



The relationship between organizational climate and teacher-initiated educational change in the Billings, Montana public schools
by Jeffrey Alan Jacobson

A thesis submitted in partial fulfillment of the requirements for the degree of DOCTOR OF EDUCATION

Montana State University

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Abstract:

The problem of this study was to determine the relationship between organizational climate and seven predictor variables, one of which was the number of teacher-initiated educational changes made in Billings, Montana, Public Schools during the first semester of the 1978-79 school year.

The problem was investigated by: (1) a thorough review of the literature related to organizational climate and classroom instructional development concerning teacher-initiated change; (2) the development of a two-part questionnaire utilizing the Organizational Climate Description Questionnaire, designed by Andrew W. Halpin, to measure school climate and a checklist entitled "Survey of Teacher-Initiated Educational Change"; (3) the selection of a population criteria and distribution of survey instruments to a total population of 763 classroom teachers; and (4) the tabulation, analysis, and comparison of the data based on a response of 84.4 percent.

The major findings of the study were that: (1) school climate scores in the thirty-two schools varied extensively with the norm scores of an "open" climate as established for the O.C.D.Q.; (2) there is a significant positive relationship between organizational climate scores and the seven predictor variables when treated collectively; (3) there is a significant positive relationship between the number of teacher-initiated educational changes and the seven predictor variables when treated collectively; and (4) the predictor variables calculated to be significant when treated independently confirmed that female classroom teachers perceived school climate to be more "open" than their male colleagues, and the longer a classroom teacher is assigned to a building the more "closed" he/she perceives the climate.

The major recommendations of the study were: (1) that administrator preparation institutions should offer instruction concerning school climate evaluation; (2) that school administrators should make a concerted effort to become more aware of the concept of school climate and attempt to introduce a climate measurement into current personnel evaluation practices; (3) that staff and administrators should develop a dialogue concerning their knowledge of teaching techniques, methods, and materials that are infrequently utilized in their school; and (4) that further studies be conducted using a different set of predictor variables as well as attempting to discover what motivates classroom teachers to incorporate educational changes into their instructional program.

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THE RELATIONSHIP BETWEEN ORGANIZATIONAL CLIMATE AND
TEACHER-INITIATED EDUCATIONAL CHANGE IN THE
BILLINGS, MONTANA PUBLIC SCHOOLS

by

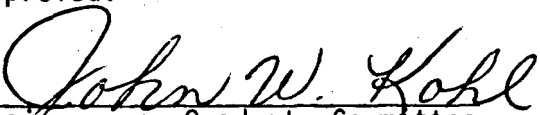
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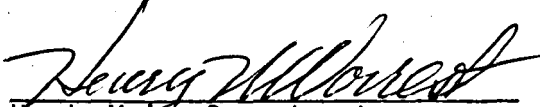
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ABSTRACT

The problem of this study was to determine the relationship between organizational climate and seven predictor variables, one of which was the number of teacher-initiated educational changes made in Billings, Montana, Public Schools during the first semester of the 1978-79 school year.

The problem was investigated by: (1) a thorough review of the literature related to organizational climate and classroom instructional development concerning teacher-initiated change; (2) the development of a two-part questionnaire utilizing the Organizational Climate Description Questionnaire, designed by Andrew W. Halpin, to measure school climate and a checklist entitled "Survey of Teacher-Initiated Educational Change"; (3) the selection of a population criteria and distribution of survey instruments to a total population of 763 classroom teachers; and (4) the tabulation, analysis, and comparison of the data based on a response of 84.4 percent.

The major findings of the study were that: (1) school climate scores in the thirty-two schools varied extensively with the norm scores of an "open" climate as established for the O.C.D.Q.; (2) there is a significant positive relationship between organizational climate scores and the seven predictor variables when treated collectively; (3) there is a significant positive relationship between the number of teacher-initiated educational changes and the seven predictor variables when treated collectively; and (4) the predictor variables calculated to be significant when treated independently confirmed that female classroom teachers perceived school climate to be more "open" than their male colleagues, and the longer a classroom teacher is assigned to a building the more "closed" he/she perceives the climate.

The major recommendations of the study were: (1) that administrator preparation institutions should offer instruction concerning school climate evaluation; (2) that school administrators should make a concerted effort to become more aware of the concept of school climate and attempt to introduce a climate measurement into current personnel evaluation practices; (3) that staff and administrators should develop a dialogue concerning their knowledge of teaching techniques, methods, and materials that are infrequently utilized in their school; and (4) that further studies be conducted using a different set of predictor variables as well as attempting to discover what motivates classroom teachers to incorporate educational changes into their instructional program.

Chapter 1

INTRODUCTION

"More today than yesterday, and more tomorrow than today, the survival of people and their institutions depends upon innovation" (Morton, 1971:1). Innovation, as described by Morton, means taking the old, updating and improving it, while developing new capabilities of people within their organizations. Morton goes on ". . . it (innovation) is the adaptive change and improvement of existing systems" (1971:1).

Though Morton, as vice-president of Bell Laboratories, speaks primarily of the business and industry sector in his book, his plea is recognized and given equal importance in the organizational setting of educational systems (Carlson, 1965:3).

Owens and Steinhoff (1976:1) describe how the American public schools are facing a crisis brought on by diminishing public trust and confidence. These authors feel such evidence as school levy failures and record numbers of administrator resignations and releases is proof of the immediate need for change.

Frequently, change in education is a direct result of coming in contact with ideas and concepts developed or simply utilized by others in the field (Owens and Steinhoff, 1976:34). Seeking to update and create necessary change in educational settings, educators have mounted great efforts to identify those conditions that tend to allow

for the exchange and dissemination of new ideas and meaningful change within school organizations.

Hughes (1971:19) states "Tantamount to the success of bringing change about is openness within the organization and free flow of communication." The organizational leadership that performs in a manner as to enhance such experiences or is "open" to such endeavors, meets with more success in adapting to needed change than the organizational leadership which operates to inhibit the free flow of ideas and leadership actions within the ranks (Halpin, 1966:131).

Hughes (1971:12) refers to an "open" climate as a situation within any organization in which participating members receive personal satisfaction from both interpersonal relationships with co-workers and accomplishment of assigned tasks. Contrariwise, Halpin (1966:137) defines a "closed" climate as being undesirable and crippling to students and instructors alike. Halpin includes, ". . . we prefer to view Closed Climate as unhealthy or sick--not as evil" (1966:137).

Brickell (1961:24) found administrators of schools to be the most significant source of change since the administrator has the power to allocate necessary resources in terms of personnel, finances, and time. The school principal position has been identified by McPhee as the motivating force which creates the climate that fosters change (1967:188). In that regard, Halpin states that in a "closed" climate, the behavior of the principal fails to foster a condition where staff

members are free to design, experiment, or initiate new techniques and methods for teaching or learning (1966:199). Likewise, Glines found evidence that an indirect role of school principals is the creation and development of a climate conducive to the support of innovation by staff members (1967:166).

As members of complex organizations, teachers are controlled in their behavior by the social context of the organization. "For this reason the focus of change efforts must be as much on the organizations as on the individual teachers who depend on the organizations in their practice" (Owens and Steinhoff, 1976:12).

Together, the attitudes, perceptions, and behaviors of all personnel within the organization serve as the "personality" of the system as a whole. This personality is what makes organizations whatever they actually are.

Halpin states:

And so, too, as one moves to other schools, one finds that each appears to have a "personality" of its own. It is this "personality" that we described here as the "Organizational Climate" of the school. Analogously, personality is to the individual what Organizational Climate is to the organization (1966:131).

This organizational climate or "health," as Mullin (1976:7) refers to it, is one very important aspect that determines whether or not an organization is amenable to change or innovation as well as the degree to which such change will actually be implemented.

STATEMENT OF THE PROBLEM

The problem of this study was to determine the relationship between school organizational climate as determined by the Organizational Climate Description Questionnaire and the number of teacher-initiated educational changes implemented in those schools.

NEED AND PURPOSE OF STUDY

Teacher behaviors are highly related to the total organizational behavior known as climate (Marcum, 1968:10). Those behaviors include all actions of teachers as they exist within the school. Behavior changes that are implemented in the context of the educational program are therefore related in some degree to the organizational climate found to be present in that educational organization.

These concepts prompted this investigator to believe that there is a relationship between the organizational climate and the number, variety, and extent of teacher-initiated educational changes. One technique for determining if such a relationship exists includes the examination and comparison of scores obtained through the measurement of organizational climate and a measurement of the number of classroom instructional changes initiated by the teacher. Awareness of such a relationship may offer educators an opportunity to modify those climates exhibiting low scores in order to stimulate changes in the

educational program to better meet the changing needs of both students and teachers.

GENERAL QUESTIONS TO BE ANSWERED

1. What is the organizational climate profile for each of the twenty-six elementary, four junior high, and two high schools located in the Billings Public School District?

2. How do the organizational climate scores of each of the schools located in the Billings School District compare with the standardized norms established for the Organizational Climate Description Questionnaire?

3. What is the organizational climate score achieved by each of the classroom teachers employed in the individual schools located in the Billings Public School District?

4. How many teacher-initiated educational changes were introduced in the Billings Public Schools by classroom teachers during the six month period prior to the end of the first semester of the 1978-79 school year?

5. Is there a relationship between the organizational climate scores, as derived through individual classroom teachers' scores, and the number of teacher-initiated educational changes made by these teachers, in Billings Public Schools, during the six month period prior to the end of the first semester of the 1978-79 school year?

6. Does the sex of the respondents affect the relationship of organizational climate scores and the number of teacher-initiated educational changes made in the classrooms of Billings Public Schools?

7. Does the respondent's age affect the relationship of organizational climate scores and the number of teacher-initiated educational changes made in the classrooms of Billings Public Schools?

8. Does the number of years of teaching experience of the respondents have an effect on the relationship of organizational climate scores and the number of teacher-initiated educational changes made in the classrooms of Billings Public Schools?

9. Does the recency of the respondent's professional training have an effect on the organizational climate scores obtained by classroom teachers in Billings Public Schools?

10. Does the recency of the respondent's professional training have an effect on the number of teacher-initiated educational changes implemented in Billings Public Schools?

LIMITATIONS AND DELIMITATIONS

A limitation was the measurement of organizational climate that involved only those items appearing in the Organizational Climate Description Questionnaire (O.C.D.Q.) as developed by Andrew W. Halpin and Donald B. Croft (Halpin, 1966:148-50).

The study was delimited to the number of classroom teachers in School District No. 2, Billings, Montana, during the 1978-79 school year. Only full-time classroom teachers assigned to a single building were included in the study.

DEFINITION OF TERMS

Classroom Teacher. A certified instructional staff member whose assignment includes teaching full-time in a single school building. This excludes librarians, counselors, administrators, teachers serving more than one school, and other staff members not assigned in terms of definition.

Organizational Climate. ". . . a delicate blend of interpretations (or perceptions as social psychologists would call it) by persons in the organization of their jobs or roles of others in the organization" (Cornell, 1955:222).

Organizational Climate Description Questionnaire (O.C.D.Q.). Created by Andrew W. Halpin and Donald B. Croft (Halpin, 1966:148-50). A measurement device designed ". . . to dimensionalize the behaviors that define the organizational climate of schools" (Hayes, 1973:3) and ". . . to place schools on a continuum from closed to open climate" (Mullen, 1976:9).

Teacher-Initiated Educational Change. As used in this investigation will refer to methods, techniques, materials, curriculum and

professional development conditions introduced into a classroom through the self-choice of the classroom teacher. These conditions are to be different from those used during the previous school year and may be entirely new, partly new, or a return to a formerly used technique that had been replaced by some other change.

The Eight Dimensions of Organizational Climate.

Teacher's Behavior

1. Disengagement refers to the teacher's 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 "busywork." 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 idiosyncratic. 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 nonetheless 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. (Halpin, 1966:150-1)

Description of Halpin and Croft's Six Climates.

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 pre-occupied 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 accomplishment. 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, 1963:2-3).

SUMMARY

This study was undertaken to gain information through measurement and comparison of the relationship between teachers' interpretations of the organizational climate of their respective

school buildings and the number of teacher-initiated changes attempted in their classroom. Due to the expressed need for change in education and because variations in organizational climate scores have been found to either enhance or stifle productive and necessary change, this study will afford school leaders the opportunity to know to what degree climate must be considered if established goals of meaningful change are to be achieved in the classrooms of their school districts.

Chapter 2

REVIEW OF RELATED LITERATURE

The review of literature is arranged to present concepts of both organizational climate and educational change. These variables are treated separately and also in their relationship to one another. In order to more fully understand the concept of organizational climate it is discussed as follows: (1) Early Development of Organizational Climate Concept; (2) Definitions of Organizational Climate; (3) Components of Organizational Climate Measurement; and (4) Instruments Designed for Measuring Organizational Climate.

The concept of educational change is discussed in the following sequence: (1) Definition; (2) Summary Review of Literature Concerning Studies Involving Educational Change; and (3) The Role of a Classroom Teacher.

