to examine the predictability of organizational climates:

Which of the sets of biographical variables obtained from the teachers contributed most to the predictability of each subtest score of the Organizational Climate Description Questionnaire?

Limitations of the Study

1. The population of the study was limited to 21 North Dakota high schools. Schools chosen as participants were limited to high schools with 15 to 30 teachers in grades 9 through 12.
2. The instruments used to collect the data for this study were assumed to be reliable and valid.
3. The method of data collection was assumed to be confidential in nature and the results were not biased by the

possible presence of the principal. Furthermore, it was assumed that the presence of the superintendent in the same high school did not affect the teachers' perceptions of their principal's behavior.

4. The study of organizational climate at only one point in time makes it imperative that all generalizations and recommendations be limited to non-longitudinal aspects.

Definition of Terms

Climate Similarity Scores:--The mean score obtained by computing the sum of the absolute difference between a school's climate profile scores and the prototypic climate established by Halpin and Croft (1963a).

Dimensions of Organizational Climate:--The school's mean score for each of the eight subtests that comprise the OCDQ.

Organizational Climate:--According to Halpin and Croft (1963a), "the organizational climate can be construed as the organizational 'personality' of a school; figuratively, 'personality' is to the individual what 'climate' is to the organization." Organizational climate will refer only to the interactive behavior of the principal and teachers as measured by the OCDQ.

OCDQ:--The OCDQ is used in this study to refer to the Organizational Climate Description Questionnaire. Halpin and Croft developed the OCDQ for the purpose of "mapping the domain" of a school's climate. A copy of the OCDQ is included in the appendices.

Prototypic Profile Scores:--The pattern or profile of a school's organizational climate found by plotting the eight OCDQ subtest scores. Halpin and Croft (1963a) developed an ideal prototypic climate.

Role:--Role is the actual behavior of the actor as a role incumbent.

Significance of the Study

The task of education is to prepare the student to take his place in a rapidly changing world. The increasing demands for changes in education make it imperative that adequate empirical research be conducted to assist the schools with this task.

Many studies of the factors related to organizational climate have been conducted in urban schools. A survey of the literature shows a definite lack of research on the climates found in rural schools. This study attempted to explore the variables in rural schools which might significantly contribute to the predictability of organizational climate.

Data obtained in this study were analyzed, and an interpretation returned to each principal of the participating schools. Thus, the principal and his teachers had an opportunity to examine each school's climate. In addition, the data provided the principal with a profile of his relationship with his teachers.

The significance of this study resulted from its contributions to the aforesaid areas and the extension of research on the matter of organizational climate.

Organization of the Remainder of this Study

Chapter II contains a review of the literature and research pertinent to this investigation. The review surveys the areas of organizational climate and educational change.

Chapter III presents the design of the study. The chapter also includes a description of the population, instruments, methodology and statistical procedures utilized in the analyses.

Chapter IV presents the results of the statistical analysis and supplemental explanatory information. The chapter includes the results of the hypothesis testing.

Chapter V summarizes the first four chapters and presents a discussion of the conclusions which are drawn from the study. The chapter concludes with implications for further research in organizational climate.

Chapter V is followed by the Appendices and References.

CHAPTER II

REVIEW OF SELECTED LITERATURE AND RESEARCH

This chapter surveys the literature and research relevant to the problem as outlined in Chapter I. The first section reviews the pertinent organizational and administrative theory which formulated the theoretical framework for this study.

The second section will focus on the construct of organizational climate and the development of the instrument to measure this variable. This phase will also include a survey of the significant studies that are related to the subject of organizational climate.

The third section of this chapter deals with educational change and those studies directly related to the study of organizational climate and educational change.

Theoretical Framework for the Investigation of Organizational Climate and Educational Change

Barnard (1938, p. 286) defined a formal social organization as " . . . a system of consciously coordinated activities or forces of two or more persons." Cornell (1952, p. 30) listed three features found in formal organizations:

1. There is a job to be done, i.e., shoes to make in a factory, children to educate, or other services to be rendered, by a school system.
2. The cooperative effort is sufficiently complex to require a more conscious and more formal cooperation than in other less complex organizations.
3. There must be specialization and the coordination of specialized activities of the group members.

Cornell visualized the social systems of an organization in terms of the relationships between people and their physical environment. It is this relationship of the members of the organization that constitutes a formal organization.

The study of formal organizations took on new prominence due to the efforts of Weber (1947). It was his theory of bureaucracy that provided a framework for a systematic understanding of the formal organization. The Weberian theory attempted to explain the interdependence between key characteristics of complex organizations. Stating it another way, the theory presented the structural characteristics of bureaucracy and their relationships to each other.

Weber conceptualized the organization as being a pyramidal, hierarchial structure. He considered a bureaucracy to be a formal organization in which, ideally, all of the activities in which members engage are functionally related and coordinated toward the purpose or goals of the organization.

Parsons (1951) suggested a way of sub-dividing the hierarchial structure of a system of organization. He divided the structure into three references of function or responsibility. These three levels were called the "technical" system, the "managerial" system, and the "institutional" or "community" system.

Parsons explained the functions of the three level hierarchial structure with respect to the school as a social system. The "technical" system would consist of the classroom teachers; the administration was equated with the "managerial" system; and the school board as the "institutional" system. Parsons theorized that social interaction would take place among the three levels.

His theory provided later researchers and scholars with a basic framework for the study of social interaction.

Modern organizational theory assumes that the best way to study organization is to study it as a system. Thus, the exploration of the internal social relationships among members of a school staff should contribute to a more complete understanding of the many variables present in organizational relationships. Charters (1963, p. 716) points out the importance of investigating the combined effects of many variables in an educational setting:

> The teaching-learning process of the classroom is, in a very real sense, subordinate to the social system of the school which in turn, is only one of the components of the institutional structure of education. Forces which affect the school affect the conduct of the teaching-learning process.

The various viewpoints of organizations, and the research of the past several decades, have produced several models of organization. McGrath (1972, p. 37) designed a general model, Figure 1, depicting the interaction between and among components of organization life and organization functioning. The model is composed of five components assumed to contain all the variables relevant to school administration. The interaction of any one component with one or more of the other components takes place at the common point of tangency. McGrath contends that any change in one component will have an effect on, and is affected by, other components.

The early 1950's evidenced a dramatic change in educational administration research with the addition of insights and research methods developed by the behavioral scientists. The new thrust focused on the study of organizational roles and climates along

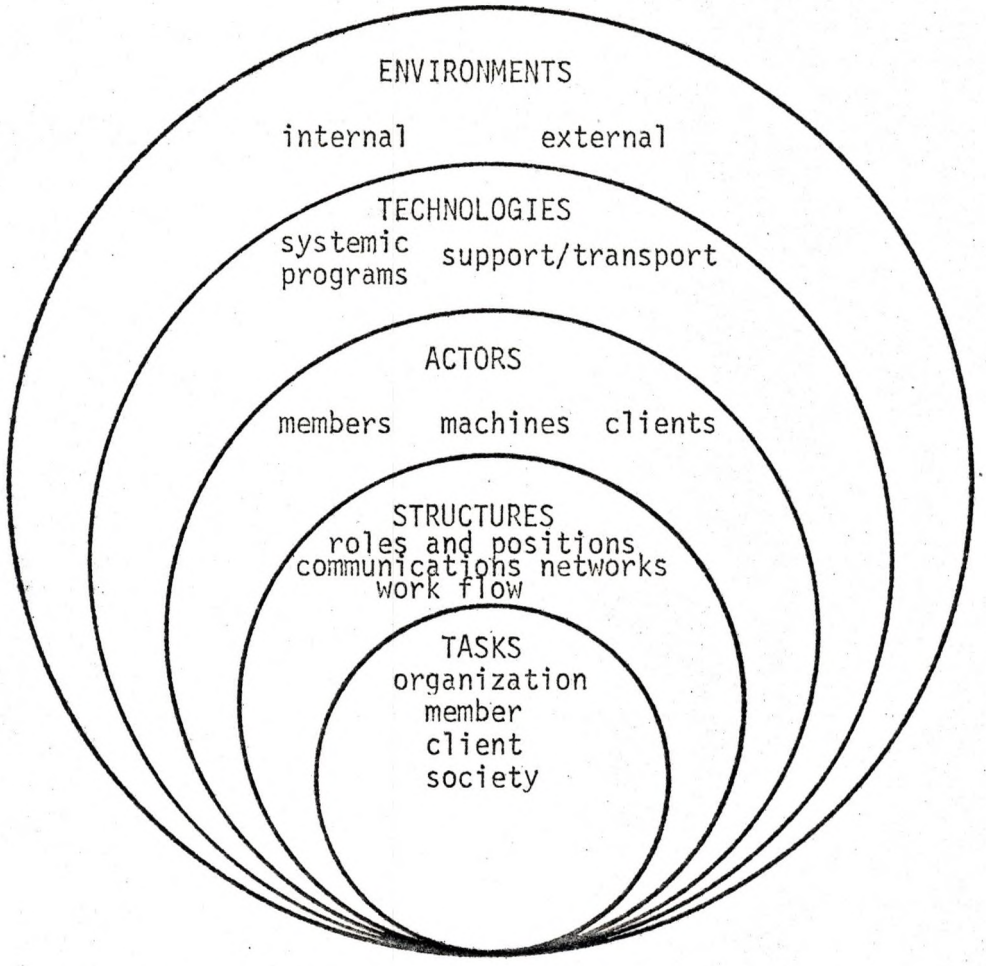

Fig. 1.--McGrath's General Model of an Organization Systems Network (McGrath, 1972, p. 37).

with behavioral studies of leadership. Climate and leadership studies perceived administration as a social-behavioral process and led to the development of a two-dimensional conceptual framework for educational administration.

Since the constructs of organizational climate and education change were the major variables of the study, it is the purpose in this section of the review of literature to link the variables in a meaningful and understandable way.

Getzels (1958) conceptualized the school as having two dimensions of social behavior; the nomothetic dimension, which emphasizes the role expectations of the institution, and the idiographic dimension, which emphasizes the need-disposition of the individual, Figure 2. Also, he believed that the needs and goals of the individual must be placed on the same plane as the needs and goals of the organization and should not be treated as mutually exclusive elements of administrative behavior.

Getzels proposed that the interaction between the normative and personal dimensions determine the nature of human behavior within an organization, the normative dimension being concerned with the social aspects and the personal dimension with the psychological aspects of this human interaction. Thus, the behavior of the individual within a social system is considered to be a function of the interaction between his personality and the role expected of him by the institution. Getzels (1958, p. 152) described the social system model as follows:

> We conceive of the social system as involving two classes of phenomena, which are at once conceptually independent and phenominally interactive. There are first the institutions with certain roles and expectations that will fulfill the goals of the system. And there are second the individuals with certain personalities and need-dispositions inhabiting the system, whose observed interactions comprise what we generally call "social behavior." We shall assert that this social behavior may be understood as a function of these major elements: institution, role, and expectation, which together constitute what we shall call the nomothetic or normative dimension of activity in a social system; and individual, personality, and need-disposition, which together constitute the idiographic or personal dimension of activity in a social system.

Briefly, people are expected to satisfy definite role expectations because of the position they hold in the institution. Each

person also has definite personal needs to be satisfied. Consequently, problems that arise because of the relationships between institutional goals and individual needs is the theoretical basis for the concept of organizational climate. This social systems organizational theory is based on the assumption that the interaction between the normative (nomothetic) and personal (idiographic) dimensions determine the nature of the human behavior within an organization. The nomothetic and idiographic dimensions are represented schematically by Getzels and Guba's general model (Getzels, 1958, p. 156).

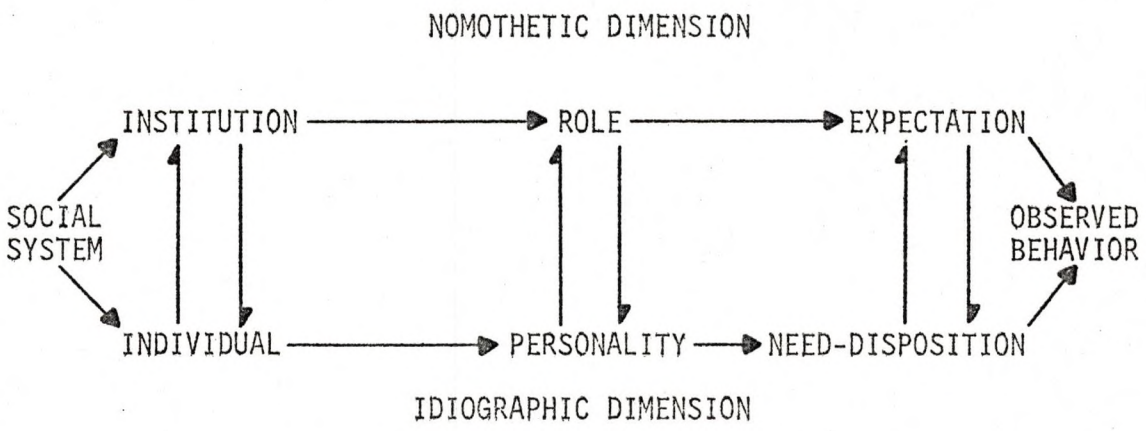

Fig. 2.--The Getzels-Guba Model Diagramming a Two Dimensional Social System (Getzels, 1958, p. 156).

Guba (1960, p. 121) gives the following interpretation of the model with its accompanying implications for schools:

> The unique task of the administrator can now be understood as that of mediating between these two sets of behavior-eliciting forces, that is, the nomothetic and idiographic, so as to produce behavior which is at once organizationally useful as well as individually satisfying.

Many social forces affect the philosophy of the curriculum, the teaching-learning activities and the administration of the secondary schools. Downey (1963) expanded Getzels and Guba's general model of

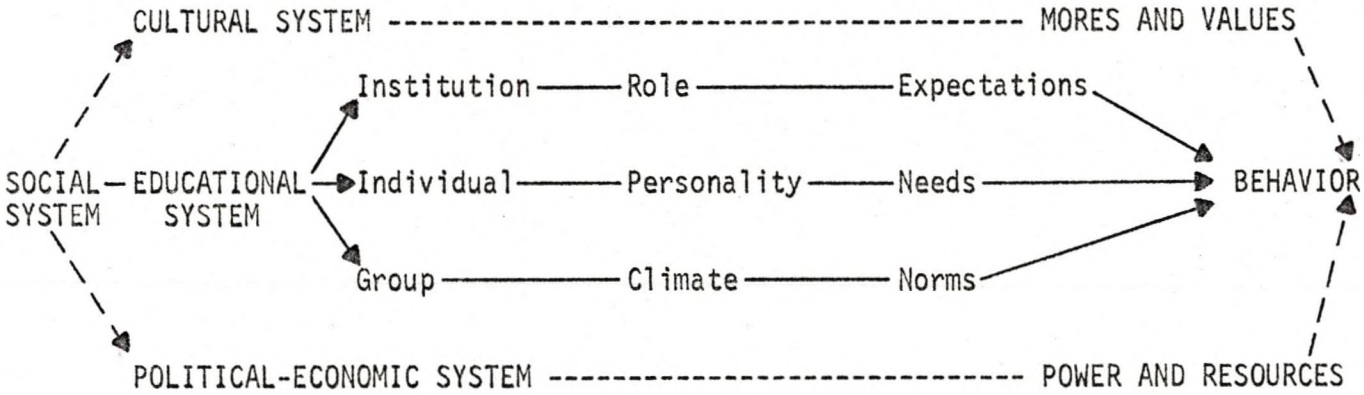

Fig. 3.--The Downey Model Diagramming the Interna and Externa Concept of the Educational System (Downey, 1963, p. 128).

a social system by adding the interna-externa concept of the educational system. The expanded model is shown in Figure 3 (Downey, 1963, p. 128).

The individual's act is derived from both his need-disposition and the role-expectation of the institution. Stating the concept another way, an individual's social behavior is a result of attempts to satisfy the pattern of the institution's requirements in ways consistent with his own pattern of needs. This can be stated in the form of an equation, $B = f(RxP)$, where B is observed behavior, R is a given institutional role defined by the expectations attached to it, and P is the personality of the particular role incumbent defined by his need dispositions. The proportion of role and personality factors determining observed behavior will vary with the specific act, the specific role and the specific personality of the individual. The nature of the interaction can be understood from a graphic representation as shown in Figure 4 (Getzels, 1958, p. 158).

The model graphically represents the interaction that occurs between role and personality of a given behavioral act. Each act is conceived as occurring along the line cutting through the role and personality possibilities represented by the rectangle. Theoretically, the military person's personality would be involved in only a small proportion of the act. The results would be reversed at the right for the artist whose personality would be the greater proportion of the act.

In a classroom situation, the student's act would be a balance between role-relevant performance and personality-relevant performance, student's behavior being a function of both role and personality.

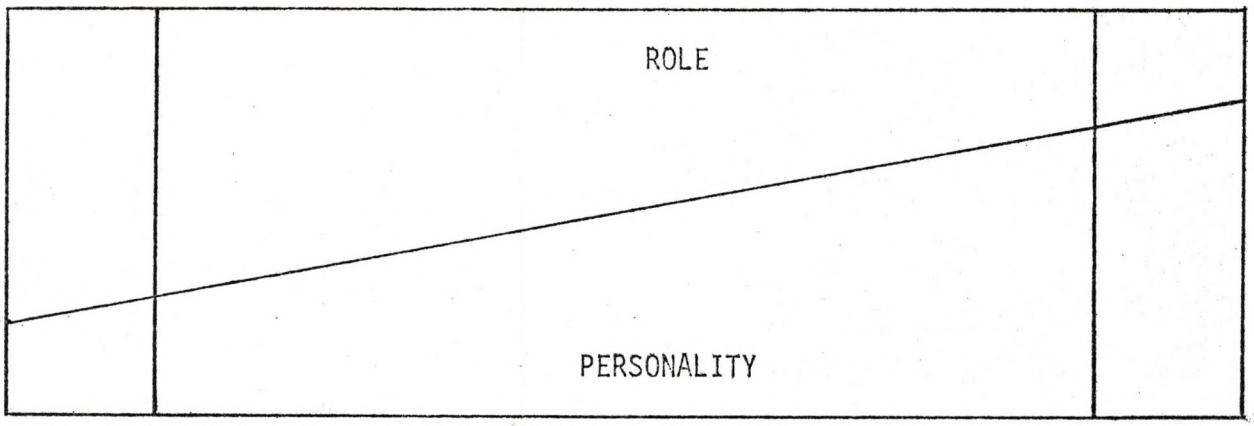

Fig. 4.--The Getzels-Guba Model of a Social System Depicting the Interaction Between Role and Personality (Getzels, 1958, p. 158).

Abbott (1966), utilizing Getzels and Guba's general model of a social system, developed a model of organizational behavior. He theorized that the addition of the cognitive orientation to roles and affective responses to roles should increase the accuracy of predicting a person's behavior in his role performance. Schematically, the additional intervening variables in organizational behavior are illustrated in Figure 5.

The Construct of Organizational Climate

A review of literature revealed that the term "organizational climate" has been described and defined in various ways by researchers attempting to explain the presence of the phenomena within an organization. Most researchers tend to define organizational climate in terms of interaction among individuals in the organization. Halpin (1966) held that the school's organizational climate is determined by the interaction of a principal and his faculty.

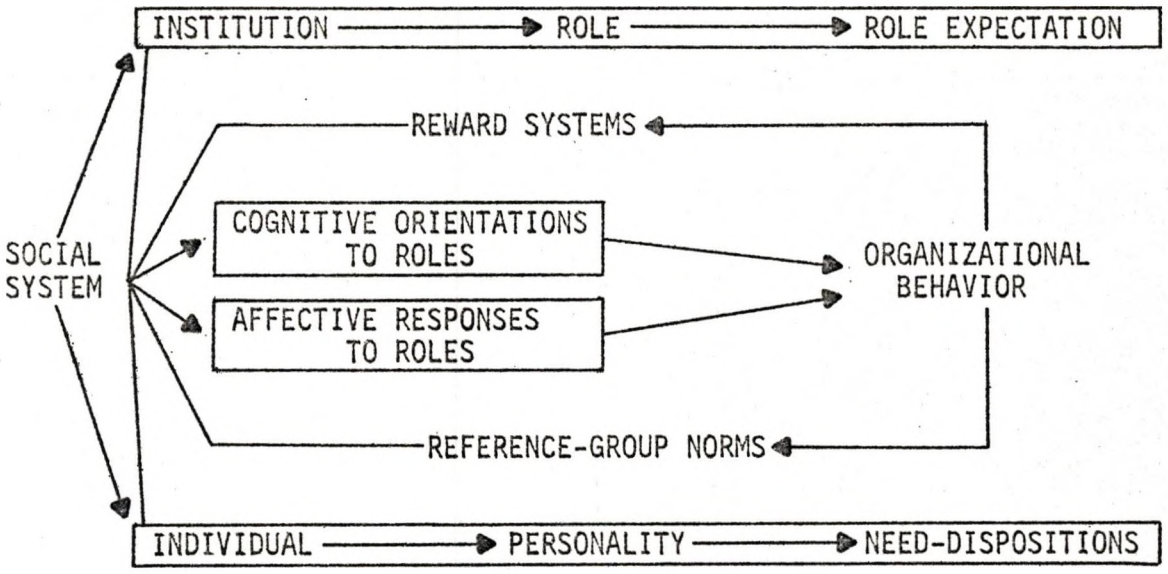

Fig. 5.--The Abbott Model Diagramming the Intervening Variables in Organizational Behavior (Abbott, 1966, p. 8).

The first use of the term "organizational climate" has been credited to Francis Cornell (1955, p. 220). He used the term while discussing socially perceptive administration. Cornell defined the climate of an organization as:

> A delicate blending of interpretations (or perceptions as social psychologists would call it) by persons in the organization of their jobs or roles in relationship to others and their interpretations of the roles of others in the organization.

Argyris (1958) used the term "organizational climate" during a discussion of a research study he conducted dealing with the behavior of role participants in a bank. Climate, according to Argyris (1958, p. 501) is:

> A living complexity composed of three related variables: formal organizational procedures, personal needs, and the complicated pattern of variables associated with the individual's efforts to accommodate his own needs with those of the organization.

Organizational climate was further described by Argyris (1958, p. 502) as a confusion of simultaneously existing, multilevel, mutually interacting variables. He attempted to order the variables into three sets:

1. Formal organization variables such as policies, practices, and job descriptions.
2. Personality variables such as needs, abilities, values, and self-concepts.
3. Informal variables that arise out of the participants' continuing struggle to adopt to the formal organization so that the latter achieves its objectives while simultaneously the individuals obtain at least a minimal amount of self-expression.

One definition of organizational climate that has received general acceptance was proposed by Forehand and Gilmer (1964, p. 362): "By organizational climate we mean those characteristics that distinguish the organization from other organizations and that influence the behavior of people in the organization."

Halpin and Croft (1963a) referred to the phenomena as a "feeling" a visitor gets upon entering a school and observing the staff at work. Halpin and Croft's objective was to determine the variables and concepts which could be used to isolate the characteristics termed "organizational climate." However, it was not until their major breakthrough that the term became prominent in the field of educational administration.

The Organizational Climate of Schools

Halpin and Croft sought to develop an instrument which would identify and describe their concept of organizational climate. They obtained 1000 statements of situations involving interpersonal behavior of teachers and principals to form the conceptual framework for

the Organizational Climate Description Questionnaire (OCDQ). The original bank of items was screened and reduced to 600. Through inter-item correlation and cluster analysis, the number of questions was reduced to 80. Finally, sixty-four items were selected to be included in the OCDQ measuring instrument. Cluster analysis of the sixty-four items resulted in the grouping of the items into eight subtests. The subtests are identified and described in Chapter I.

The authors then sought to identify and describe the dimensions of organizational climate in elementary schools by analyzing the social interaction within each school. Data were secured from 1,151 elementary teachers in 71 elementary schools from different regions of the United States. The raw scores were standardized normatively and ipsatively; a profile of the eight subtests was then constructed for each of the 71 schools. The appropriateness of this procedure was alluded to by Halpin (1966, p. 168).

> By standardizing the raw scores both normatively and ipsatively we have approximated a double-centered matrix. This double standardization technique allows us to examine the relationship between the scores on the subtests, with the differences among the means of the subtest scores for each school in the sample held statistically constant. In short, the interschool variance and the intraschool variance are not confounded.

The Q-technique of factor analysis was applied to the 71 profiles. These "school profiles" tended to cluster into personality groups. Halpin and Croft identified six personality clusters which they called climate types.

The six climates were ranked from Openness to Closedness and described as follows (Halpin and Croft, 1963b, pp. 3-4):

1. The Open Climate describes an energetic, lively organization which is moving toward its goals, and which provides satisfaction for the group members' social needs. Leadership acts emerge easily and appropriately from both the group and the leader. The members are preoccupied disproportionately with neither task achievement nor social-needs satisfaction; satisfaction on both counts seems to be obtained easily and almost effortlessly. The main characteristic of this climate is the "authenticity" of the behavior that occurs among all the members.
2. The Autonomous Climate is described as one in which leadership acts emerge primarily from the group. The leader exerts little control over the group members; high Esprit results primarily from social-needs satisfaction. Satisfaction from task achievement is also present, but to a lesser degree.
3. The Controlled Climate is characterized best as impersonal and highly task-oriented. The group's behavior is directed primarily toward task accomplishment, while relatively little attention is given to behavior oriented to social-needs satisfaction. Esprit is fairly high, but it reflects achievement at some expense to social-needs satisfaction. This climate lacks openness, or "authenticity" of behavior, because the group is disproportionately preoccupied with task achievement.
4. The Familiar Climate is highly personal, but undercontrolled. The members of this organization satisfy their social needs, but pay relatively little attention to social control in respect to task achievement. Accordingly, Esprit is not extremely high simply because the group members secure little satisfaction from task achievement. Hence, much of the behavior within this climate can be construed as "inauthentic."
5. The Paternal Climate is characterized best as one in which the principal constrains the emergence of leadership acts from the group and attempts to initiate most of these acts himself. The leadership skills within the group are not used to supplement the principal's own ability to initiate leadership acts. Accordingly, some leadership acts are not even attempted. In short, little satisfaction is obtained in respect to either achievement or social needs; hence, Esprit among the members is low.
6. The Closed Climate is characterized by a high degree of apathy on the part of all members of the organization. The organization is not "moving"; Esprit is low because the group members secure neither social-needs satisfaction nor the satisfaction that comes from task achievement. The members' behavior can be construed as "inauthentic"; indeed, the organization seems to be stagnant.

Halpin and Croft (1963a) suggest that even though the six climates represent a taxonomy of climates, actually there is but a single concept of openness versus closedness. The difference between an Open and Closed Climate is illustrated by the use of two profiles charted in Figure 6 (Halpin, 1966, p. 136). This concept was further described by the authors as follows (1963a, pp. 62-67):

> The Open Climate depicts a situation in which the members enjoy high Esprit. The teachers work well together without griping and bickering. . . . On the whole, the group members enjoy friendly relations with each other. . . . The teachers obtain considerable job satisfaction, and are sufficiently motivated to overcome difficulties and frustrations. They possess the incentive to work things out and to keep the organization "moving." Furthermore, the teachers are proud to be associated with their school.
>
> In the Open Climate the principal represents an appropriate integration between his own personality and the role he is required to play as principal. In this respect his behavior can be viewed as "genuine." He possesses the personal flexibility to be "genuine" whether he is required to control and direct the activities of others or be required to show compassion in satisfying the social needs of individual teachers.
>
> In the Closed Climate the group members obtain little satisfaction in respect to either task-achievement or social needs. In short, the principal is ineffective in directing the activities of the teachers, and at the same time, he is not inclined to look out for their personal welfare. . . . He is not "genuine" in his actions. He sets up rules and regulations but his words are hollow. He does not motivate by setting a good example himself. He does not provide adequate leadership.
>
> In the Closed Climate the teachers do not work well together; consequently, group achievement is minimal. The principal does not facilitate the task accomplishment of teachers. Esprit is at a nadir. . . . The salient bright spot that appears to keep the teachers in the school is that they do obtain satisfaction from their friendly relations with other teachers.