The final section of this chapter concerns a review of the studies that have utilized organizational climate measurements in research relating to educational change. In conclusion a summary is provided.

ORGANIZATIONAL CLIMATE: EARLY DEVELOPMENT

Much of organizational theory and organizational research in education has evolved from the thoughts and efforts of persons outside the education setting. These thoughts and efforts have been created by

individuals involved in the field of industrial management and most recently those fields of public administration, sociology, and psychology. Individual contributions from the field of industrial management and public administration are traced to Henri Fayol, Frederick W. Taylor, and Elton Mayo, who wrote in the late nineteenth and twentieth centuries, and more recently to the works of James G. March and Herbert A. Simon; L. Gulick and L. Urwick; and Chris Argyris. From sociology there are the contributions of Phillip Selznick, Peter M. Blau, and Talcott Parsons. In the area of psychology, contributions were made through the works of Bruce J. Biddle and Daniel Katz (Wright, 1969:123).

It would be incorrect to assume that research of organizations began with any one of the previously mentioned men or for that matter during the time frame represented by the works of these individuals. The study of organizational problems is centuries old. Hoagland suggests that we are no doubt at the level of knowledge today because of the efforts made during the latter part of the nineteenth century (Hoagland, 1964:38).

Early literature with respect to organization, as evidenced by Barnard (1938), described the thrust of organizations to be twofold in nature. Barnard stated that organizations must strive for both effectiveness in achievement of the organizational goals and efficiency

of goal achievement in light of regard for the individuals making up the organization (Barnard, 1938:1-3).

Development of such ideas as those of Barnard led to the movement in organizational theory and research known as the "Human Relations" movement (Rogers and Rogers, 1976:45).

Rogers and Rogers identified other such noted individuals as Mayo, Roethlisberger, Dickson, McGregor, Likert, and Argyris as being very instrumental in this Human Relations movement.

These latter-day scholars are often labeled the Human Resources group, because they assumed that all segments of the organization (workers and managers) could benefit from more appropriate human relationships in the organization (Rogers and Rogers, 1976:131).

ORGANIZATIONAL CLIMATE: DEFINITIONS

Credit is given Francis Cornell for originating the term "organizational climate" in 1955. In an article appearing in Phi Delta Kappan in 1955, Cornell defined the concept of organizational climate as a blend of perceptions by persons in an organization concerning their jobs or roles in relation to colleagues and their roles within the organization (1955:222).

Argyris (1958) used the term organizational climate as an analytic component in a study he conducted dealing with behavior of role participants in a bank setting. He defined organizational climate as a living complexity composed of three related systems of

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" (1958:501).

George Stern in 1962 described organizational climate as the different forms of "press" or pressures of both the organization and the individual to strive to meet each other's needs (1970:10-12).

Forehand and Gilmer (1964) defined organizational climate as

The set of characteristics that describe an organization and that (a) distinguish the organization from other organizations, (b) are relatively enduring over time, and (c) influence the behavior of people in the organization (1964:362).

Halpin (1966) briefly suggests that organizational climate is to the organization what personality is to the individual (1966:131).

Tagiuri defines the concept of organizational climate as follows:

The climate of an organizational setting is defined as a relatively enduring quality of the internal environment of the organization, that is (a) experienced by its members, (b) influences their behavior, and (c) can be described in terms of the values of a particular set of characteristics (or attitudes) of the organization (1968:27).

In his most recent attempt to "map the domain" of organizational structure, Forehand (1968) saw climate as involving at least three sets of variables: (1) environmental variables, size, structure;

- (2) personal variables; motivations, attitudes, desires, needs; and
- (3) outcome variables; such as satisfaction, job motivation, and productivity.

ORGANIZATIONAL CLIMATE: SOME COMPONENTS OF MEASUREMENT

One of the earliest attempts to measure "organizational climate" was carried out by Hemphill in 1955. His study was developed as part of a ten-year research program on leadership conducted in cooperation with the Ohio State Leadership Studies. Hemphill's research concluded with his identification of thirteen characteristics of organizations common to all and measurable to some varying degree. Characteristics listed by Hemphill include: autonomy, control, flexibility, hedonic tone, homogeneity, intimacy, participation, permeability, polarization, potency, stability, stratification, and viscosity (1955:388-89).

Halpin and Croft (1963) in their attempt to design an instrument for measuring organizational climate geared their efforts toward the development of a more exacting qualitative device that would determine intraorganizational behavior patterns. These researchers came up with four behaviors characteristic of administrative leaders in school settings, and four behaviors most characteristic in staff members of a school setting. Administrative behaviors included:

(1) aloofness, (2) production emphasis, (3) thrust, and (4) consideration. Teacher behaviors were identified as: (1) disengagement, (2) hindrance, (3) esprit, and (4) intimacy. Halpin and Croft went to even greater lengths in utilizing profiles of individual's scores on the instrument to establish six commonly found climates of organizations. Halpin and Croft found that when all individual members had completed the survey, all of the individual profiles could be gathered and upon analysis, the total organizational climate could be placed near one of the following six points of a continuum scale ranking climates as open, autonomous, controlled, familiar, paternal, or closed (Halpin, 1966:150-181).

Though his concern was not to develop climate measurement instrumentation, the effort of Getzels in the development of a theoretical organizational model (Figure 1) gave another dimension to the internal structure of organizations, thereby, adding to the rapidly growing understanding of key components involved. Getzels' model served as visual representation of the typical social behavior and interaction found to exist in organizations. His model was formulated on the basis of three criteria: (1) it was to provide a set of integrated concepts and relations capable of posing and answering questions related to administration structure; (2) the concepts involved were to be operational; and (3) the model was to be exact (Getzels, 1967:152).

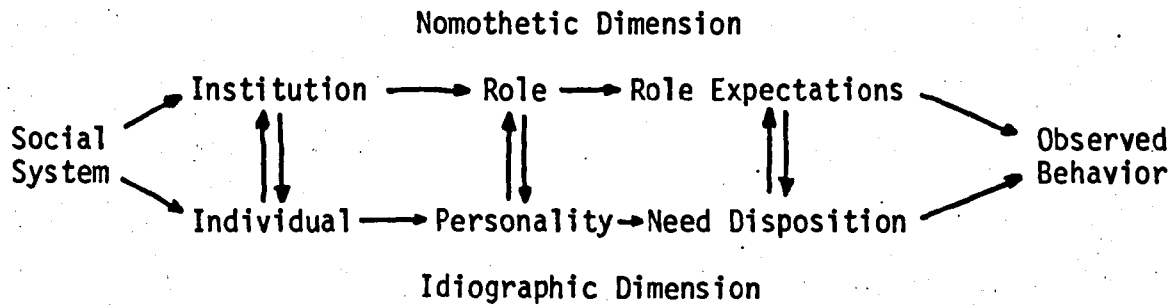


Figure 1

General Model Showing the Nomothetic and
Idiographic Dimensions of Social
Behavior (Getzels, 1967:156)

The relationship of the behavior of the individual and the work performed in line with role expectations was developed by Getzels in equation form: $B = f(R \times P)$, where B is the observed behavior, R is a given institutional role defined by the expectations attached to it, and P is the personality of the role incumbent defined by his need-disposition (Getzels, 1967:157). Observed behavior, then, can be described as a function of the interaction that takes place between the personality of an individual and the role which he is expected to fulfill, as defined by the institution.

Briner, in a 1970 study, suggests that in modifying the Getzels Model by interchanging organizational climate for observed behavior and structural properties for institutional role, the interaction process among the variables concerned with his study would be expressed as $C = f(S \times P)$. As an interaction model, therefore, this

indicates that the organizational climate (C) within a school can be defined as a function (f) of the interaction that occurs between the role expectations inherent in the structural properties of the organization (S) and certain personality factors of organizational members (P). This modification reveals that an individual's perception of the climate of the organization with which he is associated is influenced by the compatibility of his personality traits and the role given him by the institution (Briner, 1970:25).

Likert (1967) states that organizations cause most of their own climate deficiencies by not measuring beyond variables he refers to as "end-result" variables. These organizations become too narrow to go beyond production, sales, profits, and percentages of net earnings to sales. Likert claims that two other types of variables must not only be recognized, but dealt with, because just as the "end-result" variables do, these others also make up the organization's climate. The other two categories to which Likert refers are:

"Causal" variables include the structure of the organization and management's policies, decisions, business and leadership strategies, skills, and behavior.

The "intervening" variables reflect the internal state and health of the organization, e.g., the loyalties, attitudes, motivations, performance goals, and perceptions of all members and their collective capacity for effective interaction, communication, and decision making (Likert, 1967:29).

ORGANIZATIONAL CLIMATE: MEASUREMENT INSTRUMENTS

Since the establishment of "climate" as a major concern to the effectiveness and efficiency of complex organizations, much research has been conducted and reported concerning this concept. The reports of Hemphill, in the early 1950's, were credited as the first attempts at measurement of organizational climate. Sustained efforts to design a climate measuring device were not reported until the early sixties through the work of several men. Two of the first to give a great deal of attention to measurement were Andrew W. Halpin and Donald B. Croft. Working together in the early sixties these men developed what was to become one of the most widely used climate measuring devices. This instrument, the Organizational Climate Description Questionnaire, or O.C.D.Q., completed in 1961, was first tested in seventy-one schools located in six different regions of the United States. The first data were obtained from 1,151 respondents. The original findings included both a dimensionalization of the behaviors of the participants and a ranking of school climates based upon criteria indicating likelihood of innovation and change.

Brown (1964) replicated the Halpin and Croft study at eighty-one elementary schools in the Minneapolis-St. Paul region of Minnesota. The O.C.D.Q. was completed by 1,772 professional staff members. Findings substantiated the original study of Halpin and Croft.

Though the O.C.D.Q. has been more extensively used than any other measures of organizational climate (ERIC, 1978:2), Kenny and Rentz (1970), after reviewing the findings of 123 studies using the O.C.D.Q. contended that "Halpin and Croft deliberately excluded urban core schools, choosing instead schools in communities where the concentration of Negroes was low" (Kenny and Rentz, 1970:63). It was the purpose of their study to prove inappropriateness of the O.C.D.Q. in urban situations. The Kenny and Rentz study involved a total of 2,047 staff respondents involved in 102 schools located in four geographic regions: (1) South; (2) East Coast; (3) Mid-Continent; and (4) Southwest. The investigators designed their sample so that "all schools were in urban or suburban areas of cities having a population of at least one million" (1970:63-4). Kenny and Rentz concluded that "the urban school is unique, and its problems call for radical departure from traditional measurement techniques" (1970:68). At no time, however, did the researchers refute the need for gathering internal climate knowledge and understanding.

The original design of Halpin and Croft's O.C.D.Q. was based upon research in elementary schools. Andrews (1965:320) challenged the appropriateness of the O.C.D.Q. for use at the secondary level. Wright (1969) and Brumbaugh and Christ (1972) utilized the O.C.D.Q. in measuring secondary school climates. In supporting Wright, Brumbaugh and Christ made several conclusions including:

(1) At the secondary level the O.C.D.Q. seems to possess strong face validity; (2) the O.C.D.Q. conformed closely to preliminary impressions of climate by the investigators during personal visits; and (3) O.C.D.Q. subtest scores do predict staff attitudes toward six educational change attitudinal items (Brumbaugh and Christ, 1972:8-9).

Other climate measurement devices were introduced during the 1960's and 70's. Kimpston and Sonnabend (1975) developed an instrument to measure staff perception of climate. These investigators picked up on an idea expressed by Matthew B. Miles in 1965, in which he stated ". . . attention to organizational health ought to be priority one for any administrator seriously concerned with innovativeness in today's educational environment" (Miles, 1965:13). Kimpston and Sonnabend conducted research with their newly designed instrument, the Organizational Health Description Questionnaire, in the Minneapolis-St. Paul area of Minnesota.

Another climate measurement device was developed by Jane G. Likert and Rensis Likert (1967). This instrument, Profile of a School, was developed after several years of trial of a similar instrument developed by Rensis Likert to analyze the organizational climate of the business and industry sector. This original instrument was known as the Profile of Organizational Characteristics. The effort of Likert and Likert has resulted in the development of separate forms of the instrument for principals, teachers, students, parents, board members, administrative staff, superintendents, and college-level

personnel. The original instrument attempted to identify different types of organizational structures, identify distinct characteristics, and classify all researched groups into one of four major categories. The new instrument, Profile of a School, was designed to order to provide measurement of organizational make up involved in the school setting (Likert, 1967:13-46).

Hall (1972) designed and carried out a study that served to measure the relationship between Halpin and Croft's organizational climates as classified by the O.C.D.Q. and Likert and Likert's organizational climates as classified by the teacher form of the Profile of a School questionnaire. The study employed both instruments in forty-three elementary schools within a two hundred-mile radius of St. Lawrence University, Canton, New York. The procedure included administering the O.C.D.Q. first in twenty of the schools and the Likert instrument immediately afterwards; in the remaining twenty-three schools the order was reversed. Hall, in conclusion, states that: "The positive significant relationship found between these two instruments supports the concept that the two models from which these instruments were developed are comparable" (Hall, 1972:586-87).