Studies of Organizational Climate

Hall (1970) compared Halpin and Croft's organizational climates with the Likerts' organizational systems, the purpose of the study

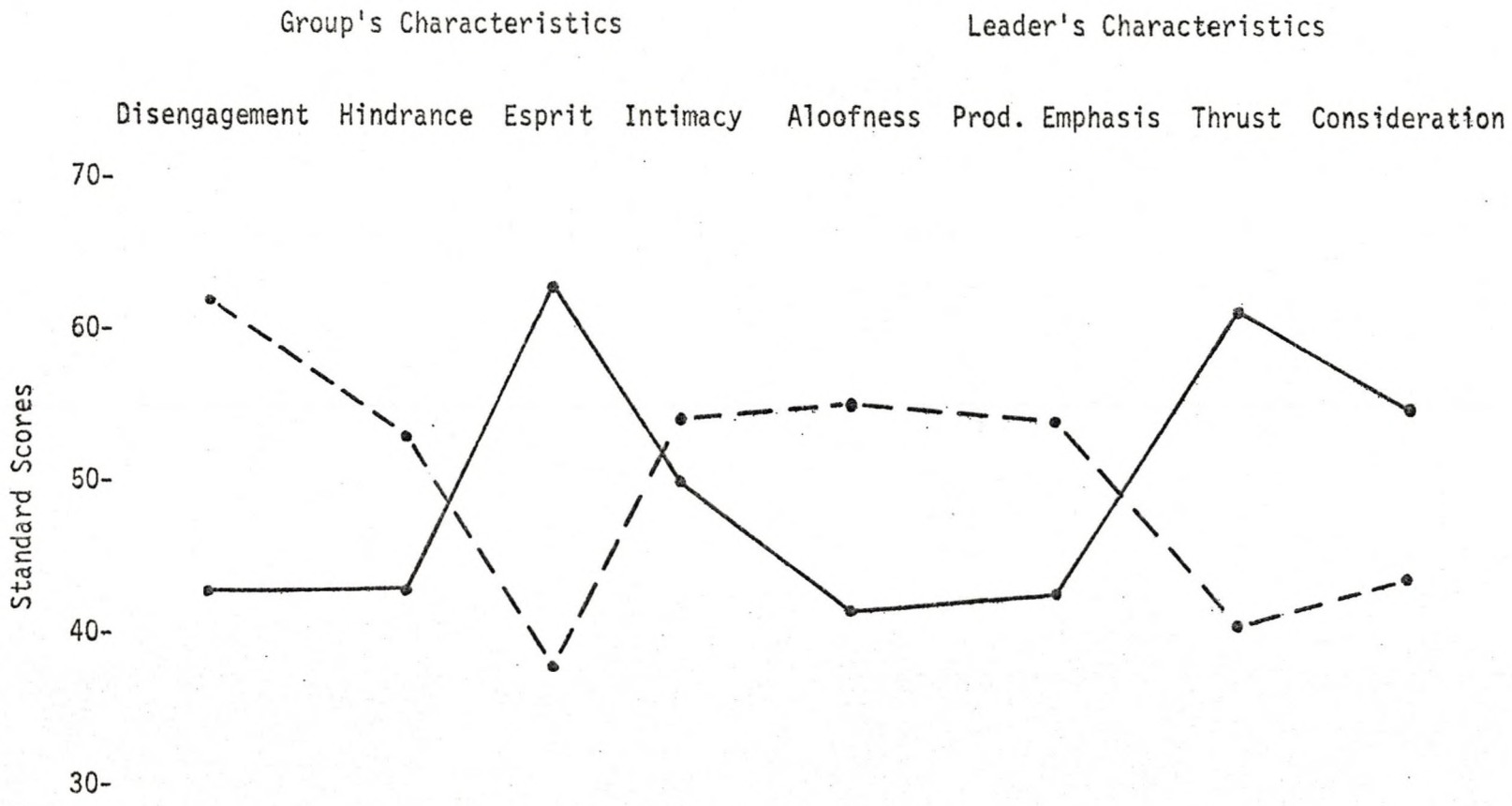

Fig. 6.--Halpin's Profile Norms for Open and Closed Organizational Climates Based on the Eight OCDQ Subtests. The Open Climate is Represented by the Solid Line and the Closed Climate by the Broken Line (Halpin, 1966, p. 136).

being to determine if the organizational climates as identified by the OCDQ were congruent with the organizational systems as measured by the teacher form of the Profile of a School Instrument. He found that there was a significant relationship between organizational climate as classified by the OCDQ and the organizational systems as classified by the Profile of a School Instrument.

Null (1965) utilized the OCDQ to determine what personal variables of teachers might be related to school climate. His assumption was that teachers, as well as principals, have a significant impact on the establishment and maintenance of a school's organizational climate.

The significant relationships uncovered by Null were: (1) The teachers' perception of climate was strongly related to their attitude toward their principals. (2) Teachers with favorable attitudes toward their students tended to perceive all eight climate dimensions in a manner indicative of an open climate. (3) The teachers with poor attitudes toward their students perceived all eight climate dimensions in a manner indicative of a closed climate.

Hood (1965) concluded, on the basis of his research, that personal factors are the most important of all factors in determining the individual morale level of the teachers, with the principal being the key non-personal factor in the teacher's professional environment. He found that the teacher's relationship with the principal is more important in determining morale level than is the teacher's relationship with other teachers.

Koplyay (1966), in a study of teacher morale in selected Illinois schools, reported that the morale level appeared to be a function of their particular organizational climate.

He discovered that where significant differences were found, schools using merit salary policies seemed to have higher morale as reflected in their responses to the Morale Inventory.

Briner (1970) investigated the relationship between the properties of organizational structure and certain personality characteristics of organizational members, and how the resulting interaction between these two factors is related to the organizational climate of elementary schools. He concluded that teachers' perceptions of organizational climate may be viewed as functions of the interplay between teachers' personalities and the structure of the organization in which the individuals participate.

Brown (1964) investigated the organizational climates found in a random sample of schools from the Minneapolis-St. Paul metropolitan area. The results of the study indicated that: (1) Principals tend to perceive the organizational climate in a more favorable light than do the teachers. (2) The older teachers tend to have a more favorable perception of Esprit than do younger teachers, even though the latter tend to feel stronger social ties with other staff members. (3) No clear pattern of perceptual differences was found to exist between males and females. (4) The more experienced teachers generally tend to have stronger opinions than do the less experienced teachers. This tendency was found to hold for the more desirable characteristics of Esprit and Consideration as well as the less desirable characteristics of Hindrance and Aloofness.

Brickner (1971) investigated leadership behavior and organizational climate in the schools of the Grand Forks Public School District. The study analyzed organizational climate and leadership behavior as perceived by school building principals and their staffs. Secondly, the study examined the predictability of teacher-perceived organizational climate and leadership behavior from corresponding sets of biographical variables. Summarizing his data, Brickner concluded: (1) The principals scored significantly higher than their faculties on Esprit and Consideration, and lower on Disengagement and Hindrance. This would indicate that the principals perceived organizational climate in a more favorable light than did the faculties. (2) Leadership behavior was significantly related to organizational climate. (3) Esprit was the only OCDQ dimension significantly related to faculty size. (4) The single best predictors of each climate dimension were the educational background variables.

Brinkmeier (1967) studied the relationships between organizational climate and selected characteristics of teachers in secondary schools. The major conclusions found were: (1) Age, and years in the present system appear to be related to organizational climate in secondary schools. (2) Younger secondary teachers were found in intermediate climate schools. (3) The longer the teachers stay in a school system, the more likely they were to perceive the climate of their school as closed. (4) Degrees attained, membership in teachers organizations, and sex of the teachers were not related to perceptions of the climate in secondary schools.

Relationships between organizational climate and the average age and experience of the school staff were studied by Bushinger (1966).

He reported that higher staff ages and experience levels were associated with schools having a closed climate.

Flanders (1966) conducted a study of the relationship between organizational climate and certain socio-personal characteristics of teachers. He found that urban white and rural white teachers differed significantly in terms of the way they perceived their school climate. A minor conclusion was that the teachers' perception of openness increased with the awarding of tenure.

Hoagland (1968) designed a study to analyze the relationship between school climate and selected variables. The variables were degree attained, professional aspirations, academic disciplines, sex, age, years of teaching experience, and years in the present school system. He found that the degree attained and the sex of the teacher were not related to percetpions of school climate. The conclusion about the relations of educational degree to climate seems to be in conflict with the findings of Brickner.

Sargent (1966) administered the OCDQ to the teachers and principals of 33 high schools in the Minneapolis-St. Paul metropolitan area. The relationship between the teachers' and principals' perception of organizational climate was the subject of his investigation. He found no significant differences between the means of the teachers' perceptions and the principals' perceptions as measured on the OCDQ.

Sargent (1967) also reported other relationships which were relevant to this study, namely: (1) Open climate school faculties were far more favorable in their evaluations than were closed climate school faculties. (2) Teachers in open climate schools

expressed greater satisfaction with their work than did the teachers in closed climate schools. (3) Teachers grouped by departments had similar perceptions on the various climate dimensions. (4) Principals who are inclined to be experimenting, critical, liberal, analytical, free-thinking, well informed and tolerant of change were perceived by their teachers as aloof.

Educational Change

Educational change has received considerable attention during recent years. Many authors claim that the school, being part of the social system, ought to serve the changing educational needs of society. Roles are a very important subunit of the school. The role performance of the principal is a major element in this study. Ovard (1966, p. 3) expressed a need for additional study of the principal's role in change as follows:

> We are living in a revolutionary period of time. Change and the need for change can be seen in all aspects of life. Long-established social values have been rejected. Moral values of past generations have been set aside. Science has replaced many aspects of religion. Man has been forced to adjust to the dynamic forces of revolution.
>
> Education like other institutions has been affected by these changes. Never has society demanded so much of education. Not only must the educational institution adjust to these revolutionary social forces, but it must also provide each student with an education for individual excellence according to his abilities. At the same time, it must provide an education enabling him to master the science of space, to win the cooperation of fellow citizens, and to understand the change toward the improvement of the individual and society must occur at all levels of education. Never has there been a more propitious time for education change. Never has educational leadership of the highest order been at such a premium. The principal is the key person through whom educational change can occur. In a society of change, the principal must be an innovator of the new curricula, techniques, organizations and administrative practices. To be effect in this role, he must

> organize his school and personnel for efficient instruction. He must administer his school with precision and finesse. Finally, he must evaluate all proposals for change. He should not desire change for its own sake, but he should constantly seek that which will promote a better school program for all concerned.

A slow rate of change has been characteristic of the public schools. This places the schools in the awkward position of being unable to meet the challenges of the present, much less the challenges of the future. Miles (1964) proposed that, " . . . education is supposed to be the main socializing agent and development support for an industrial society undergoing exponential change."

Coffey and Golden (1957) suggest that the problems of institutional change is greatly influenced by the happenings within the total social system. Stressing this point with respect to the modern school, Coffey and Golden (1957, p. 84) stated:

> The central problem of institutional change is the development of those conditions in which institutional goals and means can be reassessed for the purpose not only of adapting to change going on within the social system but also of assuming responsibility for exerting influence on the various alternatives of change which may be open to the society.

Brickell (1961), Farnsworth (1940) and Griffiths (1963) conducted diffusion studies on the hierarchy of personnel in social systems. They found the principal or superintendent to be the single most influential change agent in school systems. Hughes (1965) suggested that principals or superintendents who are receptive to new ideas and practices also possess the characteristic of openness.

Speaking about the role of the principal as a change agent, Flanders (1956, p. 33) stated that "The greatest single influence on the school climate is the behavior of the principal." It could be concluded from the statement that the role of the principal is very

important in determining the type of climate that will be found in each school.

Campbell, Corbally, and Ramseyer (1967, p. 229) suggest change as being of two kinds; (1) change in individual staff members and (2) institutional change. They further suggest:

> Program changes for the total institution emanate from changes in individuals, largely changes in the understandings of teachers; but some effort needs to be made to group these changes in some meaningful way. Leadership and coordination on the part of administrators should provide not only the climate for change to occur, but the procedures by which changes in individuals can add up to systemwide or institutional changes.

The relationships between organizational change and a principal's behavior were investigated by Hemphill, Griffiths and Fredrickson (1962). Organizational change was viewed as including changes in personnel, duties, assignments, policies, practices or procedures. The correlations between organizational change and the five forms of the principal's communicative behavior, as conceived by the authors, are presented below (1962, p. 90):

Communicative Behavior	Organizational Change
Asks subordinates	.34
Informs subordinates	.29
Discusses with subordinates	.22
Communicates face-to-face	.20
Discusses with supervisors	.24

An r of .17 or higher is significant at the .01 level.

The effects that the level of financial support has on educational change were investigated by Mort (1946) and Ross (1958). They reached the conclusion that the level of financial support is a significant factor in the implementation of educational improvement and adoption of new ideas.

Studies Relating Educational Change to Organizational Climate

An assumption, made by Halpin and Croft (1963b), was that organizational climate has an effect upon leadership and organizational change. They assumed that an open climate allows the administrators or faculty members greater freedom in their leadership acts because openness offers the opportunity for a better mutual understanding of organizational goals. The opposite is assumed to be true for schools with a closed organizational climate.

Steinhoff and Owens (1966) examined the organizational climates found in schools classified as more effective and less effective in terms of student achievement. The authors found that changing the conditions or climates has a significant effect on achievement, and they suggested that longer-term efforts are necessary to create the basic psychological and environmental conditions needed to raise student achievement. Shaycoft (1967) reinforces Steinhoff's and Owen's contention when he states that "a school's atmosphere may be the difference between an effective school and an ineffective one." Cunningham (1961) made essentially the same observation in emphasizing the importance of seeking and promoting mechanisms of organizational change and flexibility.

Panuschka (1970) developed a study to determine whether or not school climate had any influence upon pupil achievement. From the analysis of his data, no evidence was found in support of a relationship between climate openness and pupil achievement. He also concluded that composite achievement was not related to any of the eight climate dimensions or to climate openness.