Still another instrument developed to measure the organizational climate of an organization is the Organizational Climate

Index, O.C.I., developed by Stern and his associates (1962). Stern's work began with modification of the Activities Index, originally developed in 1950-51 at the University of Chicago. This instrument, made up of four hundred items, was used as a personality assessment measure in its original form. In 1953, it was shortened to three hundred items and modifications began to delimit items enabling various forms to be available. Renamed, the Characteristics Index, the first alternate form was the College Characteristic Index, C.C.I., developed in 1957, and used to measure the environment (climate) of a college setting. To follow were indices for high school climate (HSCI) in 1960, evening college (ECCI) in 1961, and the comprehensive educational climate instrument the Organizational Climate Index (OCI) in 1962 (Stern, 1970:13-15). As stated by Stern:

The OCI, Form 1163, represents the first attempt to develop a more general instrument, in this case applicable to the analysis of all formal administrative structures (1970:15).

One of Stern's former associates, Carl R. Steinhoff, teamed with Robert G. Owens in 1969 to conduct a comparison study of the relationships between Stern's O.C.I. and Halpin and Croft's O.C.D.Q. Owens and Steinhoff sampled in matched pairs, fifty-three staff members of a New York City public school. Owens and Steinhoff determined:

The researchers in the present study contend that both sets of constructs are powerful heuristic tools for describing organizational behavior and that the second order factors of both instruments were in fact describing at least similar phenomena (Owens and Steinhoff, 1969:6).

EDUCATIONAL CHANGE: DEFINITION

Educational change could be an action to affect any of a countless number of areas concerned with educational systems. Changes, as discussed by Miller, generally occur from outside sources or from sources within the educational organization (1967:6). Brickell (1961), Owens and Steinhoff (1976), and others support Miller's contention that more recently "pressures from outside the realm of professional education have accounted for considerable change in American education in the last 15 years" (Miller, 1967:6).

Reasons for educational changes are as numerous as the number of possible changes themselves. Areas directly involved in the instructional program include categories as defined by Heathers in 1967. Areas often included in change efforts involved curriculum, physical facilities, reorganization, instructional and evaluational methodologies, material and financial resources as well as others.

Miles states briefly that change denotes some "noticeable alteration" (1964:13); therefore, educational change is simply a noticeable alteration in one or more of the many facets making up the broad spectrum of the education profession. In reference to the

category of teacher-initiated educational changes, such change could vary from a change as insignificant as the choice of color for the background of a bulletin board display, to as monumental a change as the implementation of a complete individualized program of instruction offered for the first time.

More recently, the term "educational change" was revised and now reads to include the term "planned." Planned educational change has become a more desired as well as a more definable term. Bennis defines a planned change as ". . . a conscious, deliberate, and collaborative effort to improve the operations of a system . . . through the utilization of scientific knowledge" (1961:3). Recent literature deals with the concept of educational change almost exclusively with the more adequate terminology of planned educational change as is noted in the next section of this review.

The confusion of meaning, yet the importance of consideration of change is brought to the surface by Oppenheimer's statement made in 1955, when he wrote:

What is new is new not because it has never been there before, but because it has changed in quality. One thing that is new is the prevalence of newness, the changing scale and scope of change itself, so that the world alters as we walk in it . . . we need to recognize the change and learn what resources we have (Oppenheimer, 1955:10-11).

EDUCATIONAL CHANGE: SUMMARY REVIEW OF
LITERATURE CONCERNING STUDIES
INVOLVING EDUCATIONAL CHANGE

Miller, in 1967, stated that "surprisingly little literature in terms of book-length studies and/or research projects has been addressed to the process of educational change" (1967:v). Rogers (1962) had earlier discussed the lack of written reports and/or studies and sought to provide a reason for this perceived gap. Rogers set about to trace what he referred to as the "diffusion of innovations," the phrase used as the title of his book (1962). In his work, he summarized more than five hundred reports dealing with innovation diffusion in six "traditions" areas. Rogers reveals in his volume a timeline showing that the "tradition" of education relies heavily in its earliest planned development stages on anthropology "traditions," and more recently on the work of early sociologists and rural sociologists (Rogers, 1962:53).

Early attempts to determine the "when" of educationalists' adoption of a planned system of change required a statement of historical description of theories existing before acceptance of the new planned change concept. Ward in the early 1900's was given credit for one of the earliest efforts to systematically design change when he stated: "The origination and distribution of knowledge can no longer be left to chance or to nature" (Ward, 1950:214).

The statement of Ward was prompted as a reaction to the change theory prevalent in many fields including education during the 1800's and early 1900's. Bennis identified this change theory as that of "automatic adjustment," characterized by a non-controlled, random, and undesigned effort. Bennis wrote:

Proponents of "automatic adjustment" tended to relegate social scientists to an observer role and to deny them participation or leadership in influencing the direction or the form of practical affairs. This conception of "nonintervening" social science fitted the main-line traditions of the natural sciences and of the older social studies--history, economics, and political theory. This view of the proper relationships between social science and social action was further reinforced by aspirations of the younger and more behavior-oriented sciences--psychology and sociology--to achieve and maintain their autonomy and "purity" within the academic world in which they were parvenus (Bennis, 1961:7-8).

The early efforts of Ward and others to entice leaders of various disciplines to consider a program of planned change methods, in order to better utilize expanding knowledge in their respective fields, remained low-keyed for a decade or more. In education, the earliest attempts to rationalize a need for a modified attempt to make systematic changes belonged almost entirely to Paul R. Mort and his associates (Carlson, 1965:7). The most lasting effect of early Mort studies was the revelation that adoption of most educational changes required an average time span of approximately fifty years, a finding supported by Owens and Steinhoff (1976:37).

In 1964, Mort's research returned to the literary scene with a report that disclosed the most current summary to date, of studies conducted concerning planned change efforts. Mort reported:

Over the past two decades, approximately 200 studies have been carried on . . . dealing with the adaptability of public school systems, and with the adaptation process The studies through 1957 (150 in all) were analyzed by Ross (1958) The fifty studies completed (to June, 1961) since the Ross book went to press deal almost exclusively with influences on the adaptability of school systems, though three deal with the adaptation process itself (Mort, 1964:317-18).

EDUCATIONAL CHANGE: THE ROLE OF A CLASSROOM TEACHER

The role of the teacher in the diffusion of innovations is not given much attention throughout the several hundred studies conducted in this area. Good, Biddle, and Brophy have stated that "despite general and personal interest in education and despite the important role the school fills, not a great deal is known about the effects of schools on students" (1975:1).

The few studies showing the importance played by the classroom teacher have resulted in a characteristic index of identified attributes as displayed by effective teachers. In 1967, Chall conducted studies concerning reading instruction. Chall's conclusion was that teachers and teaching do indeed make a difference in product. Good, Biddle, and Brophy explain that the classroom teacher is not the only

important variable in the education process; however, he/she is and shall continue to be a vital influence (1975:7).

The definite lack of study concerning the role of teachers in the school systems' educational change process lends credence to the desire for more study. "Typically, schools, not teachers, are used as the unit of analysis and when teachers are used, variance estimates are frequently missing" (Good, Biddle, and Brophy, 1975:8).

The importance of teacher-initiated educational change was apparent in the studies of Rosenshine and Furst (1973). These researchers concluded that students learned best when the following characteristics were present: variability in teaching methods, curricula, and/or media; variability in grouping, discussion, lecture, and personal interaction techniques; and variability in questioning and cognitive level of discourse.

In 1974, Dunkin and Biddle conducted process-product studies concerning teacher role in the educative process. Overall conclusions were similar to the findings of Rosenshine and Furst. Dunkin and Biddle found that teacher behaviors concerning traditional practices were important, but so, too, is the teacher behavior towards use of affective variables such as student attitudes towards themselves as learners, towards teachers or school.

RESEARCH INVOLVING ORGANIZATIONAL CLIMATE
IN RELATIONSHIP TO EDUCATIONAL CHANGE

The emphasis of studies concerning organizational climate and its effect on innovation and change in education is recent. Such research has been called for in order to answer unsolved questions concerning organizational functions as well as questions concerning diffusion of innovation and change. Miles contends that leadership and innovativeness are highly related and the amount of variation should be analyzed both for the support of the theorists and the practical knowledge base for the practitioner (1962:251). This view calling for research was reiterated by Miller (1967) and the Committee for Economic Development in 1968.

Marcum (1968) studied what he determined to be the fifteen most innovative and the fifteen least innovative schools based on a sample from a five-state area of the Northwestern United States. Classification of innovativeness in Marcum's study was made through use of a checklist questionnaire of innovative characteristics. Of the thirty schools selected, fourteen were high schools, six were junior high schools, eight were elementary schools, and one school was classified as operating grades one through twelve. The O.C.D.Q. was then administered to each school and Marcum found that the most innovative schools had (1) open climates, (2) higher expenditures per student, (3) lower age of staff, (4) fewer numbers of years of staff

service, and (5) a larger professional staff (Marcum, 1968:20-77). As a follow-up and expansion of the Marcum study, Reynoldson conducted a study in 1968 involving fifty-two schools in Oregon, Idaho, Washington, Utah, and Nevada. These schools had been identified and ranked according to innovativeness by the earlier Marcum study. Reynoldson expanded his study to include those earlier identified as the fifteen most and least innovative schools and a block of twenty schools comprising an intermediate innovativeness group. Each participant in the fifty schools selected completed a checklist of educational innovation and the O.C.D.Q. Data collected included responses from 1,250 staff members located in forty-nine schools. Reynoldson found that schools with open climates were more likely to be innovative than schools with closed climates (1969:38). He concludes:

Such factors as the personality characteristics of the administrator and his willingness to adopt innovative ideas, the leadership style of the administrator, and the diffuseness of the communication network may have more influence on individual and group decisions to adopt innovative ideas than does the structure for decision making (Reynoldson, 1969:40).

Brumbaugh and Christ conducted research on organizational climate and attitudes toward change in schools in 1972. These researchers administered a short attitudinal scale to determine perceptions of 131 staff members of a parochial high school concerning potential changes being examined by the school administration. Respondents were also asked to complete the O.C.D.Q. instrument to determine current

organizational climate. Brumbaugh and Christ concluded that findings of their research, analyzed in accordance with former studies, gave the confidence to recommend to the school involved a "readiness for change" environment (1972:9). Brumbaugh and Christ elaborated on the appropriateness of the O.C.D.Q. instrument for use in large non-public secondary school settings (1972:8).

Kimpston and Sonnabend, the authors of the "Organizational Health Description Questionnaire," an instrument used to measure organizational climate developed in 1975, conducted a study similar to Marcum (1968). These investigators categorized 150 schools according to the most innovative and the least innovative. The final sample derived consisted of ten randomly selected most innovative, and ten least innovative. This total sample utilized ten junior high schools and ten high schools. Total respondents included five hundred from the less innovative and 534 from the most innovative, a total of 1,134. In concluding their study, Kimpston and Sonnabend supported Marcum's findings by stating: "Faculty members do view their school's organizational health more positively in buildings that are characterized as being innovative" (Kimpston and Sonnabend, 1975:44).

SUMMARY

A review of literature concerning organizational climate and educational change was conducted. The origins of organizational

climate were discussed showing how educational organizations have drawn upon the discovery of the importance of climate study in other fields. The definition and actual components of organizational climate was discussed in its developmental stages. Discussed next were some of the instruments that have been developed to measure climate in various organizational settings and with various personnel.

The definition of educational change, a brief history of its development and a review of studies made involving educational change were the next areas of discussion. A short section was developed concerning the role of the classroom teacher in educational change. The final section concerned a review of those studies involving the concept of organizational climate and the concept of educational change as variables.

Chapter 3

PROCEDURES AND METHODOLOGY

The problem of this study was to determine the relationship between organizational climate, as interpreted through classroom teachers, and teacher-initiated educational changes in Billings, Montana, Public Schools.

This chapter presents the procedure that was used in the study. The population and investigation categories are defined herein. The method of collecting data, the means of organizing the data, the statistical hypotheses, and the selection of the method for analysis of data is presented along with precautions that were taken for accuracy, and a chapter summary.

POPULATION DESCRIPTION

All classroom teachers assigned to full-time teaching duties in the twenty-five elementary, four junior high, and two high schools of the Billings Public School District were included in this study with the exception of those teachers assigned to more than one building.

CATEGORIES OF INVESTIGATION

The purpose of the investigation was to determine the relationship between organizational climate scores, as interpreted through

an instrument completed by classroom teachers, and the number of teacher-initiated education related changes in the Billings Public School District.

In addition, the survey results revealed a composite score indicative of each school's organization climate. These scores were compared to established norms for the O.C.D.Q. Biographical data were collected. Information concerning the respondent's sex, age, years of teaching experience and recency of professional preparation was requested.

METHOD OF DATA COLLECTION

Teachers' names and area of assignment were acquired from each building principal. A two-part questionnaire was delivered to all full-time classroom teachers in the twenty-six elementary, four junior high, and two high schools of Billings Public School District.

The questionnaire included a cover letter containing a brief rationale concerning the need and purpose of the study, a pledge of confidentiality, and a commitment to return a summary of the findings upon completion of the study if so desired. A biographical section was included in Part I of the questionnaire.

Part I of the questionnaire incorporated the use of the Organizational Climate Description Questionnaire (Halpin, 1966:148-50). This instrument measured teachers' interpretations of the functioning

of the school's organizational environment. All participants responded to sixty-eight statements using a response scale of 1 to 4 (1 = rarely occurs, 2 = sometimes occurs, 3 = often occurs, and 4 = very frequently occurs).

Part II of the questionnaire involved the use of a sample list of teaching methods as a guide for respondents to follow during completion of the interview schedule. Participants identified educational changes concerning teaching techniques, activities, media, materials, facilities, and other innovations that were incorporated into the educational program during the preceding semester. Once changes had been identified, participants included a brief description explaining the relationship of the change to the educational process.

In preparation for this study, a personal visit was conducted with the Superintendent of Schools for the Billings Public School District five months prior to the proposed survey distribution date. During this meeting the investigator asked permission to conduct the study in the district and sought cooperation in survey completion. At this time, information concerning need and purpose of the study was discussed as well as benefits to the district. A timetable of the study's activities was developed prior to this date and shared with the Superintendent at that meeting.

After permission to conduct the study had been received, the investigator contacted each of the building principals in the

attendance area. These meetings included a discussion of need and purpose of the study, elicitation of support and assistance, and disclosure of the timetable to be followed.

The optimum rate of return sought by this investigator was 80 percent. Within two weeks of the initial distribution date, building principals were contacted by telephone to ask them to encourage non-responding staff members to participate in the study.

Validity and reliability of the O.C.D.Q. instrument were established by Halpin and Croft (1962:55-7). Reliability was graphically displayed by those authors as follows:

"R" Technique
Three-Factor Varimax Rotational Solution For
Subtest Scores, by School (N = 71)

O.C.D.Q. Subtest	Profile Factors			
	I	II	III	h^2
1. Disengagement	-.86	.00	-.33	.85
2. Hindrance	-.13	.50	.34	.38
3. Esprit	.79	-.28	-.04	.71
4. Intimacy	-.07	-.85	.22	.77
5. Aloofness	.08	-.09	.80	.66
6. Production Emphasis	-.16	.76	.02	.61
7. Thrust	.64	.08	-.47	.64
8. Consideration	.02	-.07	-.85	.73
Factor Value	1.83	1.65	1.86	
% of Variance	.23	.21	.23	$\Sigma = 67\%$

Halpin and Croft explain:

. . . Furthermore, in the three-factor solution, the high communalities found for each of the individual subtests provide estimates--and encouragingly high estimates--of the reliability of the eight subtests (Halpin and Croft, 1962:57).

"The communality represents a lower-bound, or a highly conservative, estimate of the reliability" (Fruchter, 1954:47).

The validity of the second questionnaire incorporated in this study, "Survey of Teacher-Initiated Educational Change," was determined by knowledgeable individuals in the education field serving as a panel of experts to review the instrument. Reliability was checked through a test-retest, utilizing a sample of elementary, junior high, and high school classroom teachers from different school districts. See Table 1 for results.

Table 1
Pre-Post Test for Reliability

Teacher	Pre-Test Score	Post-Test Score
A	7	7
B	10	10
C	11	12
D	18	20
E	4	7
F	9	8
G	9	9
H	11	5
I	21	21
N = 10	r = .9003	

METHOD OF ORGANIZING DATA

The data from O.C.D.Q. were sent to the Education Research Center, New Mexico State University, for scoring. When results were returned, the reported data were organized into tables for more explicit display. (See Figure 2 for example.) Each respondent was assigned one of the six O.C.D.Q. climate categories based upon his/her individual scores. A profile was developed for each individual school to display the comparison between obtained subtest scores and established norms available from the Center.

Figure 2 displays a graphic comparison of a hypothetical school's organizational climate scores with the prototypic "open" climate scores (Halpin, 1966:147).

Data from Part II of the study, "Survey of Teacher-Initiated Educational Change," were organized into tables for presentation. These tables were established in order to display biographical data, quantitative measurement of educational changes, and the statistical relationship to the organizational climate data generated by the first section of the study. (See Table 2 for example.)

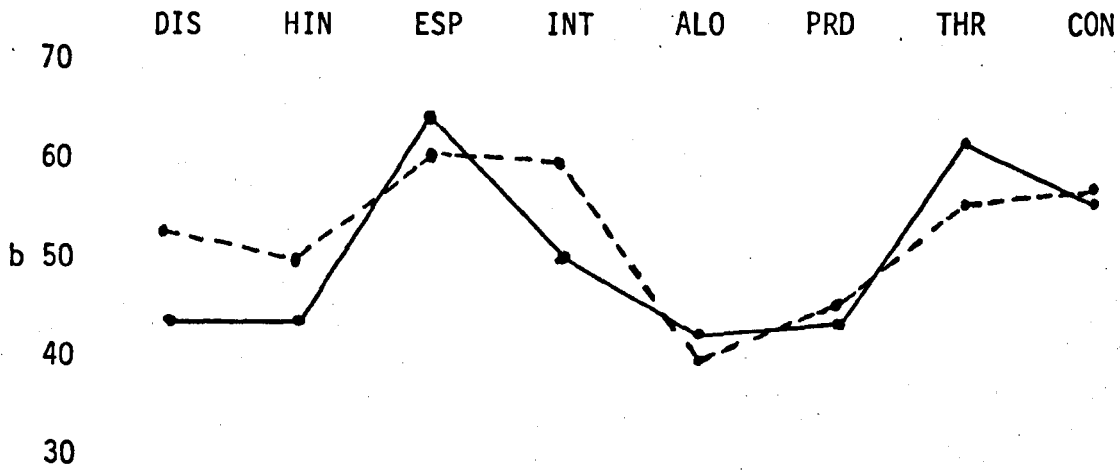


Figure 2

Sample Profile Comparison^a

^aAn "Open" climate profile as established by the O.C.D.Q. is represented by the solid line; a hypothetical school profile is represented by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
 HIN = Hindrance
 ESP = Esprit
 INT = Intimacy

Leader's Characteristics

ALO = Aloofness
 PRD = Production Emphasis
 THR = Thrust
 CON = Consideration

Table 2

Sample Inter-Correlation Matrix

	Y'	X_1	X_2	X_3	X_4	X_5	X_6	X_7
Y'	1.00	R^2	R^2	R^2	R^2	R^2	R^2	R^2
X_1	-	1.00	R^2	R^2	R^2	R^2	R^2	R^2
X_2	-	-	1.00	R^2	R^2	R^2	R^2	R^2
X_3	-	-	-	1.00	R^2	R^2	R^2	R^2
X_4	-	-	-	-	1.00	R^2	R^2	R^2
X_5	-	-	-	-	-	1.00	R^2	R^2
X_6	-	-	-	-	-	-	1.00	R^2
X_7	-	-	-	-	-	-	-	1.00

Y' = Criterion Variable (Example: Organizational Climate Score)

X_1 -- X_7 = Predictor Variables (Example: Number of Educational Changes, Sex, Age, Years of Experience, etc.)

R^2 = Amount of variability in one score that can be accounted for by knowledge of the other.

STATISTICAL HYPOTHESES

Hypotheses tested in this study involved the null hypotheses and their alternatives. The null hypotheses and the alternatives were stated as follows:

1. There is no difference between the organizational climate profile of each of the Billings Public Schools and the standardized norm profile for an "Open" climate as originated by the O.C.D.Q.

There is a difference between the organizational climate profile of each of the Billings Public Schools and the standardized norm profile for an "Open" climate as originated by the O.C.D.Q.

2. There is no significant relationship between organizational climate scores as interpreted by individual classroom teachers in Billings Public Schools and the scores on all of the following variables:

- a. the respondent's number of teacher-initiated educational changes;
- b. the respondent's sex;
- c. the respondent's age;
- d. the respondent's total years of teaching experience;
- e. the number of years the respondent had taught in the district.

f. the number of years the respondent had taught at the currently assigned school;

g. the length of time since the respondent had participated in professional development activities.

There is a significant relationship between organizational climate scores as interpreted by an individual classroom teacher in Billings Public Schools and the scores on all of the following variables:

a. the respondent's number of teacher-initiated educational changes;

b. the respondent's sex;

c. the respondent's age;

d. the respondent's total years of teaching experience;

e. the number of years the respondent had taught in the district;

f. the number of years the respondent had taught at the currently assigned school;

g. the length of time since the respondent had participated in professional development activities.

3. There is no significant relationship between the number of teacher-initiated educational changes made by an individual classroom teacher in Billings Public Schools and the scores on all of the following variables:

- a. the respondent's organizational climate score;
- b. the respondent's sex;
- c. the respondent's age;
- d. the respondent's total years of teaching experience;
- e. the number of years the respondent had taught in the district;
- f. the number of years the respondent had taught at the currently assigned school;
- g. the length of time since the respondent had participated in professional development activities.

There is a significant relationship between the number of teacher-initiated educational changes made by individual classroom teachers employed in the Billings Public Schools and the scores on all of the following variables:

- a. the respondent's organizational climate score;
- b. the respondent's sex;
- c. the respondent's age;
- d. the respondent's total years of teaching experience;
- e. the number of years the respondent had taught in the district;
- f. the number of years the respondent had taught at the currently assigned school;

g. the length of time since the respondent has participated in professional development activities.

ANALYSIS OF DATA

The data generated by the questionnaire were analyzed by using a multiple regression analysis at the .05 level of significance.

Cooley and Lohnes state that multiple regression analysis ". . . is used to examine the relation between a criterion or dependent variable and two or more predictors or independent variables" (1962:5).

Kerlinger and Pedhazur describe multiple regression analysis as being ". . . nicely suited to studying the influence of several independent variables, including experimental (manipulated) variables, on a dependent variable" (1973:4).

The selection of .05 as the level of significance is reflected in Ferguson (1976). He states "It is a common convention to adopt levels of significance of either .05 or .01" (1976:162). Ferguson adds that to adequately guard against the rejection of a true null hypothesis, Type I error, a level of .05 is preferred to .01.

PRECAUTIONS TO BE TAKEN FOR ACCURACY

Precautions for accuracy were taken throughout the analysis of data. Organizational climate data were calculated by means of a computer program designed specifically for measuring the O.C.D.Q. by

Donald B. Croft at the Education Research Center, New Mexico State University. Teacher-initiated educational change data were checked by hand, rechecked by a second party, and transferred to tables for frequency count and recording of individual scores. Final statistical analysis incorporated the use of the computer located on the Montana State University Campus in Bozeman, Montana. Computations were based on the use of the multiple regression analysis statistic. The regression equation took the form of

$$y' = b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_nx_n + k_1$$

where: y' = criterion variable

b_1 -- b_n = approximate weights assigned to each predictor

x_1 -- x_n = the predictor variables (sex, age, etc.)

k_1 = a constant

SUMMARY

This chapter defined the procedure of the study, the population studied, and the categories of investigation. The methods of data collection and data organization were discussed as were the statistical hypotheses, method for data analysis, and the precautions that were taken for accuracy.

All classroom teachers in each of the twenty-five elementary, four junior high, and two high schools in the Billings Public School

District, received the two-part questionnaire which measures the school organizational climate and the number of teacher-initiated educational changes.

Checks on reliability and validity for the O.C.D.Q. questionnaire have been established by Halpin. The checks of reliability and validity for the instrument, "Survey of Teacher-Initiated Educational Change," were made through the use of a test-retest method and a "panel of experts" method, respectively. Follow-up techniques concerning nonrespondents were explained.

Tables were used to present collected data. The null and alternative hypotheses were tested by means of a Multiple Regression Analysis. Precautions were taken to assure accuracy.

Chapter 4

ANALYSIS OF DATA

The purpose of this study was to determine the relationship between organizational climate, as interpreted through classroom teachers, and teacher-initiated educational change in Billings, Montana Public Schools.

DESCRIPTION OF STUDY POPULATION

The population used in this study included classroom teachers under contract at one of the twenty-six elementary, four junior high, or two senior high schools that make up the Billings Public School District. The study population was restricted to those classroom teachers whose duties involved full-time instruction in a single building. Exclusions included librarians, instructional aides, administrative or support staff, and those classroom teachers serving less than five class hours daily in a single building.

Seven hundred sixty-three classroom teachers were acknowledged by their building principals as having met the criteria of a population member. The total population of 763 was used in the study. Questionnaires were assembled, coded, and distributed to each school through the use of inter-school mail. The return rate of the classroom teachers is displayed in Table 3.

Table 3

Rate of Questionnaire Return

Sent	Returned	Usable Returns	% of Usable Returns
763	658	644	84.4

The sex of the population respondents is displayed in Table 4.

Table 4

Sex of Respondents

Female (%)	Male (%)	Total (%)
407 (63.2)	237 (36.8)	644 (100)

Table 5 displays the age group description of the population used in this study.