Mitchell (1972) conducted a study of the role of the principal in school reform. One of the major conclusions of his study was that principals have been overlooked in today's emphasis on school reform. In brief, he described school principals as the gatekeepers of educational change and easily identifiable as the key determiner of climate in the school. Thus, according to Mitchell (1972, p. 15):

> The principal today is a man caught in the middle. He is supposed to speak for his school, his teachers, his pupils and the neighborhood, hoping to provide for everybody the elements of good education. But at the same time, he is supposed to represent the school board and the central office of the local school system and enforce their policies. It is not always easy to harmonize the two functions.
>
> The need for visionary and creative leaders becomes greater as societies grow and become more complex. . . . So must the people at the helm be ready and able to change. . . .

Cornell (1955), in a four-year study of four schools, investigated the relationships between selected variables and organizational climate. He hypothesized that the influence of specific administrative actions upon teacher behavior is conditioned by a combination of teacher variables and variables in the organizational climates. Cornell analyzed the data and concluded:

1. No two school systems have the same organizational climate.
2. Complex factors determined the changes in educational operations of a school system.
3. The administrative environment may have greater effects on the performance of the school than specific administrative activity.
4. Administrative decisions and organizational relationships have differing effects on the reactions of individual teachers.

The relationships between organizational climate and innovativeness were studied by Marcum (1968). The major relationships found were: (1) Schools with open climates have more innovative activities. The more innovative schools were found to expend greater amounts for

maintenance and operation than the least innovative schools. (2) There were significant differences found in the perception of school climate by teachers and principals. The principals in the most innovative schools perceive the climate as more open than did their teachers. (3) Both teachers and principals in the least innovative schools perceive their school's climate as closed.

Hughes (1965) investigated the organizational climates found in 24 Ohio school districts. The sample was composed of 13 non-innovative districts and 11 innovative districts selected from a 1964 Ohio Innovation Survey. Findings, as measured by the Organizational Climate Description Questionnaire, indicated that (1) Innovative districts fostered a more open organizational climate, whereas non-innovative districts were characterized by a more closed climate. (2) Esprit was significantly higher in the innovative districts than in the non-innovative districts. (3) Disengagement was found to be less significant in innovative districts.

Johnson and Marcum (1969) concluded that organizational climate of schools, in terms of openness and closedness, is an important condition for change.

A similar conclusion was reached by Reynoldson (1969) with respect to organizational climate and educational change. He indicated tht the openness of organizational climate appears to be an important variable to consider in attempting to establish an environment conducive to the adoption of educational change.

In summary, the first task of research is to develop a theoretical framework. Examination of the literature, as it relates to organizational climate, revealed that the theory proposed by Getzels

and Guba is an excellent construct upon which to formulate a good theoretical foundation. Thus, the hypotheses and the research question were generated from their theory. The hypotheses were based on the assumption that organizational climate may be related to educational change.

The search of the literature revealed that many researchers have used the OCDQ in their studies, but few have dealt specifically with the topic proposed in this study.

CHAPTER III

METHODOLOGY

Sampling Procedures

The design of this study was based on the research of Organizational Climate developed by Halpin and Croft (1963a). The present study was concerned with investigating the relationship between organizational climate and educational changes in selected high schools.

The population of this investigation consisted of 21 high schools in North Dakota. It was decided to limit the population to only those high schools having 15 to 30 teachers for grades 9 through 12. One reason for limiting the population was to insure that the principal was a full time supervisor. It should be noted that four of the eight dimensions of organizational climate are concerned with the behavior of the principal. Furthermore, dual roles for the building principal would heighten the probability of confusion in the teacher's perception of the principal's behavior. Secondly, samples from schools with larger faculties lessens the possibility of one or two atypical individuals' responses from distorting the mean subtest scores.

Another consideration in designing the sample was the fact that this study sought to determine a profile of the teacher's perception of climate in their high schools. Therefore, teachers who

taught seventh and eighth grade students were also excluded from the study.

Twenty-one public school superintendents in North Dakota, having responsibility for 15 to 30 high school teachers (grades 9 - 12) were contacted by telephone during the week of April 2, 1971. Each superintendent was given an explanation of the nature of the study and an invitation to participate in it. Also, permission was requested to invite the principal and secondary teachers of his district to participate in the study. Twenty superintendents granted permission and agreed to assist with the investigation by explaining the purpose of the organizational climate studies to their high school faculties. One superintendent asked to be excluded because the school district was actively engaged in a national study, thereby, reducing the sample to 20 high schools.

The principal in each of the 20 high schools was then contacted by telephone and apprised of the study. All the principals indicated their willingness to participate in the project.

The mean number of faculty for the 20 high schools was 19, ranging from a maximum of 27 to a minimum of 15. The sample schools in this study had 382 professional staff under contract. Of this number, 316 or 82.7 per cent of the teachers completed the OCDQ and the biographical data questionnaire. Table 1 shows the number sampled and the per cent of returns.

Individually typewritten letters (see Appendix F) and copies of the OCDQ, biographical data questionnaire, and the Educational Change Checklist were mailed to each superintendent for his reference.

TABLE 1

SUMMARY OF SCHOOL FACULTY SAMPLING FOR THE OCDQ

School	Faculty Size	Number Sampled	Percentage Sampled
1	19	18	94.7
2	17	16	94.1
3	17	17	100.0
4	19	17	89.5
5	19	17	89.5
6	17	9	52.9
7	15	10	66.7
8	15	13	86.7
9	15	10	66.7
10	22	17	77.3
11	17	17	100.0
12	20	19	95.0
13	23	12	52.2
14	24	18	75.0
15	27	25	92.6
16	17	17	100.0
17	16	16	100.0
18	22	14	63.6
19	25	18	72.0
20	16	16	100.0
Totals	382	316	82.7
Means	19.1	15.8	

Each letter provided further clarification of the study and suggestions for administering the instruments.

Instruments Used to Gather Data

Three instruments were used to gather data for this study. To measure the interactive behavior of the principal and teachers, the instrument selected was the Organizational Climate Description Questionnaire (OCDQ). Changes in education were found by using the Educational Change Checklist. Biographical data of the teachers were collected by using a survey questionnaire.

Organizational Climate Description Questionnaire

In 1963a, Halpin and Croft designed the OCDQ to identify school climate. It was constructed using data secured from 1,151 elementary teachers in a total of 71 elementary schools. The questionnaire contains 69 Likert-type items with only 64 being assigned by the authors to describe school climate. Halpin included the five non-scoring items as buffer items and to fill out the space on the IBM mark-sensing cards. Each respondent is asked to decide how each item describes the behavior of his principal or fellow teachers in his school. Responses are grouped and each item contributes to the score for one subtest. The responses to the items are scored using a range from six through nine (the higher scores indicate the frequency of a particular observed behavior).

The OCDQ purports to identify eight distinct dimensions of organizational behavior. Four subtests describe the behavior of the principal. Halpin and Croft's description of the eight dimensions are presented in the following paragraphs.

Teachers' Behavior

1. Disengagement refers to the teachers' tendency to be "not with it." This dimension describes a group which is "going through the motions," a group that is "not in gear" with respect to the task at hand. It corresponds to the more general concept of anomie as first described by Durkheim. In short, this subtest focuses upon the teachers' behavior in a task-oriented situation.
2. Hindrance refers to the teachers' feeling that the principal burdens them with routine duties, committee demands, and other requirements which the teachers construe as unnecessary busy-work. The teachers perceive that the principal is hindering rather than facilitating their work.
3. Esprit refers to "morale." The teachers feel that their social needs are being satisfied, and that they are, at the same time, enjoying a sense of accomplishment in their job.
4. Intimacy refers to the teachers' enjoyment of friendly social relations with each other. This dimension describes a social-needs satisfaction which is not necessarily associated with task-accomplishment.

Principal's Behavior

5. Aloofness refers to behavior by the principal which is characterized as formal and impersonal. He "goes by the book" and prefers to be guided by rules and policies rather than to deal with the teachers in an informal, face-to-face situation. His behavior, in brief, is universalistic rather than particularistic; nomothetic rather than ideographic. To maintain this style, he keeps himself--at least, "emotionally"--at a distance from his staff.
6. Production Emphasis refers to behavior by the principal which is characterized by close supervision of the staff. He is highly directive, and plays the role of a "straw boss." His communication tends to go in only one direction, and he is not sensitive to feedback from the staff.
7. Thrust refers to behavior by the principal which is characterized by his evident effort in trying to "move the organization." "Thrust" behavior is marked not by close supervision, but by the principal's attempt to motivate the teachers through the example which he personally sets. Apparently, because he does not ask the teachers to give of themselves any more than he willingly gives of himself, his behavior, though starkly task-oriented, is none-the-less viewed favorably by the teachers.
8. Consideration refers to behavior by the principal which is characterized by an inclination to treat the teachers "humanly," to try to do a little something extra for them in human terms.

To find the subtest score, each teacher's responses on a subtest is calculated and the total is divided by the number of items in that subtest. A school's mean score for each subtest is found by averaging the responses from group members.

Halpin and Croft (1966) identified six prototypic school climates from the subtest scores. These six climates were ranked and arranged along a continuum according to the degree of openness. The six climates defined by the authors were open, autonomous, controlled, familiar, paternal and closed. Also, the authors considered the Open Climate as "marked by functional flexibility, and the Closed Climate as distinguished by functional rigidity" (Halpin and Croft, 1963a).

The Esprit subtest scores were found to be good indicators of openness with respect to a school's climate. According to Croft, school climates are determined as open or closed by subtracting the Disengagement subtest score from the sum of the Esprit and Thrust subtest scores.

OCDQ Validity Studies

Brown (1964) replicated the Halpin and Croft study of organizational climates by utilizing a group of suburban Minnesota elementary schools. He reached the conclusion that the OCDQ is a well constructed instrument which could be used in administrative theory and the theory of social organizations.

Roseveare (1965) investigated the validity of the OCDQ by correlating the scores on two of the subtests and data from a faculty interview. Six schools were used in his sample. The results

led Roseveare to conclude that the subtest, Thrust, was a valid measure, and, that the Esprit subtest indicated evidence of validity.

Smith (1966) conducted a validity analysis of the OCDQ in 17 suburban Chicago schools. The study attempted to determine if schools with unlike organizational climates differed significantly with respect to the selected variables. The relationships between the OCDQ and specific external characteristics of the schools were analyzed by Smith. He found consistency relative to the correlations of variables to OCDQ subtests, intervariables correlations, and the climate identified by the OCDQ. This led him to conclude that the OCDQ was both internally and externally consistent. In addition, he concluded that the findings supported the conceptual and theoretical structure of the OCDQ and appeared to be consistent with the internal definitions of organizational climate as given by Halpin and Croft. In a similar study of selected secondary schools in the Twin Cities metropolitan area, Sargent concurred that the OCDQ was a useful instrument for measuring climate at the secondary level.

Andrews (1965) investigated the validity of the OCDQ subtests using a sample consisting of 165 Canadian schools. The relationships between OCDQ scores were examined as to their consistency with theory by comparisons within the test itself with staff variables, principal effectiveness and teacher satisfaction.

It was found that a strong positive relationship (V=.61) existed between teacher satisfaction and the openness of school climate. The relationship between teacher satisfaction and Esprit was found to be even stronger (V=.68). Six of the OCDQ subtests (Esprit, Thrust, Hindrance, Aloofness, Disengagement, and Consideration) were

found to be significantly related and all relationships were as expected in direction and approximate strength. Most of the accountable variation, as determined by multiple regression techniques, was attributed to Esprit, Thrust, negative Production Emphasis and negative Hindrance. Andrews cautioned that the halo potential could contaminate these validity indicators and therefore should not be given undue weight.

Andrews classified schools according to grade levels (grades 1-6, 7-9, and 10-12). No significant differences were found between the variables when classified according to the above mentioned grade levels. The results of 756 comparisons between elementary (1-6) and junior high schools (7-9) or between elementary and senior high schools (10-12) revealed no significant differences. Andrews (1965, p. 333) summarized by stating:

> A much more positive conclusion regarding the subtests is warranted. The evidence included a large number of significant relationships with other variables--a tribute to the theoretical importance of the concepts measured and to the internal consistency of the subtests. These relationships persisted, although reduced in frequency and strength, even in the more halo-free cases. In most instances, a clear theoretical meaning was present. In at least some of the cases where the meaning was equivocal, it may be the theory rather than the measures which is invalid. The subtests demonstrated a high degree of comprehensiveness, moreover, in that one or more came strongly into play in relationships with a wide assortment of variables.
>
> It is concluded that the subtests of the Organizational Climate Description Questionnaire provide reasonably valid measures of important aspects of the school principal's leadership, in the perspective of interaction with his staff.

A sub-study by Andrews (1965) sought the relationships between the personality of the principal as measured by the Myers-Briggs Type Indicator and the organizational climate of his school. The population consisted of 164 principals and their respective elementary and secondary schools. Andrews concluded that although the relationships

between personality types and organizational climates were not strong, they were in the direction that would be expected in terms of the meaning of the concepts.

OCDQ Reliability Studies

Coker (1962), using the OCDQ, investigated the organizational climate of 10 elementary schools in the state of Tennessee. She correlated the data with findings obtained from the Tennessee Rating Guide. Based upon a reliability factor significant at the .01 level of confidence, she concluded that both instruments assessed comparable circumstances and behaviors which encompass organizational climate.

The original study by Halpin and Croft produced two sets of reliability coefficients for the OCDQ subtests. The split-half computation method resulted in a range for reliability coefficients from .26 on Aloofness to .84 on Thrust. Using the odd-even technique for calculating reliability coefficients, the coefficients ranged from a low of .54 on Hindrance to a high of .76 on Aloofness. These reliabilities, according to Edwards (1957), are considered adequate for summated rating scales with fewer than 10 items. The distributions of reliability coefficients are shown in Table 2.

Sargent (1966), using the Pearson Product Moment Correlation coefficients based upon the test-retest technique derived the following tabulation (N=46):

	Subtest	r
1.	Disengagement	.567
2.	Hindrance	.458

3.	Esprit	.805
4.	Intimacy	.653
5.	Aloofness	.196
6.	Production Emphasis	.787
7.	Thrust	.504
8.	Consideration	.815

TABLE 2

RELIABILITY COEFFICIENTS FOR THE EIGHT OCDQ SUBTESTS

OCDQ Subtest	Split-half N = 1151	Respondent Odd-Even N = 71
1. Disengagement	.73	.59
2. Hindrance	.68	.54
3. Esprit	.75	.61
4. Intimacy	.60	.49
5. Aloofness	.26	.76
6. Production Emphasis	.55	.73
7. Thrust	.84	.75
8. Consideration	.59	.63

Educational Change Checklist

The Educational Change Checklist instrument consisted of a list of 37 educational changes (see Appendix E). Attention was focused upon five general areas, namely: (1) organization, (2) curriculum, (3) scheduling, (4) personnel, and (5) facilities. In addition, the changes were grouped according to the year of adoption or discontinuance.

Each principal indicated with a check (X) whether or not the change had been implemented in his high school. The educational changes were tabulated from the information provided on the checklist. These are summarized in Table 3.

This researcher refined the instrument by utilizing suggestions from the committee chairman and seventeen school administrators enrolled in an on-campus course in educational administration.

Biographical Data Questionnaire

The biographical data questionnaire in this study was a modification of the instrument developed by Brickner (see Appendix D). It contained nine questions to gather biographical characteristics (i.e., education, teaching experience, teaching assignment, extra-curricular duties, sex and age) of the respondent.

The first area involved educational data of the respondents. This area comprised the following: (1) highest level of education, (2) year awarded Bachelor's degree, (3) year awarded highest graduate degree, and (4) number of years since receiving college or university credit.

The second area was designed to collect data on the total years of teaching experience in North Dakota schools.

The third area sought information concerning the present teaching assignment of each respondent with respect to his academic preparation.

The fourth area was devoted to determining whether or not the respondent received reimbursement for extra-curricular activities.

The fifth area contained two questions to identify the sex and age of each respondent.

TABLE 3

SUMMARY OF EDUCATIONAL CHANGES FOR EACH SCHOOL

School	Organization	Curriculum	Scheduling	Personnel	Facilities	Total
1	2	4	1	2	7	16
2	2	5		1	7	15
3	4	2	2	4	5	17
4	1	5	1	2	7	16
5	1	4	1	3	10	19
6	4	7	2	2	7	22
7	4	5		3	2	14
8	3	3	2	3	4	15
9	1	7	1	3	8	20
10		1	1	3	5	10
11	1	3	1	2	6	13
12	4	1		2	7	14
13	5	4	1	2	5	17
14	1	2	2	1	6	12
15	5	4	2	4	7	22
16	4	6	1	2	7	20
17	3	2		2	5	12
18	2	6	1	2	7	18
19	2	2	2	2	5	13
20	2	2	1	3	2	10
					Overall Mean	15.8

Data Gathering Procedures

The research instruments and instructions (see Appendix A) were placed in individually stamped, self-addressed unmarked manila envelopes for each faculty member. Subsequently, on April 5, 1971, the individual packets were sent to each superintendent. It was suggested that the packets be distributed and the questionnaire completed at a special meeting called for this purpose. Each superintendent agreed to send a memo explaining the study to the teachers and encouraging their cooperation in this study. The solicitation of assistance from one of the teachers to collect and place the packets in the mail was also suggested. Special emphasis was placed on assuring the respondents there would be no direct reference to any school or individual other than to identify the schools that participated in the study. Each participating school was identified by a code number.

Personal letters containing copies of the OCDQ and the Educational Checklist were sent to the high school principals. The letters contained a special request to wait for a personal phone call from the researcher before completing the Educational Change Checklist. These follow-up calls were for the purpose of answering any questions and verification of the educational changes in each school.

All data collection instruments were xeroxed. The instructions for completing the OCDQ were stapled to the instrument (see Appendix A). A descriptive scale on which to rate the items was printed at the top of each page of the questionnaire. Four choices of answers appeared to the right for each of the questionnaire's 69 items. These choices appeared to the right as 1, 2, 3, and 4. The

respondent answered by circling whether the statement describes behavior that (1) rarely or never occurs, (2) sometimes occurs, (3) often occurs, (4) very frequently occurs in his school.

All the data were collected by May 24, 1971. The collected data were transferred from the OCDQ to IBM cards so that various statistical procedures could be performed. Three computer programs were developed based on the procedures as outlined in the respective questionnaire manuals.

The percentage of usable returns for the OCDQ and biographical data instruments dropped from 82.7 per cent to 71.5 per cent (see Table 4). This was due in part to the failure of some teachers to respond to every item on both instruments and the decision to limit the population to high school teachers. However, the usable returns in every case constituted more than 50 per cent of the teachers in each high school. Halpin and Croft (1963a) suggest that a minimum sample should consist of no less than seven teachers to insure reasonably reliable data.

Statistical Treatments

The statistical treatment selected to test the first null hypothesis was a canonical correlation. This statistical process measures the general relationship between two sets of data, and, in addition, measures individual subset-to-subset relationships. The canonical correlation was tested for significance by the use of Chi-square.

The statistical treatment used to test the second null hypothesis was the one-way analysis of variance generated by multiple linear

TABLE 4

SUMMARY OF USABLE SCHOOL FACULTY RETURNS FOR THE OCDQ

School	Faculty Size	Number of Usable Returns	Percentage of Usable Returns
1	19	15	78.9
2	17	14	82.4
3	17	13	76.5
4	19	15	78.9
5	19	15	78.9
6	17	9	52.9
7	15	9	60.0
8	15	12	80.0
9	15	8	53.3
10	22	15	68.2
11	17	17	100.0
12	20	15	75.0
13	23	12	52.2
14	24	15	62.5
15	27	17	62.9
16	17	12	70.6
17	16	14	87.5
18	22	14	63.6
19	25	17	68.0
20	16	15	93.8
Total	382	273	71.5

regression. The randomized block design allows significant differences to be determined between the two groups for each subtest. The F ratios obtained by this procedure were then tested for significance.

A setwise backward multiple linear regression approach was used to examine the research question. Using sets of biographical data as predicting variables, a prediction equation was formulated for each OCDQ subtest. The least variable set of predictors was eliminated, in successive steps, from the prediction equation until only one set remained (Williams and Lindem, 1971). As a result, the final step refers to the single best predictor set of biographical variables for the selected criterion.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

This chapter contains a presentation and analysis of the collected data from each of the 20 selected North Dakota high schools. The first part includes the research hypotheses, a description of the statistical treatments utilized, and the results of the statistical analysis.

The final part of the chapter is devoted to the research question presented in Chapter I.

The raw data used in this study were obtained from the teachers who completed both the OCDQ and biographical data instruments. Each principal was requested to complete both the OCDQ and the Educational Change Checklist. There were 19 principals who completed both instruments. One principal had reservations about completing the OCDQ because of the self-evaluation nature of the instrument, and, therefore, completed only the Educational Change Checklist.

Null Hypothesis 1

The research hypotheses formulated in this study were stated in null form. The first hypothesis states:

There was no significant relationship between the school's profile scores on each of the eight subtests of the Organizational Climate Description Questionnaire and the five subtest scores of the Educational Change Checklist.

School mean subtest scores for the OCDQ were correlated with subtest scores for the Educational Change Checklist. The sample consisted of 20 high schools which provided the researcher with both indexes of school climate profiles and educational changes. The usable data for this analysis were provided by 20 of the 21 schools in the population. The means and standard deviations for the OCDQ are presented in Table 5. Examination of the data shows that the highest mean score was 61.3 for the OCDQ Disengagement subtest. The lowest mean score was 35.9 for the Thrust subtest.

TABLE 5

MEANS AND STANDARD DEVIATIONS FOR OCDQ SUBTESTS (N=273)

OCDQ Subtest	Mean Scores	Standard Deviation
Disengagement	61.3	3.9
Hindrance	51.5	5.5
Esprit	40.1	6.9
Intimacy	60.1	6.6
Aloofness	51.8	6.0
Production Emphasis	54.9	4.8
Thrust	35.9	3.7
Consideration	44.3	3.3

The educational changes found in each school ranged from a low of 10 to a high of 22. The highest mean score for the five subtests of the Educational Change Checklist was 5.9 for facilities, while the

lowest mean score was 1.2 for scheduling. The means and standard deviations for the OCDQ are reported in Table 6.

TABLE 6

MEANS AND STANDARD DEVIATIONS FOR EDUCATIONAL CHANGE CHECKLIST (N=20)

Educational Change Checklist Subtest	Mean Scores	Standard Deviation
Organization	2.7	1.4
Curriculum	4.0	1.8
Scheduling	1.2	0.8
Personnel	2.5	0.9
Facilities	5.9	2.0

The statistical treatment used to determine the significance of an overall relationship between the eight subtests of the OCDQ and the five subtest scores of the Educational Change Checklist was a canonical correlation. In conjunction with this analysis, a subtest-by-subtest correlation matrix was also generated (see Table 7). This matrix shows that Disengagement and Hindrance were both negatively correlated with each of the five educational change subtests. The intimacy subtest was found to be positively correlated with all of the educational change subtests. Each of the remaining five subtests of the OCDQ were found to be correlated both positively and negatively with the selected change subtests. The only OCDQ subtest found to be significantly related to any of the educational change subtests was Aloofness (Organization, $r = -0.51$ and Personnel, $r =$

TABLE 7

RELATIONSHIPS BETWEEN ORGANIZATIONAL CLIMATE DIMENSIONS AND EDUCATIONAL CHANGES AMONG THE TWENTY SCHOOLS

OCDQ Subtest	Pearson r for Educational Changes				
	Organization	Curriculum	Scheduling	Personnel	Facilities
Disengagement	-0.06	-0.29	-0.33	-0.09	-0.27
Hindrance	-0.15	-0.06	-0.21	-0.13	-0.13
Esprit	0.43	0.06	0.11	0.41	-0.06
Intimacy	0.23	0.32	0.32	0.23	0.13
Aloofness	-0.51*	0.01	-0.33	-0.56**	0.19
Production Emphasis	0.10	-0.35	0.07	-0.07	0.22
Thrust	-0.04	0.0	0.22	0.08	-0.18
Consideration	-0.29	0.14	0.07	0.05	-0.02

-0.56). The relationship between the Aloofness subtest and Organization subtest was significant at the .05 level, while the correlation between the Aloofness subtest and the Personnel subtest was significant at the .01 level.

Table 8 displays the results of canonical correlation between sets of variables. An overall relationship of .7896 was proven to be non-significant at the .05 level of probability when tested against a Chi-square value of 20.265. The null hypothesis of no significant relationship between the OCDQ subtests and the Educational Change Checklist subtests was accepted.

TABLE 8

SUMMARY OF CANONICAL CORRELATION BETWEEN THE OCDQ SUBTESTS AND EDUCATIONAL CHANGES (N=20)

Canonical Correlation	Chi-Square	df	Significance Level
.7896	20.265	12	.064

A Chi-square of 21.026 is required for significance at the .05 level.

Null Hypothesis 2

The second null hypothesis was postulated so that comparisons might be made between the principals' and faculties' perceptions of all eight of the organizational climate dimensions, as measured by the OCDQ. The second hypothesis states:

There were no significant differences between the principals' and faculties' profile scores on each of the eight subtests of the Organizational Climate Description Questionnaire.

The OCDQ profile scores for each school were based upon the raw scores obtained from the designated faculties. Faculty profile scores were derived using the following calculations:

1. Each respondent received a raw score for the eight subtests of the OCDQ.
2. Faculty mean scores for each subtest were found by averaging the responses from group members.
3. Faculty mean scores were then converted into double standardized scores using both normative and ipsative standardization procedures. These procedures utilized a standard score based upon a mean of 50 and standard deviation of 10.

This process provided the faculty profile scores on each subtest for the individual schools. The principals' profile scores were generated in a similar procedure. Profile scores for these groups are presented in Table 9.

The faculties' mean OCDQ profile scores ranged from a low of 35.9 on Thrust to a high of 61.3 on Disengagement. Mean OCDQ profile scores for the principals ranged from a low of 40.5 on Hindrance to a high of 61.5 on Intimacy. Faculties' and principals' mean scores were similar on Intimacy (60.1 for the faculties and 61.5 for the principals), Aloofness (52.0 for the faculties and 50.6 for the principals), and Production Emphasis (54.9 for the faculties and 55.3 for the principals). A comparison of the mean scores on the eight OCDQ subtests finds the principals' scores to be higher than the faculties' scores on Esprit, Intimacy, Production Emphasis, Thrust, and Consideration.

TABLE 9

CLIMATE PROFILE SCORES FOR THE TWENTY SCHOOLS ON EACH OF EIGHT OCDQ CLIMATE DIMENSIONS

School Code Number		Climate Dimensions							
		Disengagement	Hindrance	Esprit	Intimacy	Aloofness	Production Emphasis	Thrust	Consideration
1	Faculty	65	48	32	56	58	55	40	47
	Principal	45	47	43	72	62	45	41	46
2	Faculty	59	48	46	63	56	56	30	43
	Principal	54	36	37	68	47	58	46	53
3	Faculty	63	50	34	64	42	55	41	51
	Principal	49	44	39	73	42	55	52	47
4	Faculty	58	51	30	62	60	50	41	48
	Principal	45	40	45	74	46	55	48	46
5	Faculty	59	48	47	59	57	60	30	40
	Principal	62	49	45	68	48	47	48	33
6	Faculty	60	41	44	72	49	47	40	46
	Principal	40	29	56	46	56	59	55	60
7	Faculty	67	50	45	49	58	56	32	43
	Principal	49	33	51	66	51	51	38	61
8	Faculty	55	46	55	71	42	52	37	42
	Principal	53	42	59	71	41	46	40	47
9	Faculty	56	62	37	60	55	53	32	45
	Principal	63	50	36	53	65	51	37	45
10	Faculty	69	52	35	53	56	53	37	46
	Principal	60	39	41	60	46	49	39	66
11	Faculty	57	46	42	63	52	64	36	40
	Principal	56	43	40	57	45	71	46	42
12	Faculty	61	54	46	53	50	64	31	41
	Principal	39	34	54	42	59	65	54	53

TABLE 9--Continued

School Code Number		Climate Dimensions: Disengagement	Hindrance	Esprit	Intimacy	Aloofness	Production Emphasis	Thrust	Consideration
13	Faculty	60	59	37	63	46	55	36	43
	Principal	47	46	38	65	37	65	47	55
14	Faculty	62	54	34	53	56	60	36	45
	Principal	68	32	51	56	46	54	43	52
15	Faculty	59	49	52	63	40	61	34	42
	Principal	39	51	48	68	56	52	33	53
16	Faculty	62	55	35	59	59	52	38	40
	Principal	42	36	52	69	44	49	47	61
17	Faculty	66	47	44	63	54	49	35	42
	Principal	49	32	49	61	64	57	41	47
18	Faculty	67	58	35	53	50	51	35	50
	Principal	59	44	45	41	38	68	45	60
19	Faculty	63	63	38	52	53	53	35	43
	Principal*								
20	Faculty	58	51	34	70	46	51	42	48
	Principal	52	43	39	59	69	54	36	48
Means:	Faculties	61.3	51.6	40.1	60.1	52.0	54.9	35.9	44.3
	Principals	51.1	40.5	45.7	61.5	50.6	55.3	44.0	51.3

*Data not included for reasons stated earlier in this chapter.