Table 5

Age Group Description of Respondents

Age Group (in years)	Number	%	
20-29	142	22.0	
30-39	214	33.2	
40-49	171	26.6	
50-59	97	15.1	
60 or more	20	3.1	
Total	644	100.0	Mean = 34.61

The total number of years of teaching experience represented by the population respondents is displayed in Table 6.

Table 6

Respondents' Total Years of Teaching Experience

Experience Group (in years)	Number	%	
0- 9	295	46.0	
10-19	226	35.0	
20-29	95	14.6	
30-39	25	4.0	
40 or more	3	.4	
Total	644	100.0	Mean = 12.15

The population respondents' total number of years of teaching employment with the Billings Public School District is displayed in Table 7.

Table 7
Total Years of Teaching Experience
With Billings Public Schools

Experience Group (in years)	Number	%	
0- 9	383	59.4	
10-19	199	31.0	
20-29	55	8.5	
30 or more	7	1.1	
Total	644	100.0	Mean = 9.12

Table 8 displays the number of years the population respondents had been assigned teaching duties in the school building they were in at the time the questionnaire was completed.

Table 8

Years of Teaching Experience in Current School

Experience Group (in years)	Number	%	
0- 9	481	74.6	
10-19	138	21.4	
20-29	23	3.6	
30 or more	2	.4	
Total	644	100.0	Mean = 6.52

Table 9 displays the period of time that has passed since the respondent was last involved directly in formal professional development activities with the exclusion of the District required Native American Studies.

Table 9

Time Since Most Recent Professional Development Activities

Elapsed Time (in years)	Number	%	
1 or less	449	69.7	
2	115	17.9	
3	54	8.4	
4	15	2.3	
5	11	1.7	
Total	644	100.0	Mean = 1.48

The number of teacher-initiated educational changes made by the respondents during the first semester of the 1978-79 school year are displayed in Table 10.

Table 10

Number of Teacher-Initiated Educational Changes Made
During the First Semester of the 1978-79 School Year

Number of Changes	Number	%	
0	412	64.0	
1	117	18.1	
2	52	8.1	
3	22	3.4	
4	14	2.2	
5 or more	27	4.2	
Total	644	100.0	Mean = 1.22

Table 11 displays the number of teacher-initiated educational changes made by each of the thirty-two Billings Public Schools.

Table 11

Number of Teacher-Initiated Educational Changes
Made by Each of Billings Public Schools

School #	No. of Changes	% of Total	School #	No. of Changes	% of Total
1	34	4.3	17	41	5.2
2	46	5.8	18	3	.4
3	11	1.4	19	31	3.9
4	57	7.1	20	0	0
5	25	3.1	21	14	1.8
6	32	4.0	22	42	5.3
7	7	.9	23	47	5.9
8	7	.9	24	42	5.3
9	1	.1	25	37	4.7
10	60	7.5	26	12	1.5
11	0	0	27	9	1.1
12	9	1.1	28	8	1.0
13	56	7.0	29	27	3.4
14	10	1.2	30	14	1.8
15	31	3.9	31	4	.5
16	24	3.0	32	55	6.9
Mean = 24.88			Totals	644	100.0

Table 12 displays the results of a frequency tabulation made on Part 2 of the study questionnaire.

Table 12

Frequency of Teacher-Initiated Educational Changes in
Billings Public Schools for First Semester 1978-79

Change	Frequency
Team Teaching	38
Curriculum (additions to)	35
Affective Domain (values clarification)	26
Motivation Techniques	25
Behavior Modification	24
Learning Center Activities	23
Evaluation (of students)	20
Grouping Techniques	19
Classroom Game Activities	18
Public Relations (parents)	18
Student Involvement (dramatizations)	18
Guided Discovery/Inquiry	17
Individualized Instruction (task cards)	17
Data Gathering (record/file)	17
Student Involvement (simulations)	16
Individualized Instruction (programmed instruction)	15
Individualized Instruction (learning activity pkg.)	15
Student Involvement (role play)	15
Data Gathering (anecdotal)	15
Projects/Problem Solving	14
Curriculum (deletion from)	14
Evaluation (of materials)	14
Evaluation (of curriculum)	14
Media/Materials (recordings)	14
Media/Materials (transparency)	14
Classroom Organization (bulletin board/displays)	14
Classroom Organization (seating arrangement)	13
Media/Materials (computers)	13
Media/Materials (films)	13
Data Gathering (case studies)	13
Community Involvement (parents)	13
Student Involvement (case studies)	13
Public Relations (community)	12
Community Involvement (guest speakers)	12
Evaluation (of teaching meth.)	12

Table 12 (continued)

Change	Frequency
Verbal Interaction (story tell.)	12
Review/Drill and Practice	12
Media/Materials (printed reference mats.)	12
Media/Materials (textbooks)	12
Media/Materials (teach. machine)	11
Verbal Interaction (group dis.)	11
Community Involvement (field trips)	11
Affective (sensitivity train.)	11
Verbal Interaction (brainstorm)	10
Media/Materials (chalkboard)	10
Media/Materials (manipulative)	9
Verbal Interaction (ques, ans.)	9
Demonstration/Laboratory Tech.	9
Classroom Lecture Techniques :	8
Media/Materials (video-tape)	8
Community Involvement (material resources)	8
Media/Materials (television)	7
Public Relations (w/school sys.)	7
Verbal Interaction (debate)	6
Verbal Interaction (panels)	5
Media/Materials (radio)	5
Total number of changes	796

Data displayed on Table 12 indicates those teacher-initiated educational changes made in the Billings Public Schools in their order of frequency. The changes shown represent the total number of responses each of the 644 respondents indicated on the "Survey of Teacher-Initiated Educational Changes." The changes on Table 12 were those made in the thirty-two school buildings of Billings Public School District during the first semester of the 1978-79 school year.

The distribution of organizational climate category choices made by the respondents is displayed in Table 13.

Table 13
Organizational Climate Category Choices

Climate Category	Number	%
Open	125	19.4
Autonomous	117	18.2
Controlled	35	5.4
Familiar	93	14.4
Paternal	36	5.6
Closed	238	37.0
Total	644	100.0

In summary of the population description data it can be stated that the typical respondent in this study was a classroom teacher approximately thirty-four years old, who had taught for a total of twelve years. This teacher had spent a minimum of nine years in the Billings Public Schools and approximately seven of those years had been spent in his/her currently assigned school building. This educator had returned to formal professional training (conferences, workshops, in-service, clinics, college classes, etc.) within the past one and one-half years and during the first semester of the 1978-79 school

year he/she had initiated and implemented at least one teacher-initiated educational change in his/her classroom.

DATA ANALYSIS

Tables 14 through 77 display the school climate statistical data obtained through computer analysis completed by the Educational Research Center of New Mexico State University, Las Cruces, New Mexico.

Data pertaining to each individual school are treated separately. The first table provided for each school displays that school's climate similarity index as established by the data. These scores are computed as the difference between the school climate scores and each of the prototypic profiles which identify specific climates (Halpin, 1966:174). Accordingly, a low value indicates the profile is similar and a high value indicates that the profile is quite different. The starred value under the climate type indicates how the teaching staff perceives the climate of their school building.

The second and third tables for each school are comparisons between each school's climate profile scores and the prototypic profile of an "Open" climate as established by Halpin (1966). The first of these comparisons is presented in numerical form, the second in graphical display. A brief discussion of each school's climate data is included.

Null Hypothesis 1. There is no difference between the organizational climate profile of each of the Billings Public Schools and the standardized norm profile for an "Open" climate as originated by the Organizational Climate Description Questionnaire (Halpin, 1966:174).

Table 14

School #1 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
52	39*	101	47	97	107

As displayed in Table 14, School #1 was found to have an Autonomous climate.

Both a numerical and a graphical form of comparison between the climate profile scores of School #1 and the "open" climate prototypic profile scores are displayed in Table 15 and Figure 3.

Table 15

Comparison of School #1 Climate Profile Scores
With Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON*
School #1	45	37	61	63	51	37	49	58
Prototypic	43	43	63	50	42	43	61	55

*Refer to Figure 3 for description of abbreviations.

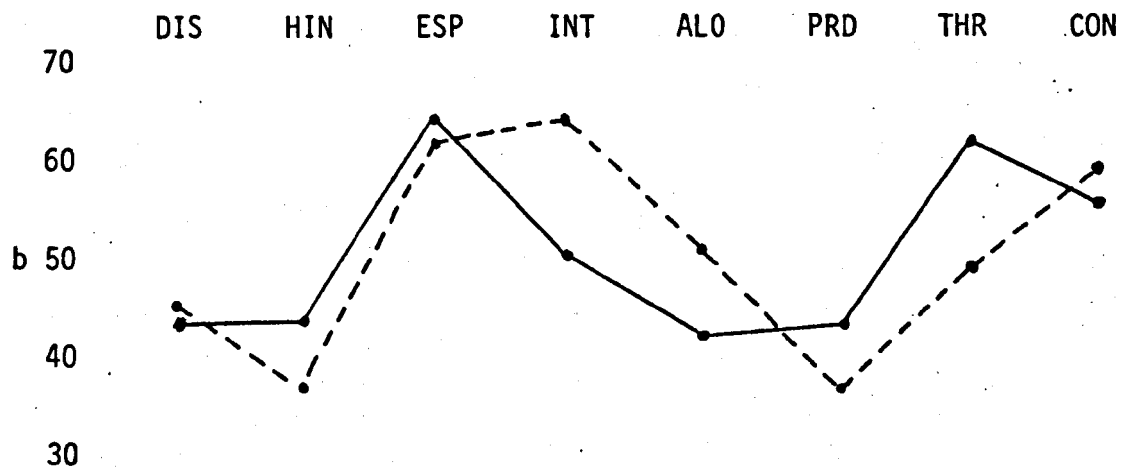


Figure 3

Graphic Comparison of School #1 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

Data on School #1 described the climate as being Autonomous.

Refer to page 9 for definition of an Autonomous climate.

Table 16

School #2 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
107	97	100	72	70	38*

As displayed in Table 16, School #2 was found to have a Closed climate.

Both a numerical and a graphical form of comparison between the climate profile scores of School #2 and the "open" climate prototypic profile scores are displayed in Table 17 and Figure 4.

Table 17

Comparison of School #2 Climate Profile Scores
With Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #2	70	52	46	57	50	46	37	43
Prototypic	43	43	63	50	42	43	61	55

Data on School #2 displayed wide variations in group behaviors of Disengagement and Esprit and leader behaviors of Thrust and Consideration.

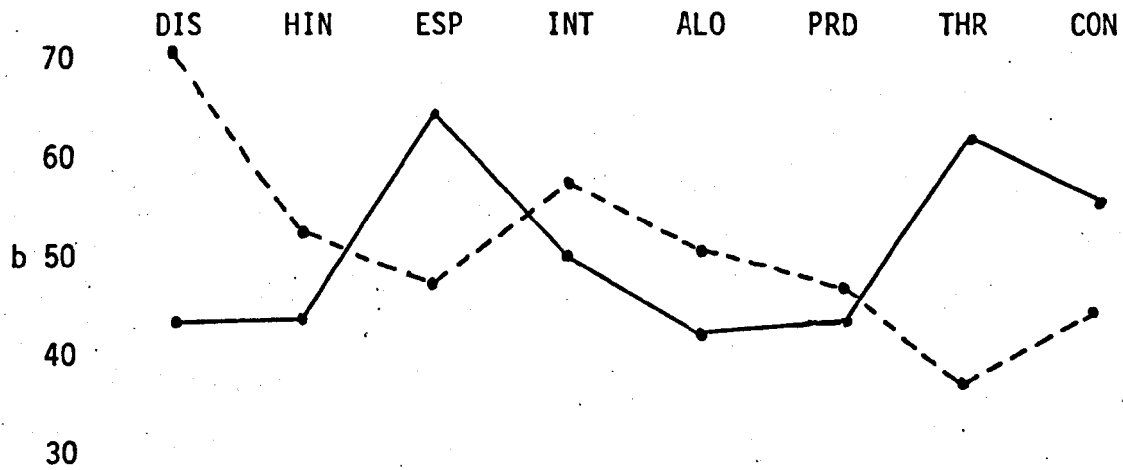


Figure 4

Graphic Comparison of School #2 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

Data on School #2 described the climate as Closed. Refer to page 10 for the definition of a Closed climate.

Table 18

School #3 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
100	69	77	89	93	59*

As displayed in Table 18, School #3 was found to have a Closed climate.

Both a numerical and a graphical form of comparison between the climate profile scores of School #3 and the "open" climate prototypic profile scores are displayed in Table 19 and Figure 5.

Table 19

Comparison of School #3 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #3	52	45	55	62	55	58	31	43
Prototypic	43	43	63	50	42	43	61	55

School #3 data revealed variations in group behavior in Intimacy and leader behaviors of Aloofness, Production Emphasis, Consideration, and Thrust.