The statistical treatment selected to test the second hypothesis was a one-way regression analysis of variance which was based on a randomized block design. This procedure allowed significant differences to be determined between the two groups for each subtest.

The one-way multiple regression analysis of variance, with Disengagement used as the criterion, is shown in Table 10. Testing the treatment mean square for significance resulted in an F ratio of 10.82. With degrees of freedom of 1 and 15, this F value proved to be significant at the .005 level of probability. This indicates that there was

TABLE 10

MULTIPLE REGRESSION ANALYSIS OF VARIANCE BETWEEN FACULTIES AND PRINCIPALS WITH DISENGAGEMENT AS THE CRITERION

Source of Variation	df	Sum of Squares	Mean Square	F
Due to Regression	1	1168.4	1168.4	10.82*
Deviation From Regression	18	1944.5	108.0	
Total	19	3112.9		

*Significant at the .005 level.

A critical value of 4.41 is required for significance at the .05 level.

a significant difference between the principals' and faculties' perception of Disengagement, evidencing that the principals perceived significantly less Disengagement in their schools than did their faculties.

Table 11 shows that a multiple regression analysis of variance using Hindrance as the criterion resulted in an F ratio of 41.36. This F ratio exceeded the critical limit at the .005 level. The principals perceived Hindrance to be lower than did the faculties.

TABLE 11

MULTIPLE REGRESSION ANALYSIS OF VARIANCE BETWEEN FACULTIES AND PRINCIPALS WITH HINDRANCE AS THE CRITERION

Source of Variation	df	Sum of Squares	Mean Square	F
Due to Regression	1	1497.4	1497.4	41.36*
Deviation From Regression	18	652.4	36.2	
Total	19	2149.8		

*Significant at the .005 level.

A critical value of 4.41 is required for significance at the .05 level.

Multiple regression analysis of variance revealed no significant differences between the principals' and faculties' perceptions when Esprit, Intimacy, Aloofness and Production Emphasis were used as the criteria (see Tables 12-15). The F ratios were all less than the critical value of 4.41 required for significance at the .05 level. This indicates that the principals and faculties had similar perceptions on these four dimensions of organizational climate.

TABLE 12

MULTIPLE REGRESSION ANALYSIS OF VARIANCE BETWEEN FACULTIES AND PRINCIPALS WITH ESPRIT AS THE CRITERION

Source of Variation	df	Sum of Squares	Mean Square	F
Due to Regression	1	92.0	92.0	4.38
Deviation From Regression	18	377.6	21.0	
Total	19	469.6		

A critical value of 4.41 is required for significance at the .05 level.

TABLE 13

MULTIPLE REGRESSION ANALYSIS OF VARIANCE BETWEEN FACULTIES AND PRINCIPALS WITH INTIMACY AS THE CRITERION

Source of Variation	df	Sum of Squares	Mean Square	F
Due to Regression	1	6.3	6.3	.04
Deviation From Regression	18	2579.9	143.3	
Total	19	2586.2		

A critical value of 4.41 is required for significance at the .05 level.

TABLE 14

MULTIPLE REGRESSION ANALYSIS OF VARIANCE BETWEEN FACULTIES AND PRINCIPALS WITH ALOOFNESS AS THE CRITERION

Source of Variation	df	Sum of Squares	Mean Square	F
Due to Regression	1	60.0	60.0	.84
Deviation From Regression	18	1293.1	71.8	
Total	19	1353.1		

A critical value of 4.41 is required for significance at the .05 level.

TABLE 15

MULTIPLE REGRESSION ANALYSIS OF VARIANCE BETWEEN FACULTIES AND PRINCIPALS WITH PRODUCTION EMPHASIS AS THE CRITERION

Source of Variation	df	Sum of Squares	Mean Square	F
Due to Regression	1	25.3	25.3	.70
Deviation From Regression	18	654.9	35.9	
Total	19	671.2		

A critical value of 4.41 is required for significance at the .05 level.

Table 16 reports the results of the multiple regression analysis of variance using Thrust as the criterion. The resulting F ratio of 6.46 indicates a significant difference between the principals' and faculties' perception of Thrust. Principals perceived significantly higher Thrust than did the total school faculties.

TABLE 16

MULTIPLE REGRESSION ANALYSIS OF VARIANCE BETWEEN FACULTIES AND PRINCIPALS WITH THRUST AS THE CRITERION

Source of Variation	df	Sum of Squares	Mean Square	F
Due to Regression	1	574.7	574.7	6.46*
Deviation From Regression	18	1602.1	89.0	
Total	19	2176.8		

*Significant at the .05 level.

A critical value of 4.41 is required for significance at the .05 level.

Results of multiple regression analysis of variance using Consideration as the criterion are presented in Table 17. The resulting F ratio of 18.46 indicates a significant difference between the principals' and faculties' perception of Consideration. The principals perceived significantly higher Consideration than did the total school faculties.

TABLE 17

MULTIPLE REGRESSION ANALYSIS OF VARIANCE BETWEEN FACULTIES AND PRINCIPALS WITH CONSIDERATION AS THE CRITERION

Source of Variation	df	Sum of Squares	Mean Square	F
Due to Regression	1	640.5	640.5	18.46*
Deviation From Regression	18	624.9	34.7	
Total	19	1265.4		

*Significant at the .005 level.

A critical value of 4.41 is required for significance at the .05 level.

The principals had higher profile scores on Thrust and Consideration and lower profile scores on Disengagement and Hindrance than their faculties did of these organizational climate dimensions. This study found significant differences between the principals' and faculties' perception of Disengagement, Hindrance, Thrust and Consideration. It should be noted that two of these dimensions (Disengagement and Hindrance) measure teacher behavior characteristics and two dimensions (Thrust and Consideration) measure principal behavior characteristics. Therefore, the null hypothesis of no significant differences

between the principals' and faculties' profile scores on each of the eight subtests of the OCDQ is rejected at the .05 level.

Research Question

This study included a research question to discern if biographical characteristics could be used to predict a teacher's perception of organizational climate. Biographical data were collected from each of the respondents who completed the biographical data questionnaire. A copy of the questionnaire appears in Appendix D. The means for teacher biographical data are presented in Table 18.

The biographical characteristics were grouped into five sets of variables as follows: (1) Educational background; (2) Teaching experience; (3) Teaching assignment; (4) Reimbursement for extra-curricular assignments; (5) Sex and Age.

The following research question was developed to examine the predicatability of organizational climates:

Which of the sets of biographical variables obtained from the teachers contributed most to the predictability of each subtest score of the Organizational Climate Description Questionnaire?

A setwise backward multiple linear regression approach was used to examine the research question. Using the sets of biographical data as predicting variables, a prediction equation was formulated for each OCDQ subtest. The least valuable set of predictors was eliminated in successive steps from the prediction equation until the best predicting set remained. As a result, the final step refers to the single best predictor set of biographical variables for the selected criterion.

TABLE 18

MEANS FOR TEACHER BIOGRAPHICAL DATA (N=253)

Number	Variable	Mean
1	Bachelor's degree (No = 0)	0.269
2	Plus 1-15 Semester hours (No = 0)	0.348
3	Plus 16-30 Semester hours (No = 0)	0.182
4	Master's degree (No = 0)	0.087
5	Plus 1-15 Semester hours (No = 0)	0.079
6	Plus 16-30 Semester hours (No = 0)	0.320
7	Specialist's degree (No = 0)	0.004
8	Doctor's degree (No = 0)	0.000
9	Years since receiving Bachelor's degree (Base = 1971)	9.968
10	Years since receiving highest degree (Base = 1971)	7.866
11	Years since receiving college or university credit	
	1-4 years	0.921
	5-8 years	0.051
	9-12 years	0.012
	13-16 years	0.000
	17-20 years	0.008
	21-24 years	0.000
	25-28 years	0.000
	29-32 years	0.004
	Over 32 years	0.004

TABLE 18--Continued

Number	Variable	Means
12	Years of teaching experience	
	Present school	5.684
	North Dakota	7.846
	Total	8.447
13	Present teaching assignment	
	Major (No = 0)	0.672
	Minor (No = 0)	0.075
	Major and Minor (No = 0)	0.237
	Other (No = 0)	0.016
14	Reimbursement for extra-curricular activities (No = 0)	0.664
15	Sex (Female = 0)	0.292
16	Age	
	21-25 years (No = 0)	0.292
	26-30 years (No = 0)	0.261
	31-35 years (No = 0)	0.115
	36-40 years (No = 0)	0.083
	41-45 years (No = 0)	0.063
	46-50 years (No = 0)	0.071
	Over 50 years (No = 0)	0.115

Table 19 summarizes the results when Disengagement is used as the criterion. The set of biographical variables which was the best predictor of Disengagement was educational background (R = .227). No multiple correlations were found to be significant at the .05 level.

TABLE 19

SETWISE BACKWARD MULTIPLE REGRESSION ELIMINATION PROCESS FOR TEACHER BIOGRAPHICAL VARIABLES WITH DISENGAGEMENT AS THE CRITERION

Steps	Set Eliminated	Multiple Correlation	Significance Level
1	None	.344	>.05
2	Teaching assignment	.336	>.05
3	Reimbursement for extra-curricular assignments	.326	>.05
4	Teaching experience	.294	>.05
5	Sex and age	.227	>.05
6	Educational background		

The results of the setwise backward multiple regression process using Hindrance as the criterion are presented in Table 20. Educational background was found to be the single best predictor of Hindrance (R = .260). Again, no multiple correlations were found to be significant at the .05 level.

When Esprit was used as the criterion, the category of sex and age was the best single predictor or Esprit (R = .220). The multiple correlations and significance levels are reported in Table 21. There were no multiple correlations found to be statistically significant at the .05 level.

TABLE 20

SETWISE BACKWARD MULTIPLE REGRESSION ELIMINATION PROCESS FOR TEACHER BIOGRAPHICAL VARIABLES WITH HINDRANCE AS THE CRITERION

Steps	Set Eliminated	Multiple Correlation	Significance Level
1	None	.415	>.05
2	Teaching experience	.406	>.05
3	Reimbursement for extra-curricular assignments	.383	>.05
4	Teaching assignment	.335	>.05
5	Sex and age	.260	>.05
6	Educational background		

TABLE 21

SETWISE BACKWARD MULTIPLE REGRESSION ELIMINATION PROCESS FOR TEACHER BIOGRAPHICAL VARIABLES WITH ESPRIT AS THE CRITERION

Steps	Set Eliminated	Multiple Correlation	Significance Level
1	None	.358	>.05
2	Reimbursement for extra-curricular assignments	.342	>.05
3	Teaching experience	.309	>.05
4	Educational background	.285	>.05
5	Teaching assignment	.220	>.05
6	Sex and age		

The setwise backward multiple regression elimination process using Intimacy as the criterion revealed that the first four steps were significant at the .05 level. Step 3, reimbursement for extra-curricular assignments, proved to be significant at the .01 level. The multiple correlation for the final step was not significant at the .05 level. The best predictor of Intimacy (R = .369) was the category of sex and age. Each of these findings is reported in Table 22.

TABLE 22

SETWISE BACKWARD MULTIPLE REGRESSION ELIMINATION PROCESS FOR TEACHER BIOGRAPHICAL VARIABLES WITH INTIMACY AS THE CRITERION

Steps	Set Eliminated	Multiple Correlation	Significance Level
1	None	.453	<.05
2	Teaching experience	.450	<.05
3	Teaching assignment	.442	<.01
4	Reimbursement for extra-curricular assignments	.424	<.05
5	Educational background	.369	>.05
6	Sex and age		

When Aloofness was used as the criterion, educational background was the single best predictor of Aloofness (R = .254). The first three steps (full model, teaching assignment, teaching experience) proved to be significant at the .05 level while the final two steps (sex and age, educational background) were non-significant at the same level. Table 23 presents the results.

TABLE 23

SETWISE BACKWARD MULTIPLE REGRESSION ELIMINATION PROCESS FOR TEACHER BIOGRAPHICAL VARIABLES WITH ALOOFNESS AS THE CRITERION

Steps	Set Eliminated	Multiple Correlation	Significance Level
1	None	.446	<.05
2	Teaching assignment	.439	<.05
3	Teaching experience	.397	<.05
4	Reimbursement for extra-curricular assignments	.332	>.05
5	Sex and age	.254	>.05
6	Educational background		

Table 24 summarizes the results when Production Emphasis is used as the criterion. The set of biographical variables which was the best predictor of Production Emphasis was the category of sex and age (R = .199). No multiple correlations were found to be significant at the .05 level.

The results of the multiple regression process using Thrust as the criterion are reported in Table 25. The category of sex and age was found to be the single best predictor of Thrust (R = .200). There were no significant multiple correlations at the .05 level.

Educational background (R = .190) proved to be the best predictor of Consideration when the latter was used as the criterion. All of the multiple correlations were found to be non-significant

TABLE 24

SETWISE BACKWARD MULTIPLE REGRESSION ELIMINATION PROCESS FOR TEACHER BIOGRAPHICAL VARIABLES WITH PRODUCTION EMPHASIS AS THE CRITERION

Steps	Set Eliminated	Multiple Correlation	Significance Level
1	None	.354	>.05
2	Reimbursement for extra-curricular assignments	.355	>.05
3	Teaching assignment	.352	>.05
4	Teaching experience	.306	>.05
5	Educational background	.199	>.05
6	Sex and age		

TABLE 25

SETWISE BACKWARD MULTIPLE REGRESSION ELIMINATION PROCESS FOR TEACHER BIOGRAPHICAL VARIABLES WITH THRUST AS THE CRITERION

Steps	Set Eliminated	Multiple Correlations	Significance Level
1	None	.275	>.05
2	Reimbursement for extra-curricular assignments	.275	>.05
3	Teaching experience	.274	>.05
4	Teaching assignment	.240	>.05
5	Educational background	.200	>.05
6	Sex and age		

at the .05 level. The multiple correlations and significance levels are presented in Table 26.

TABLE 26

SETWISE BACKWARD MULTIPLE REGRESSION ELIMINATION PROCESS FOR TEACHER BIOGRAPHICAL VARIABLES WITH CONSIDERATION AS THE CRITERION

Steps	Set Eliminated	Multiple Correlation	Significance Level
1	None	.264	>.05
2	Reimbursement for extra-curricular assignments	.264	>.05
3	Teaching assignment	.257	>.05
4	Teaching experience	.239	>.05
5	Sex and age	.190	>.05
6	Educational background		

In summary, educational background was the single best predictor set of biographical variables for Disengagement, Hindrance, Aloofness, and Consideration. The multiple correlations for these criteria were as follows: (1) R = .227 for Disengagement (P >.05); (2) R = .260 for Hindrance (P >.05); (3) R = .254 for Aloofness (P >.05); and (4) R = .190 for Consideration (P >.05). The best predictor variable of Esprit, Intimacy, Production Emphasis and Thrust was sex and age. The multiple correlations for these criteria were as follows: (1) R = .220 for Esprit (P >.05); (2) R = .369 for Intimacy (P >.05); (3) R = .199 for Production Emphasis (P >.05); and (4) R = .200 for Thrust (P >.05).

CHAPTER V

SUMMARY AND CONCLUSIONS

This chapter presents a summary of the first four chapter. The final part of the chapter is devoted to the presentation of the conclusions drawn from the findings and implications for further related research.

Purpose of the Study

This study is postulated on the idea that the organizational climate of a school is determined by the behavior of its members, especially the leaders. Furthermore, it is assumed that a direct relationship exists between the behavior of the members and the educational changes in schools. The purpose of this study was to analyze the relationship between school climate, as measured by the OCDQ, and educational changes occurring in each of the selected high schools. In addition, the interactive behavior of the teachers and principal was examined to determine their perception of school climate. The study was extended to examine the predictability of perceived organizational climate by selected biographical variables.

Review of Selected Literature

The review of selected literature centered on three general areas. First, the review focused on the pertinent administration and organizational theory, which formed the basis for the development of

the theoretical conceptions of organizations. Barnard, Cornell, Weber and Parsons were four of the major contributors to the study of formal organizations. Their work provided a basic framework to be used later for the study or organizations. The modern theory is to study organizations as a system. This is done by exploring the internal social interactions among the members.

The search for ways to explain the relationships between all the variables relevant to school administration has produced several general models.

The early 1950's evidenced a dramatic change in research on administration. There was a new thrust toward the study of organizational roles and climates along with behavior studies of leadership. Getzels and Guba contributed to the new thrust in the study of administration. They proposed a general model conceptualizing the school as having two dimensions of social behavior. Getzels proposed that the behavior of the individual within a social system is a function of the interaction between his personality and his institutional role.

The general model of a social system developed by Getzels and Guba was expanded by Downey. He advocated the addition of the interna-externa concept of the educational system.

McGrath designed a general model composed of five components which depicts the interaction between and among components of organization life and organization functioning.

Three instruments were used to collect data. The instrument used to measure the interpersonal relationships within each school was the OCDQ developed by Halpin and Croft. The OCDQ was designed to describe the organizational climate of a school through the responses

of the staff. It contains 64 Likert-type items designed to identify eight dimensions of organizational climate of a school. These eight dimensions were named (1) Disengagement, (2) Hindrance, (3) Esprit, (4) Intimacy, (5) Aloofness, (6) Production Emphasis, (7) Thrust, and (8) Consideration. The first four dimensions measure the behavior characteristics of the teacher, while the remaining four measure the behavior characteristics of the principal. From the eight dimensions, six prototypic school climates were identified by Halpin and Croft. These authors defined the six climates as Open, Autonomous, Controlled, Familiar, Paternal and Closed.

The Educational Change Checklist was used to find the educational changes that were implemented or planned in each school. The changes were grouped into the five general areas of organization, curriculum, scheduling, personnel and facilities.

Biographical characteristics of the teacher were collected through the use of a survey questionnaire. The questionnaire contained 37 items describing the personal characteristics of the teacher. These items were grouped into the following general areas: (1) Educational background, (2) Teaching experience, (3) Teaching assignment, (4) Reimbursement for extra-curricular assignments, and (5) Sex and age.

The population for this study consisted of 21 high schools in the state of North Dakota. The sample drawn was restricted to high schools having 15 to 20 teachers in grades 9 through 12. One school was eliminated from the study for reasons stated earlier in Chapter III. The 20 high schools had 382 professional staff under contract, with 19 being the mean number of faculty.

All data for this study were collected during the months of April and May, 1971. At a faculty meeting, called for the purpose of completing the instrument, each teacher was given a copy of the OCDQ, a biographical data questionnaire, and a standard set of directions by the superintendent. The principal in each school responded to the OCDQ and indicated with a check in the appropriate box on the Educational Change Checklist whether or not a change had been implemented in his school. One principal completed only the latter instrument because of reasons stated in Chapter IV.

All tests were scored by hand and the results transferred to computer cards. Three computer programs were developed following the procedures as outlined in the respective manuals. The three programs were used to automatically process the responses into usable data.

There are some limitations to the study. They are:

1. The population was limited to 21 North Dakota high schools with 15 to 30 teachers in grades 9 through 12.
2. The instruments used to collect the data were assumed to be reliable and valid.
3. The method of data collection was assumed to be confidential in nature and that the results were not biased by the possible presence of the principal. It was assumed that the presence of the superintendent in the same high school did not affect the teachers' perceptions of their principal's behavior.
4. The study of organizational climate at only one point in time makes it imperative that all conclusions be limited to non-longitudinal aspects.

Findings and Conclusions

Two null hypotheses were formulated to be tested. The first hypothesis tested the relationships between organizational climate and educational change. Hypothesis 2 tested the differences between the principals' and teachers' perceptions of organizational climate. The following paragraphs contain the null hypotheses and the selected statistical treatments used in the testing of each hypothesis.

Null Hypothesis 1

There was no significant relationship between the school's profile scores on each of the eight subtests of the Organizational Climate Description Questionnaire and the five subtest scores of the Educational Change Checklist. The statistical treatment selected to test the first hypothesis was a canonical correlation. This statistical process measures the general relationship between two sets of data. A by-product of this analysis was the generation of a subset-to-subset correlation matrix. Chi-square was used to test the canonical correlation for significance. The canonical correlation analysis between sets of variables resulted in an overall relationship of .7896. This value proved to be non-significant at the .05 level of probability when tested against a Chi-square value of 20.265. Because of this finding, the first null hypothesis of no significant relationship was accepted.

Null Hypothesis 2

There were no significant differences between the principals' and faculties' profile scores on each of the eight subtests of the

Organizational Climate Description Questionnaire. The statistical treatment selected to test the second hypothesis was a one-way regression analysis of variance which was based on a randomized block design. This procedure allows significant differences to be determined between the two groups for each subtest.

Eight multiple regression equations, using the eight OCDQ subtests as the criteria, were computed. Significant differences were found between the principals' and faculties' profile scores on four of the eight dimensions. The principals had lower profile scores than did their faculties on the organizational climate dimensions of Disengagement and Hindrance, which are group characteristics. The principals had higher profile scores than did their faculties on the organizational climate dimensions of Thrust and Consideration, which are leader characteristics. The difference between the principals' and faculties' profile scores on the Esprit subtest resulted in an F ratio of 4.38 (a critical value of 4.41 is required for significance at the .05 level). This permitted a rejection of the hypothesis of no significant difference between the principals' and faculties' profile scores.

A research question was developed to examine the predictability of organizational climate. The biographical survey of teacher characteristics furnished sets of variables that were used to predict each OCDQ subtest. The following paragraph contains the research question and statistical treatment utilized in determining the best predictor variable.

Research Question

Which of the sets of biographical variables obtained from the teachers contributed most to the predictability of each subtest score of the OCDQ? The treatment selected to determine the best predictor set of biographical variables was a setwise backward multiple linear regression approach. This statistical process eliminates the least valuable set of predictors in successive steps until the single best predictor remains. The single best set of teacher biographical variables for predicting Disengagement, Hindrance, Aloofness, and Consideration subtest scores was found to be the educational background variables. The single best set of teacher biographical variables for predicting Esprit, Intimacy, Production Emphasis, and Thrust subtests was found to be the variables of sex and age.

In summary, the following conclusions are supported by the data obtained in this study:

1. There was no evidence found to indicate any definite overall relationships between school climate and educational change.
2. The principals as a group seem to perceive the organizational climate of their schools more favorably than do their faculties. Brown (1964) and Brickner (1971) reached similar conclusions with respect to the principals' and faculties' perception of organizational climate.
3. The teacher biographical variables of educational background, sex and age are the best predictors of the eight OCDQ subtest scores.

Implications for Further Research

The review of literature reveals that the OCDQ has been utilized in numerous studies relating organizational climate to other variables. This study revealed a number of questions that could be answered through further research. The following are submitted as recommendations for further study:

1. Research needs to be extended and expanded to provide a more complete view of any relationships between organizational climate and educational change.

2. A longitudinal study should be conducted to determine what effects, if any, the adoption of an educational change has on the organizational climate of a school.

3. The population should be expanded to establish Organizational Climate Description Questionnaire norms for high schools located in rural areas.

4. Research should be conducted to explore the possibility of relationships existing between organizational climate and the principal's biographical characteristics.

APPENDIX A

ORGANIZATIONAL CLIMATE

DESCRIPTION QUESTIONNAIRE

ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE

DIRECTIONS

The items in this questionnaire describe typical behaviors or conditions that occur within a secondary school organization. Please indicate to what extent you feel each of these descriptions characterize your school. Please do not evaluate the items in terms of "good" or "bad" behavior, but read each item carefully and respond in terms of how well the statement describes your school as you know it.

The purpose of this questionnaire is to secure a description of the different ways in which teachers behave and of the various conditions under which they work. I assure you that your responses will be kept confidential. There will be no direct reference to any school or individual other than to identify your school system as having participated in this study.

The descriptive scale on which to rate the items is printed at the top of each page of the questionnaire. Please read the marking instructions which describe how you should mark your responses. Please enclose the completed questionnaire in the self-addressed stamped envelope provided and return. Thank you for taking time from your busy schedule to assist with this study.

MARKING INSTRUCTIONS

Printed below is an example of a typical item.

1 - Rarely or never occurs
2 - Sometimes occurs
3 - Often occurs
4 - Very frequently occurs

Teachers call each other by their first names. 1 2 (3) 4

In this example the respondent marked choice 3 to show that the interpersonal relationship described by this item "often occurs" at his school. Of course, any of the other alternatives could be selected, depending upon how often the situation described by the item does, indeed, occur in your school.

Please mark your response clearly, as in the example. PLEASE BE SURE THAT YOU MARK EVERY ITEM.

You may begin answering the questionnaire as soon as you have completed these instructions. There is no time limit on the OCDQ (the normal working time is 15 to 20 minutes).

ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE

The situation described:
1 - Rarely or never occurs
2 - Sometimes occurs
3 - Often occurs
4 - Very frequently occurs

1.	Teachers' closest friends are other faculty members at this school.	1	2	3	4
2.	The mannerisms of teachers at this school are annoying.	1	2	3	4
3.	Teachers spend time after school with students who have individual problems.	1	2	3	4
4.	Instructions for the operation of teaching aids are available.	1	2	3	4
5.	Teachers invite other faculty members to visit them at home.	1	2	3	4
6.	There is a minority group of teachers who always oppose the majority.	1	2	3	4
7.	Extra books are available for classroom use.	1	2	3	4
8.	Sufficient time is given to prepare administrative reports.	1	2	3	4
9.	Teachers know the family background of other faculty members.	1	2	3	4
10.	Teachers exert group pressure on non-conforming faculty members.	1	2	3	4
11.	In faculty meetings, there is the feeling of "let's get things done."	1	2	3	4
12.	Administrative paper work is burdensome at this school.	1	2	3	4
13.	Teachers talk about their personal life to other faculty members.	1	2	3	4
14.	Teachers seek special favors from the principal.	1	2	3	4
15.	School supplies are readily available for use in classwork.	1	2	3	4
16.	Student progress reports require too much work.	1	2	3	4

The situation described: 1 - Rarely or never occurs
2 - Sometimes occurs
3 - Often occurs
4 - Very frequently occurs

17.	Teachers have fun socializing together during school time.	1	2	3	4
18.	Teachers interrupt other faculty members who are talking in staff meetings.	1	2	3	4
19.	Most of the teachers here accept the faults of their colleagues.	1	2	3	4
20.	Teachers have too many committee requirements.	1	2	3	4
21.	There is considerable laughter when teachers gather informally.	1	2	3	4
22.	Teachers ask nonsensical questions in faculty meetings.	1	2	3	4
23.	Custodial service is available when needed.	1	2	3	4
24.	Routine duties interfere with the job of teaching.	1	2	3	4
25.	Teachers prepare administrative reports by themselves.	1	2	3	4
26.	Teachers ramble when they talk in faculty meetings.	1	2	3	4
27.	Teachers at this school show much school spirit.	1	2	3	4
28.	The principal goes out of his way to help teachers.	1	2	3	4
29.	The principal helps teachers solve personal problems.	1	2	3	4
30.	Teachers at this school stay by themselves.	1	2	3	4
31.	The teachers accomplish their work with great vim, vigor, and pleasure.	1	2	3	4
32.	The principal sets an example by working hard himself.	1	2	3	4
33.	The principal does personal favors for teachers.	1	2	3	4
34.	Teachers eat lunch by themselves in their own classrooms.	1	2	3	4
35.	The morale of the teachers is high.	1	2	3	4
36.	The principal uses constructive criticism.	1	2	3	4