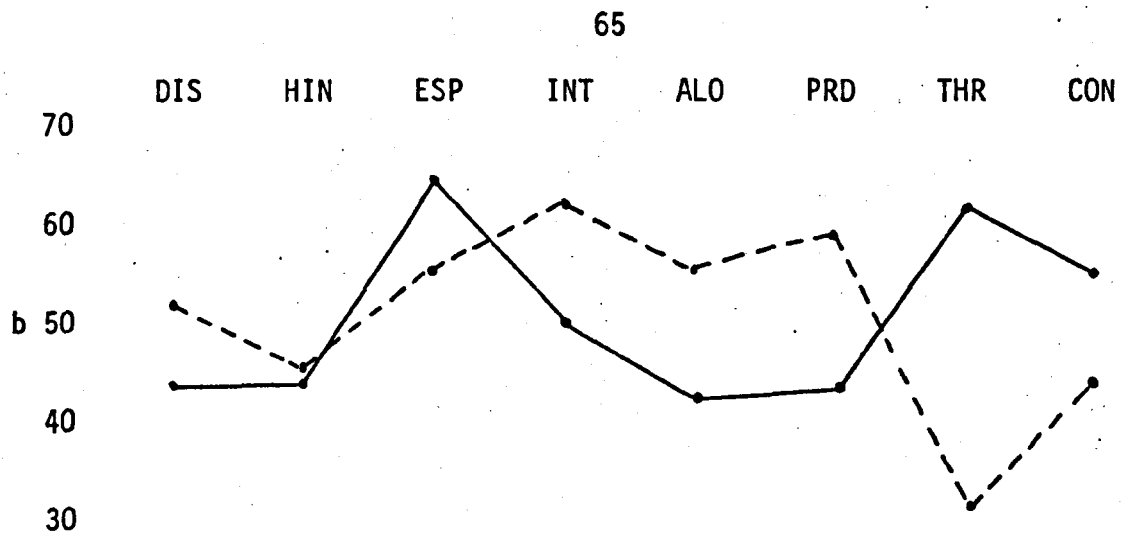


Figure 5

Graphic Comparison of School #3 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" Climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

Data on School #3 described the climate as being Closed.

Refer to page 10 for the definition of a Closed climate.

Table 20

School #4 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
90	85	123	48*	58	57

As displayed in Table 20, School #4 was found to have a Familiar climate.

Both a numerical and a graphical form of comparison between the climate profile scores of School #4 and the "open" climate prototypic profile scores are displayed in Table 21 and Figure 6.

Table 21

Comparison of School #4 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #4	62	43	43	64	47	48	36	57
Prototypic	43	43	63	50	42	43	61	55

School #4 displayed wide variations in the group behaviors of Disengagement, Esprit, and Intimacy. Only Thrust behavior exhibited by the organizational leader seemed to have a great variation.

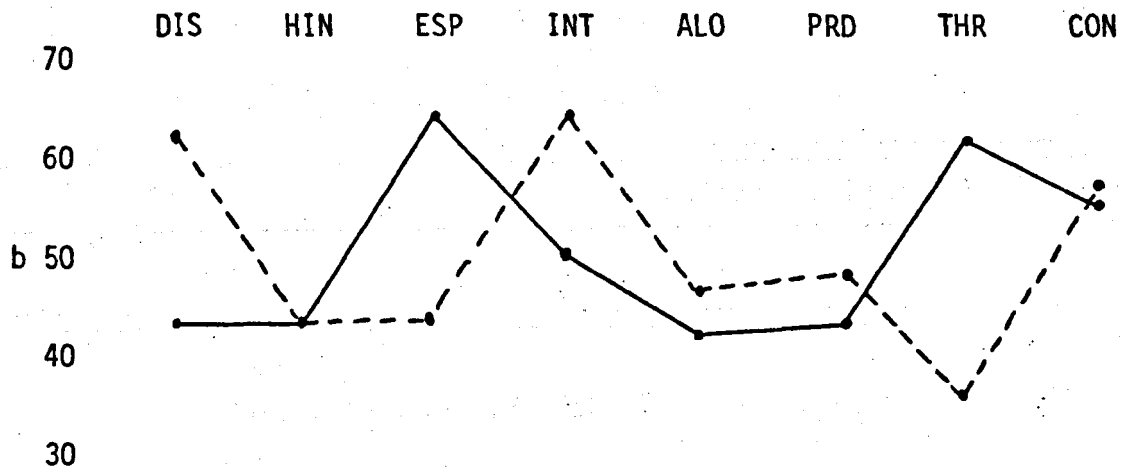


Figure 6

Graphic Comparison of School #4 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

Data on School #4 described the climate as being Familiar.

Refer to page 10 for the definition of a Familiar climate.

Table 22

School #5 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
90	80	111	52*	60	58

As displayed in Table 22, School #5 was found to have a Familiar climate.

Both a numerical and a graphical form of comparison between the climate profile scores of School #5 and the "open" climate prototypic profile scores are displayed in Table 23 and Figure 7.

Table 23

Comparison of School #5 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #5	63	42	49	66	43	50	39	47
Prototypic	43	43	63	50	42	43	61	55

Data on School #5 displayed wide variations in the group behaviors of Disengagement, Esprit, and Intimacy. A large variation appeared in the leader behavior of Thrust.

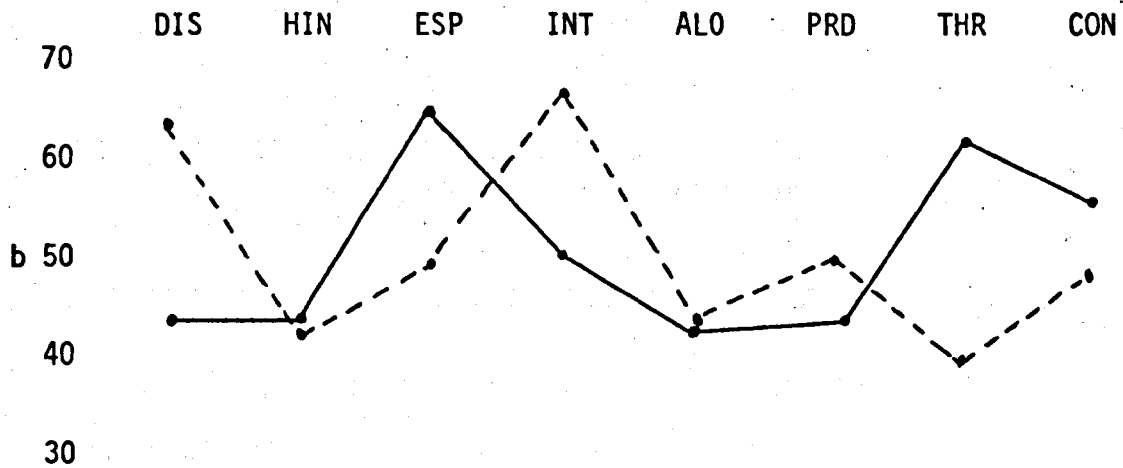


Figure 7

Graphic Comparison of School #5 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #5 was found to be Familiar. Refer to page 10 for the definition of a Familiar climate.

Table 24

School #6 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
86	68	112	56*	84	75

As displayed in Table 24, School #6 was found to have a Familiar climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #6 and the "open" climate prototypic profile scores are displayed in Table 25 and Figure 8.

Table 25

Comparison of School #6 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #6	52	36	45	57	57	43	43	67
Prototypic	43	43	63	50	42	43	61	55

Data on School #6 displayed a wide variation on the group behavior Esprit. Leader behavior in this school had variations in Aloofness, Consideration, and Thrust.

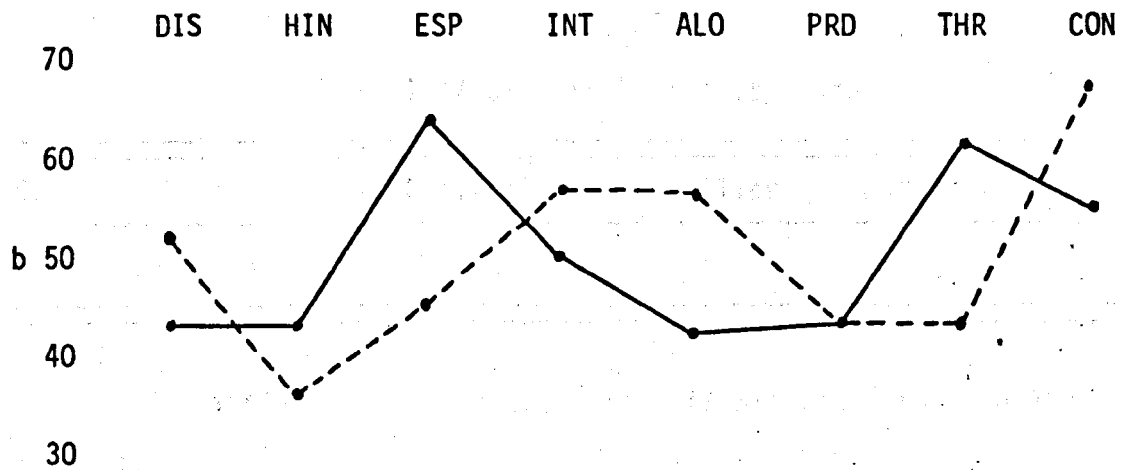


Figure 8

Graphic Comparison of School #6 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #6 was found to be Familiar. Refer to page 10 for the definition of a Familiar climate.

Table 26

School #7 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
31*	40	106	44	89	119

As displayed in Table 26, School #7 was found to have an Open climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #7 and the "open" climate prototypic profile scores are displayed in Table 27 and Figure 9.

Table 27

Comparison of School #7 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #7	44	39	56	63	43	39	60	57
Prototypic	43	43	63	50	42	43	61	55

Data on School #7 displayed only one variation of consequence. This variation was found in the group behavior characteristic of Intimacy. This score indicated a higher level of colleague relationship than was established on the prototypic profile.

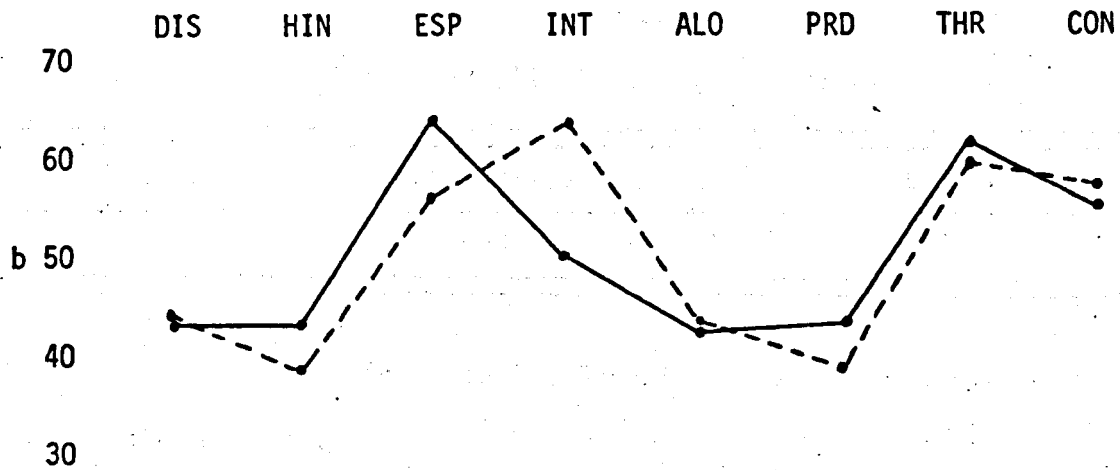


Figure 9

Graphic Comparison of School #7 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #7 was determined to be very similar to the prototypic profile for an "open" climate. Refer to page 9 for the definition of an Open climate.

Table 28

School #8 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
60	31*	90	65	102	96

As displayed in Table 36, School #8 was found to have an Autonomous climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #8 and the "open" climate prototypic profile scores are displayed in Table 29 and Figure 10.

Table 29

Comparison of School #8 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #8	42	40	58	69	53	41	46	52
Prototypic	43	43	63	50	42	43	61	55

Data on School #8 displayed variations in group behavior in Intimacy and leader behaviors of Aloofness and Thrust. The behavior of Intimacy was scored above the standard score established by the prototypic profile.