The situation described: 1 - Rarely or never occurs
2 - Sometimes occurs
3 - Often occurs
4 - Very frequently occurs

37.	The principal stays after school to help teachers finish their work.	1	2	3	4
38.	Teachers socialize together in small select groups.	1	2	3	4
39.	The principal makes all class-scheduling decisions.	1	2	3	4
40.	Teachers are contacted by the principal each day.	1	2	3	4
41.	The principal is well prepared when he speaks at school functions.	1	2	3	4
42.	The principal helps staff members settle minor differences.	1	2	3	4
43.	The principal schedules the work for the teachers.	1	2	3	4
44.	Teachers leave the grounds during the school day.	1	2	3	4
45.	The principal criticizes a specific act rather than a staff member.	1	2	3	4
46.	Teachers help select which courses will be taught.	1	2	3	4
47.	The principal corrects teachers' mistakes.	1	2	3	4
48.	The principal talks a great deal.	1	2	3	4
49.	The principal explains his reasons for criticism to teachers.	1	2	3	4
50.	The principal tries to get better salaries for teachers.	1	2	3	4
51.	Extra duty for teachers is posted conspicuously.	1	2	3	4
52.	The rules set by the principal are never questioned.	1	2	3	4
53.	The principal looks out for the personal welfare of teachers.	1	2	3	4
54.	School secretarial service is available for teachers' use.	1	2	3	4
55.	The principal runs the faculty meeting like a business conference.	1	2	3	4
56.	The principal is in the building before teachers arrive.	1	2	3	4

The situation described: 1 - Rarely or never occurs
2 - Sometimes occurs
3 - Often occurs
4 - Very frequently occurs

57.	Teachers work together preparing administrative reports.	1	2	3	4
58.	Faculty meetings are organized to a tight agenda.	1	2	3	4
59.	Faculty meetings are mainly principal-report meetings.	1	2	3	4
60.	The principal tells teachers of new ideas he has run across.	1	2	3	4
61.	Teachers talk about leaving the school system.	1	2	3	4
62.	The principal checks the subject-matter ability of teachers.	1	2	3	4
63.	The principal is easy to understand.	1	2	3	4
64.	Teachers are informed of the results of a supervisor's visit.	1	2	3	4
65.	Grading practices are standardized at this school.	1	2	3	4
66.	The principal insures that teachers work to their full capacity.	1	2	3	4
67.	Teachers leave the building as soon as possible at day's end.	1	2	3	4
68.	The principal clarifies wrong ideas a teacher may have.	1	2	3	4
69.	Schedule changes are posted conspicuously at this school.	1	2	3	4

APPENDIX B

ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE

BY DIMENSIONS

OCDQ Items That Compose Four Subtests: Teachers' Behavior

I. Disengagement

2. The mannerisms of teachers at this school are annoying.
6. There is a minority group of teachers who always oppose the majority.
10. Teachers exert group pressure on non-conforming faculty teachers.
14. Teachers seek special favors from the principal.
18. Teachers interrupt other faculty members who are talking in staff meetings.
22. Teachers ask nonsensical questions in faculty meetings.
30. Teachers at this school stay by themselves.
61. Teachers talk about leaving the school system.
38. Teachers socialize together in small selective groups.

II. Hindrance

24. Routine duties interfere with the job of teaching.
20. Teachers have too many committee requirements.
16. Student progress reports require too much work.
12. Administrative paper work is burdensome at this school.
8. Sufficient time is given to prepare administrative reports.
4. Instructions for the operation of teaching aids are available.

III. Esprit

35. The morale of the teachers is high.
31. The teachers accomplish their work with great vim, vigor, and pleasure.
27. Teachers at this school show much school spirit.
23. Custodial service is available when needed.
19. Most of the teachers here accept the faults of their colleagues.
15. School supplies are readily available for use in classwork.
21. There is considerable laughter when teachers gather informally.
11. In faculty meetings, there is the feeling of "let's get things done."
7. Extra books are available for classroom use.
3. Teachers spend time after school with students who have individual problems.

IV. Intimacy

1. Teachers' closest friends are other faculty members at this school.
5. Teachers invite other faculty members to visit them at home.
9. Teachers know the family background of other faculty members.
13. Teachers talk about their personal life to other faculty members.
17. Teachers have fun socializing together during school time.
57. Teachers work together preparing administrative reports.
25. Teachers prepare administrative reports by themselves.

OCDQ Items That Compose Four Subtests: Principal's Behavior

V. Aloofness

58. Faculty meetings are organized according to a tight agenda.
59. Faculty meetings are mainly principal-report meetings.
55. The principal runs the faculty meeting like a business conference.
44. Teachers leave the ground during the school day.
34. Teachers eat lunch by themselves in their own classrooms.
52. The rules set by the principal are never questioned.
40. Teachers are contacted by the principal each day.
54. School secretarial service is available for teachers' use.
64. Teachers are informed of the results of a supervisor's visit.

VI. Production Emphasis

39. The principal makes all class scheduling decisions.
43. The principal schedules the work for the teachers.
62. The principal checks the subject matter ability of teachers.
47. The principal corrects teachers' mistakes.
66. The principal insures that teachers work to their full capacity.
51. Extra duty for teachers is posted conspicuously.
48. The principal talks a great deal.

VII. Thrust

28. The principal goes out of his way to help teachers.
32. The principal sets an example by working hard himself.
36. The principal uses constructive criticism.
41. The principal is well prepared when he speaks at school functions.
49. The principal explains his reasons for criticism to teachers.
53. The principal looks out for the personal welfare of teachers.
56. The principal is in the building before teachers arrive.
60. The principal tells teachers of new ideas he has run across.
63. The principal is easy to understand.

VIII. Consideration

29. The principal helps teachers solve personal problems.
33. The principal does personal favors for teachers.
37. The principal stays after school to help teachers finish their work.
42. The principal helps staff members settle minor differences.
46. Teachers help select which courses will be taught.
50. The principal tries to get better salaries for teachers.

APPENDIX C

EDUCATIONAL CHANGE CHECKLIST

EDUCATIONAL CHANGE CHECKLIST

TO THE HIGH SCHOOL PRINCIPAL:

On the next two pages, you will find a list of educational changes. Changes that have never been adopted should be checked (X) in column 1. Please check in columns 2, 3 and 4 the year the change was adopted in your present high school. If the change will be adopted for the 1971-72 school year place a check in column 5. Please write in column 6 the approximate year the change was or will be discontinued. Thank you for your assistance.

Educational Changes	1 Never Adopted	2 Adopted Before 1969-70	3 Adopted for 1969-70	4 Adopted for 1970-71	5 Will be Adopted 1971-72	6 Discon. Year
ORGANIZATION						
1. Nongraded (Continuous Progress)						
2. Work-study Program						
3. Independent Study (Beyond supervised study in conventional classroom)						
4. Tutorial (Lay Personnel-Student, Teacher-Student)						
5. Flexibility in Groupings (Seminars, Discussion or Interest)						
6. Special Education						
7. Multiple Classes						
CURRICULUM						
1. New Science Courses (BSCS, ESCP, CHEM, etc.)						
2. Data Processing Courses or Technological Training						

Educational Changes	1 Never Adopted	2 Adopted Before 1969-70	3 Adopted for 1969-70	4 Adopted for 1970-71	5 Will be Adopted 1971-72	6 Discon. Year
3. Leisure Time Development (Golf, Tennis, Hobbies, etc.)						
4. Mini-courses (Credit or Non-credit)						
5. Community-School Programs (Adult Education)						
6. Course on Family Living						
7. Programmed Instruction (SRA Reading Kit, TEMAC, English 2500, etc.)						
8. Course on Ecology						
SCHEDULING						
1. Modular Scheduling						
2. Block						
3. Individual (Day by Day, Week by Week)						
4. Extended Day						
5. Extended School Year						
6. Floating Class Period						
PERSONNEL						
1. Team Teaching						
2. Paraprofessional Aide (Teacher Aide)						

Educational Changes	1 Never Adopted	2 Adopted Before 1969-70	3 Adopted for 1969-70	4 Adopted for 1970-71	5 Will be Adopted 1971-72	6 Discon. Year
3. Volunteer Aides						
4. Guidance Services (Certified Counselor)						
5. Shared Services (Mobile Library, Speech Correctionists, Music, etc.)						
FACILITIES						
1. Carrels for Individual Study						
2. Electronically Equipped Study Carrels						
3. Departmental Resource Centers						
4. Large and Small Group Instructional Centers						
5. Language Labs						
6. Television and/or Videotape						
7. Science Laboratories with Individual Work Stations						
8. Amplified Telephone						
9. Modification of Facilities (Removal of a wall, etc.)						

Educational Changes	1 Never Adopted	2 Adopted Before 1969-70	3 Adopted for 1969-70	4 Adopted for 1970-71	5 Will be Adopted 1971-72	6 Discon.
10. Community use of Facilities (Library, Gym, Swimming Pool, etc.)						
11. Professional Library						

APPENDIX D

BIOGRAPHICAL DATA QUESTIONNAIRE

BIOGRAPHICAL DATA QUESTIONNAIRE

1. What is the highest educational level you have attained? Note: One quarter hour credit equals two-thirds of a semester credit. (check one)

_____Bachelor's degree
_____1-15 semester hours beyond Bachelor's degree
_____16-30 semester hours beyond Bachelor's degree
_____Master's degree
_____1-15 semester hours beyond Master's degree
_____16-30 semester hours beyond Master's degree
_____Specialist Diploma (Sixth-year program)
_____Doctor's degree

2. What year were you awarded your Bachelor's degree? _____

3. What year were you awarded your highest graduate degree? _____

4. How many years since you received college or university credits?

_____1-4 years	_____13-16 years	_____25-28 years
_____5-8 years	_____17-20 years	_____29-32 years
_____9-12 years	_____21-24 years	_____over 32 years

5. Number of years of teaching experience (Count the present year as one year.)

_____present school _____North Dakota _____total years

6. Your present teaching assignment is in which of the following areas? (check one)

_____major _____major and minor
_____minor _____other (specify)_____

7. Do you receive reimbursement for extra-curricular duties that you perform? _____yes _____no

8. Sex: _____male _____female

9. Age: (check one)

_____21-25 years	_____36-40 years	_____51-55 years
_____26-30 years	_____41-45 years	_____56-60 years
_____31-35 years	_____46-50 years	_____over 60 years

APPENDIX E

SUMMARY OF EDUCATIONAL CHANGES

EDUCATIONAL CHANGE CHECKLIST

TO THE HIGH SCHOOL PRINCIPAL:

On the next two pages, you will find a list of educational changes. Changes that have never been adopted should be checked (X) in column 1. Please check in columns 2, 3 and 4 the year the change was adopted in your present high school. If the change will be adopted for the 1971-72 school year place a check in column 5. Please write in column 6 the approximate year the change was or will be discontinued. Thank you for your assistance.

Educational Changes	1 Never Adopted	2 Adopted Before 1969-70	3 Adopted for 1969-70	4 Adopted for 1970-71	5 Will be Adopted 1971-72	6 Discon. Year
ORGANIZATION						
1. Nongraded (Continuous Progress)	20					
2. Work-study Program	7	9	1	3		
3. Independent Study (Beyond supervised study in conventional classroom)	10	6	2	1		1
4. Tutorial (Lay Personnel-Student, Teacher-Student)	14	2	2	2		
5. Flexibility in Groupings (Seminars, Discussion or Interest)	12	6	1		1	
6. Special Education	7	10	1		1	1
7. Multiple Classes	17	2	1			
CURRICULUM						
1. New Science Courses (BSCS, ESCP, CHEM, etc.)	9	7	1		3	
2. Data Processing Courses or Technological Training	18	2				

Educational Changes	1 Never Adopted	2 Adopted Before 1969-70	3 Adopted for 1969-70	4 Adopted for 1970-71	5 Will be Adopted 1971-72	6 Discon. Year
3. Leisure Time Development (Golf, Tennis, Hobbies, etc.)	6	11	1		2	
4. Mini-courses (Credit or Non-credit)	16	1		2	1	
5. Community-School Programs (Adult Education)	4	14	2			
6. Course on Family Living	4	10	2	1	3	
7. Programmed Instruction (SRA Reading Kit, TEMAC, English 2500, etc.)	10	9				1
8. Course on Ecology	14	2		1	3	
SCHEDULING						
1. Modular Scheduling	17	2				
2. Block	14	5			1	
3. Individual (Day by Day, Week by Week)	13	7				
4. Extended Day	17	2	1			
5. Extended School Year	20					
6. Floating Class Period	17		1		1	1
PERSONNEL						
1. Team Teaching	14	1	1	1	2	1
2. Paraprofessional Aide (Teacher Aide)	12	5	2	1		
3. Volunteer Aides	17	2			1	

Educational Changes	1 Never Adopted	2 Adopted Before 1969-70	3 Adopted for 1969-70	4 Adopted for 1970-71	5 Will be Adopted 1971-72	6 Discon. Year
4. Guidance Services (Certified Counselor)	1	17	1			1
5. Shared Services (Mobile Library, Speech Correctionists, Music, etc.)	6	12	2			
FACILITIES						
1. Carrels for Individual Study	8	6	2	1	3	
2. Electronically Equipped Study Carrels	15	2		1	2	
3. Departmental Resource Centers	6	8	1	1	4	
4. Large and Small Group Instructional Centers	10	4	1		5	
5. Language Labs	14	5		1		
6. Television and/or Videotape	6	8		3	3	
7. Science Laboratories with Individual Work Stations	6	12			2	
8. Amplified Telephone	19	1				
9. Modification of Facilities (Removal of a wall, etc.)	8	7	2	3	1	

		1 Never Adopted	2 Adopted Before 1969-70	3 Adopted for 1969-70	4 Adopted for 1970-71	5 Will be Adopted 1971-72	6 Discon. Year
10.	Community use of Facilities (Library, Gym, Swimming Pool, etc.)	4	14	1	1		
11.	Professional Library	5	11	3		1	

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