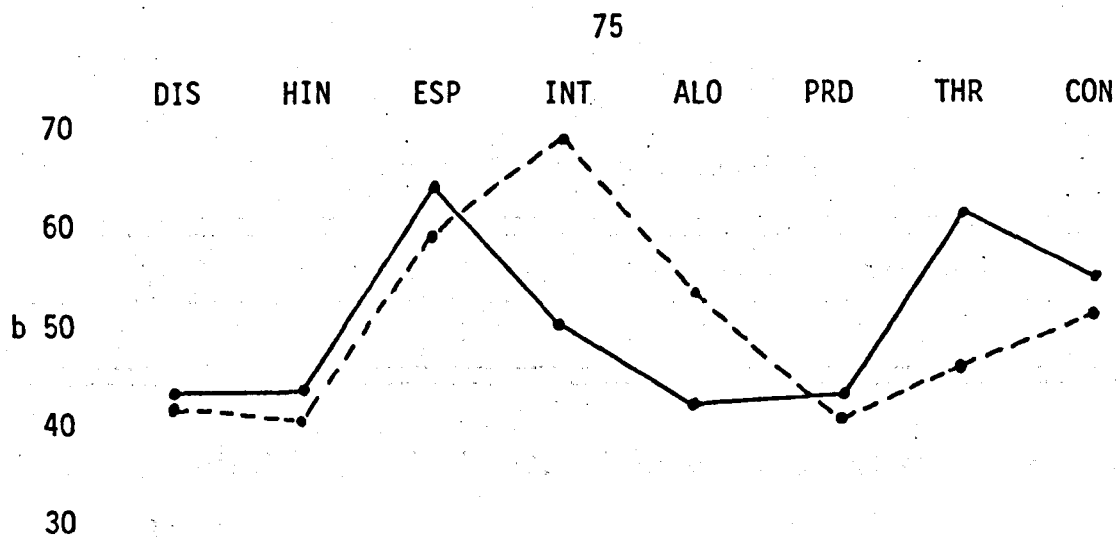


Figure 10

Graphic Comparison of School #8 with Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRO = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #8 was found to be Autonomous. Refer to page 9 for the definition of an Autonomous climate.

Table 30

School #9 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
102	75	108	53	69	49*

As displayed in Table 30, School #9 was found to have a Closed climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #9 and the "open" climate prototypic profile scores are displayed in Table 31 and Figure 11.

Table 31

Comparison of School #9 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #9	67	51	44	62	49	37	43	46
Prototypic	43	43	63	50	42	43	61	55

Data on School #9 displayed wide variations in the group behaviors of Disengagement, Esprit and Intimacy. The only large difference existing in leader behavior was in the category of Thrust.

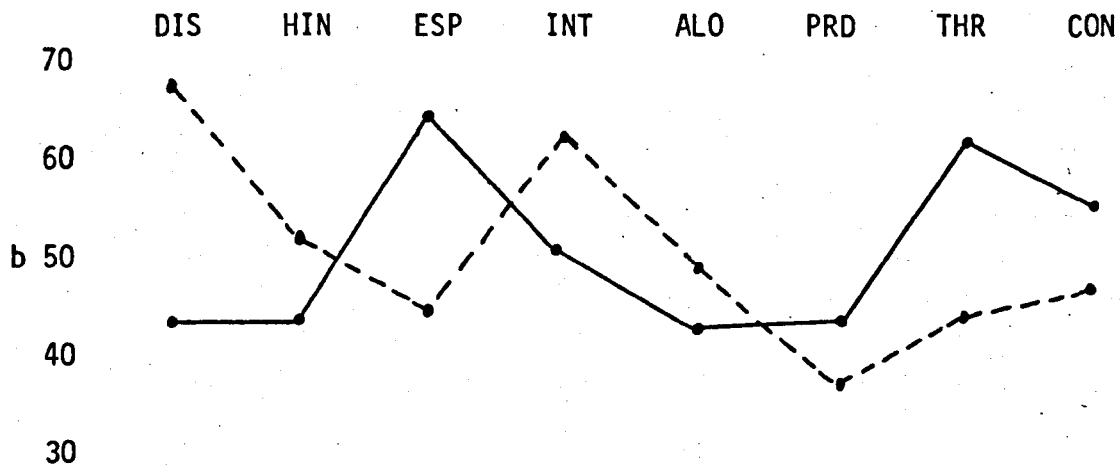


Figure 11

Graphic Comparison of School #9 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #9 was found to be Closed. Refer to page 10 for the definition of a Closed climate.

Table 32

School #10 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
92	73	98	57*	78	63

As displayed in Table 32, School #10 was found to have a Familiar climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #10 and the "open" climate prototypic profile scores are displayed in Table 33 and Figure 12.

Table 33

Comparison of School #10 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #10	66	50	54	59	49	40	47	35
Prototypic	43	43	63	50	42	43	61	55

Data on School #10 displayed a variation in group behavior concerning Disengagement. Other variations occurred in leader behaviors of Thrust and Consideration.

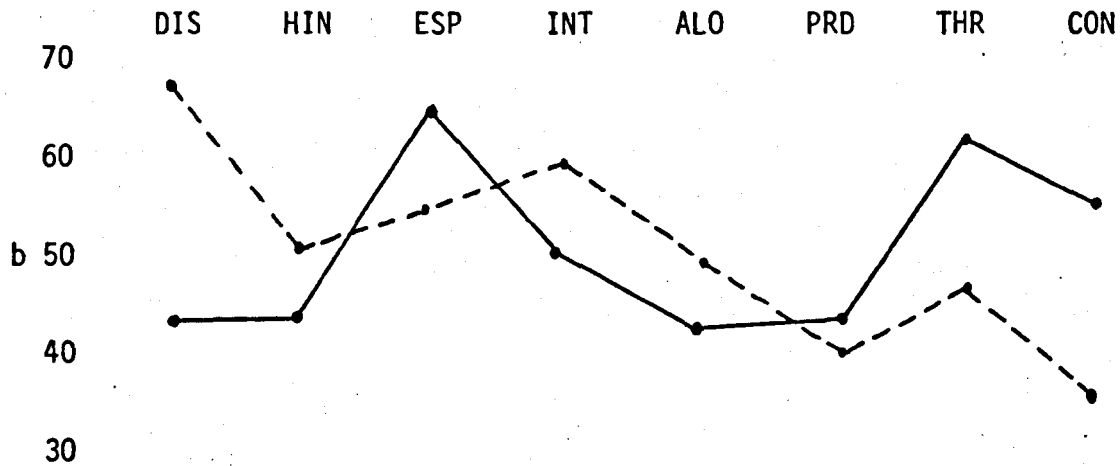


Figure 12

Graphic Comparison of School #10 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #10 was found to be Familiar. Refer to page 10 for the definition of a Familiar climate.

Table 34

School #11 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
40*	42	101	45	82	114

As displayed in Table 34, School #11 was found to have an Open climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #11 and the "open" climate prototypic profile scores are displayed in Table 35 and Figure 13.

Table 35

Comparison of School #11 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #11	43	40	54	68	42	42	55	57
Prototypic	43	43	63	50	42	43	61	55

Data on School #11 displayed a near perfect match of profiles with the prototypic model. Only one behavior within the school exhibited a variation. This behavior was the group behavior of Intimacy which was perceived as much higher than the prototypic profile.

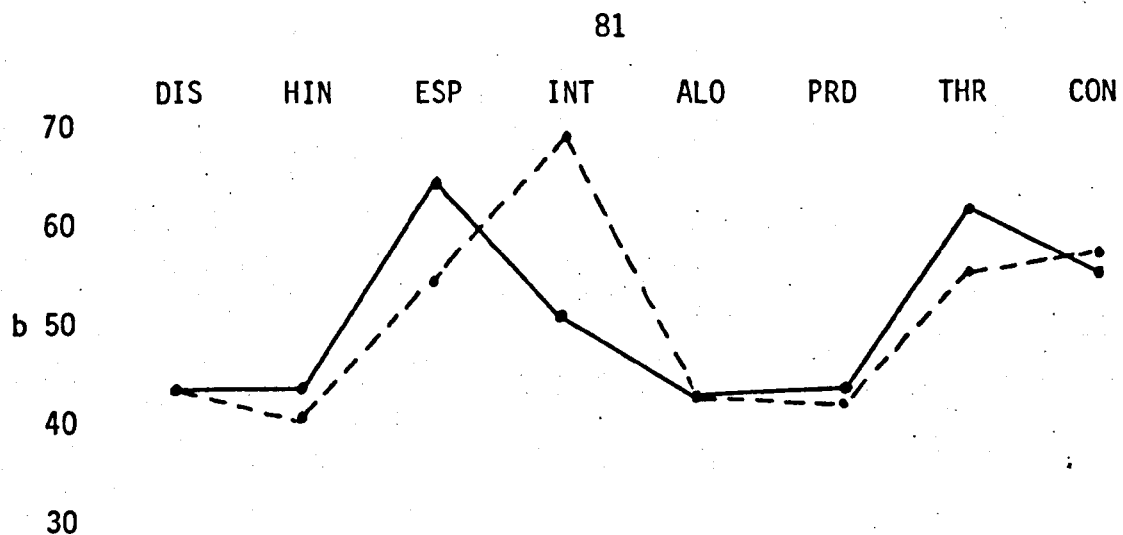


Figure 13

Graphic Comparison of School #11 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #11 was found to be Open. Refer to page 9 for the definition of an Open climate.

Table 36

School #12 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
44*	56	102	65	80	110

As displayed in Table 36, School #12 was found to have an Open climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #12 and the "open" climate prototypic profile scores are displayed in Table 37 and Figure 14.

Table 37

Comparison of School #12 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #12	46	34	59	63	40	49	58	52
Prototypic	43	43	63	50	42	43	61	55

Data on School #12 displayed only one major variation in behavior. This behavior concerned the group behavior of Intimacy.

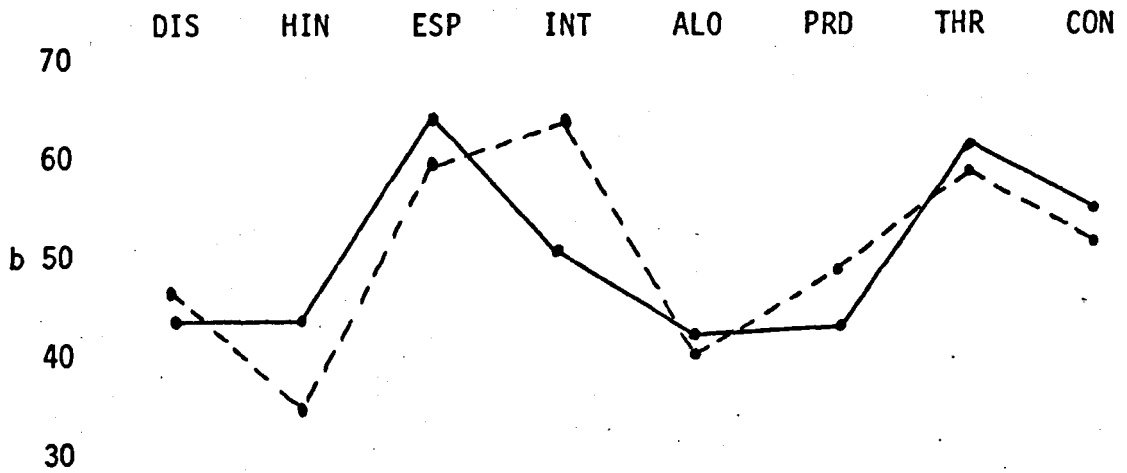


Figure 14

Graphic Comparison of School #12 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #12 was found to be Open. Refer to page 9 for the definition of an Open climate.

Table 38

School #13 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
121	98	88	89	71	22*

As displayed in Table 38, School #13 was found to have a Closed climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #13 and the "open" climate prototypic profile scores are displayed in Table 39 and Figure 15.

Table 39

Comparison of School #13 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #13	62	48	37	55	58	59	35	46
Prototypic	43	43	63	50	42	43	61	55

Data on School #13 displayed great variations in the group behaviors of Disengagement and Esprit. Wide variations occurred in the leader behavior categories of Aloofness, Production Emphasis, and Thrust.

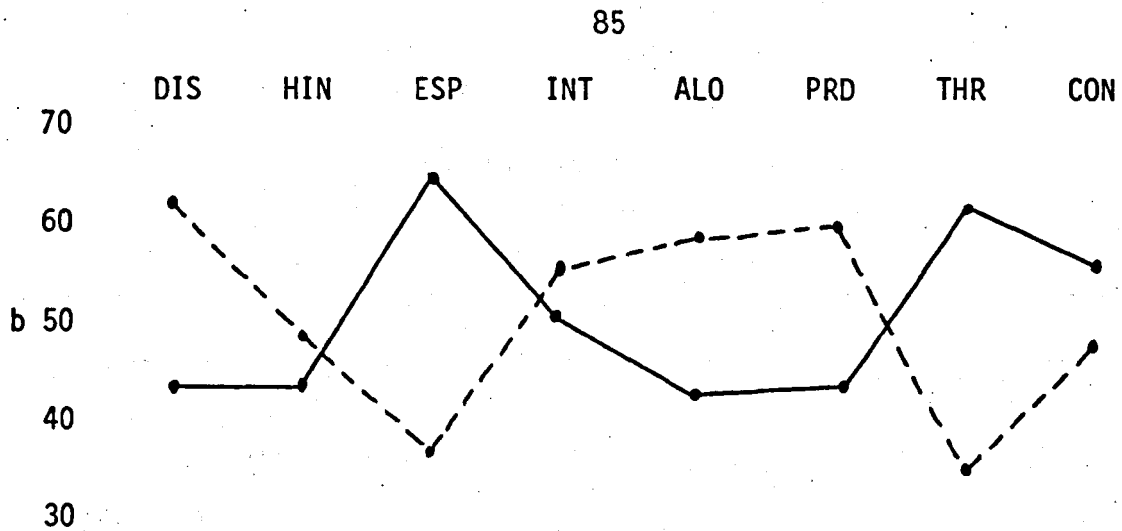


Figure 15

Graphic Comparison of School #13 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #13 was found to be Closed. Refer to page 10 for the definition of a Closed climate.

Table 40

School #14 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
85	41*	66	87	100	78

As displayed in Table 40, School #14 was found to have an Autonomous climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #14 and the "open" climate prototypic profile scores are displayed in Table 41 and Figure 16.

Table 41

Comparison of School #14 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #14	40	37	54	68	57	53	48	43
Prototypic	43	43	63	50	42	43	61	55

Data on School #14 displayed only one variation in group behavior scores, that being Intimacy. All four of the leader behavior measures exhibited sizeable differences. These were Aloofness, Production Emphasis, Thrust, and Consideration.

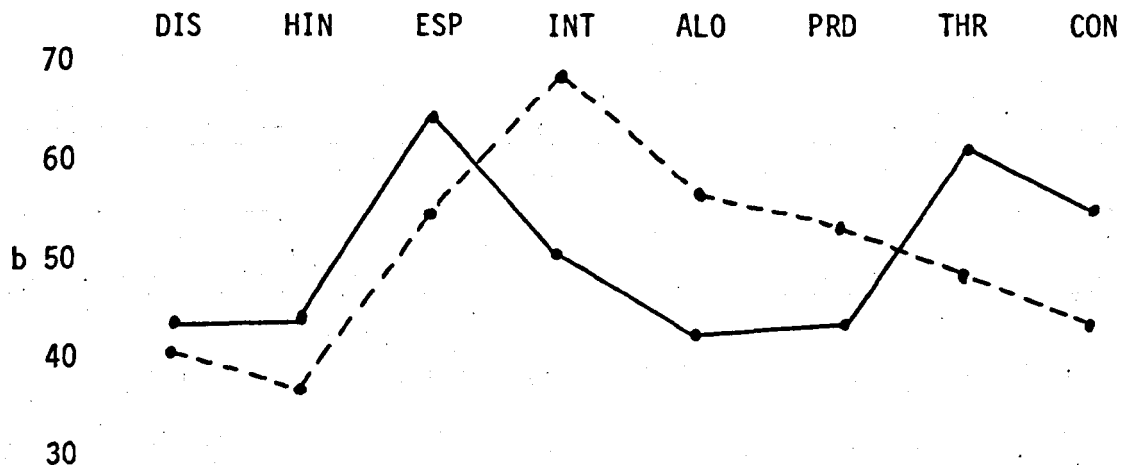


Figure 16

Graphic Comparison of School #14 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #14 was found to be Autonomous. Refer to page 9 for the definition of an Autonomous climate.

Table 42

School #15 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
63	37*	75	84	108	92

As displayed in Table 42, School #15 was found to have an Autonomous climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #15 and the "open" climate prototypic profile scores are displayed in Table 43 and Figure 17.

Table 43

Comparison of School #15 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #15	41	38	63	62	56	49	53	39
Prototypic	43	43	63	50	42	43	61	55

Data on School #15 displayed a variation in the group behavior score of Intimacy. Leader behaviors showing variation were Aloofness and Consideration.

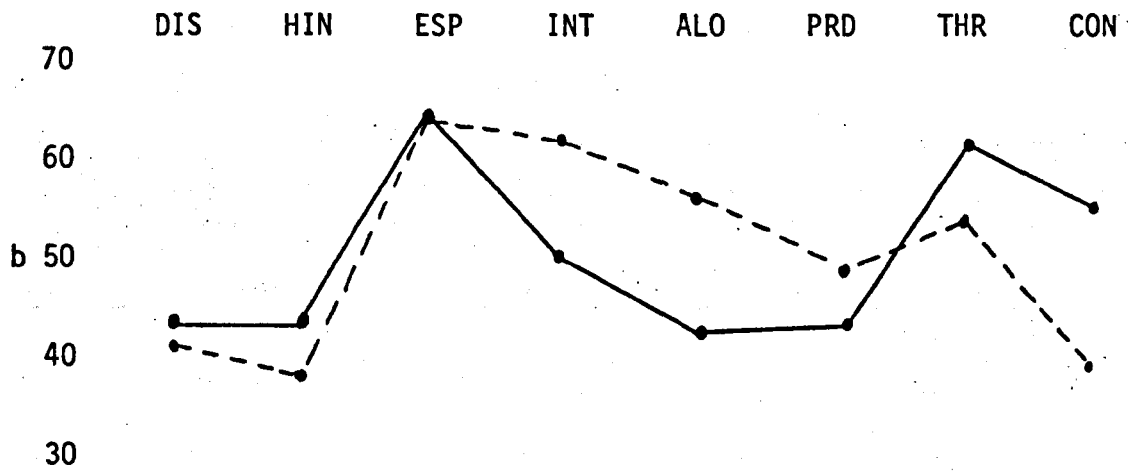


Figure 17

Graphic Comparison of School #15 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #15 was found to be Autonomous. Refer to page 9 for the definition of an Autonomous climate.

Table 44

School #16 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
70	36*	78	82	102	88

As displayed in Table 44, School #16 was found to have an Autonomous climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #16 and the "open" climate prototypic profile scores are displayed in Table 45 and Figure 18.

Table 45

Comparison of School #16 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #16	35	44	47	61	62	46	60	45
Prototypic	43	43	63	50	42	43	61	55

Data on School #16 displayed group behavior variations in scores dealing with Esprit and Intimacy. Leader behavior scores showing a difference were Aloofness and Consideration.

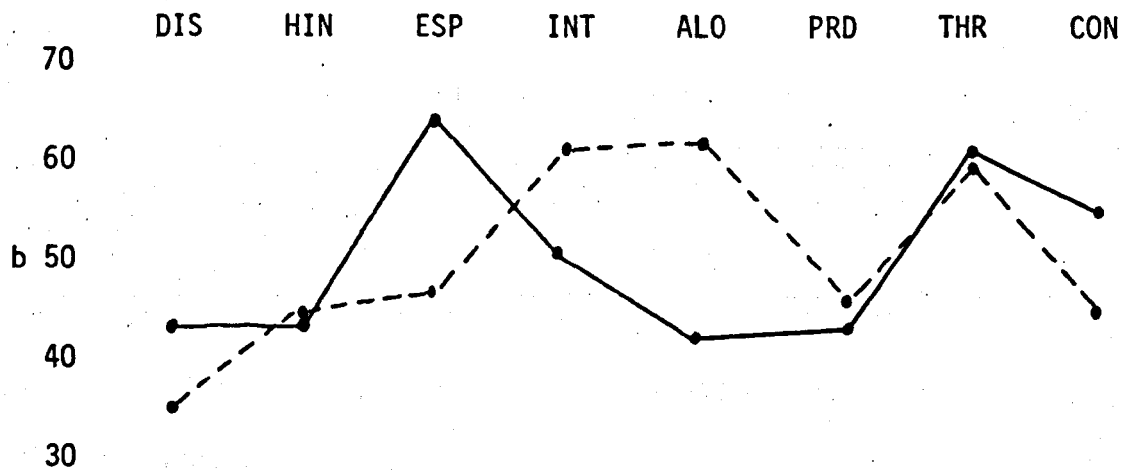


Figure 18

Graphic Comparison of School #16 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #16 was found to be Autonomous. Refer to page 9 for the definition of an Autonomous climate.

Table 46

School #17 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
101	108	82	82	70	60*

As displayed in Table 46, School #17 was found to have a Closed climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #17 and the "open" climate prototypic profile scores are displayed in Table 47 and Figure 19.

Table 47

Comparison of School #17 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #17	69	60	52	46	48	45	43	38
Prototypic	43	43	63	50	42	43	61	55

Data on School #17 displayed wide variations on the group behaviors of Disengagement and Hindrance. Leader behaviors showing variation were Thrust and Consideration.

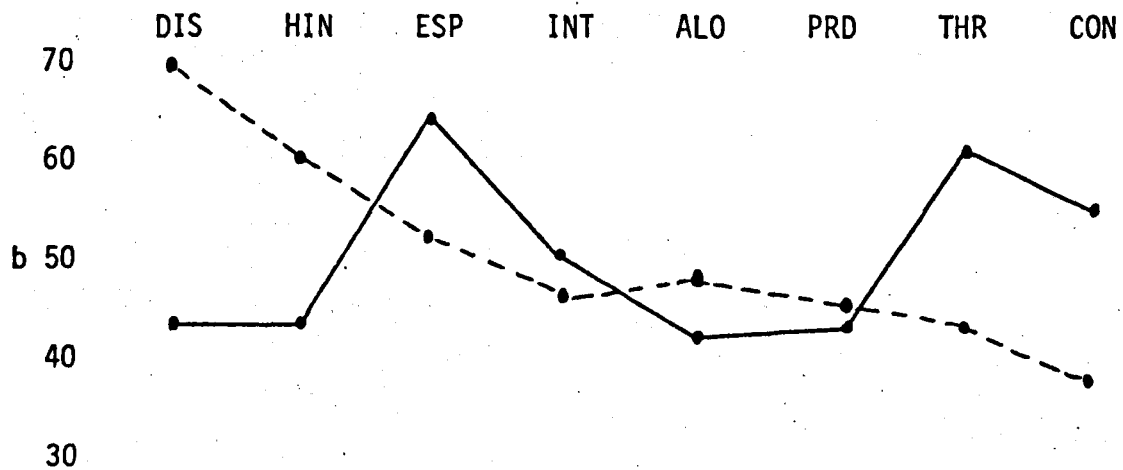


Figure 19

Graphic Comparison of School #17 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #17 was found to be Closed. Refer to page 10 for the definition of a Closed climate.

Table 48

School #18 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
88	90	120	48	44*	58

As displayed in Table 48, School #18 was found to have a Paternal climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #18 and the "open" climate prototypic profile scores are displayed in Table 49 and Figure 20.

Table 49

Comparison of School #18 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #18	60	42	39	64	39	53	46	57
Prototypic	43	43	63	50	42	43	61	55

Data on School #18 displayed group behavior variations in the areas of Disengagement, Esprit, and Intimacy. Leader behavior variations occurred in Production Emphasis and Thrust.

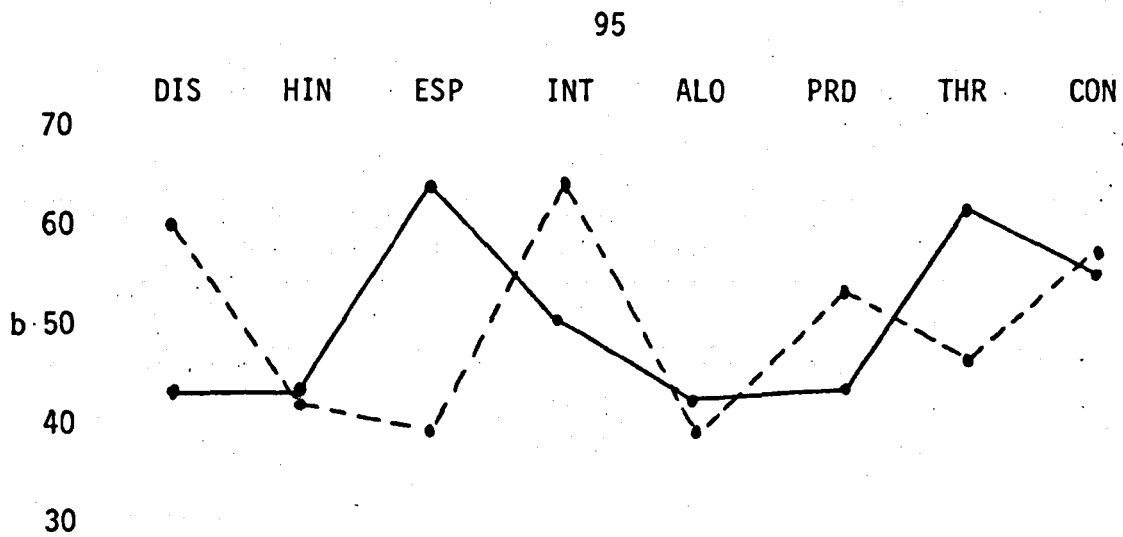


Figure 20

Graphic Comparison of School #18 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #18 was found to be Paternal. Refer to page 10 for the definition of a Paternal climate.

Table 50

School #19 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
119	107	90	83	65	30*

As displayed in Table 50, School #19 was found to have a Closed climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #19 and the "open" climate prototypic profile scores are displayed in Table 51 and Figure 21.

Table 51

Comparison of School #19 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #19	64	54	46	57	51	55	32	42
Prototypic	43	43	63	50	42	43	61	55

Data on School #19 displayed group behavior variations in the areas of Disengagement, Hindrance, and Esprit. Leader behavior score variations included the areas of Production Emphasis, Thrust, and Consideration.

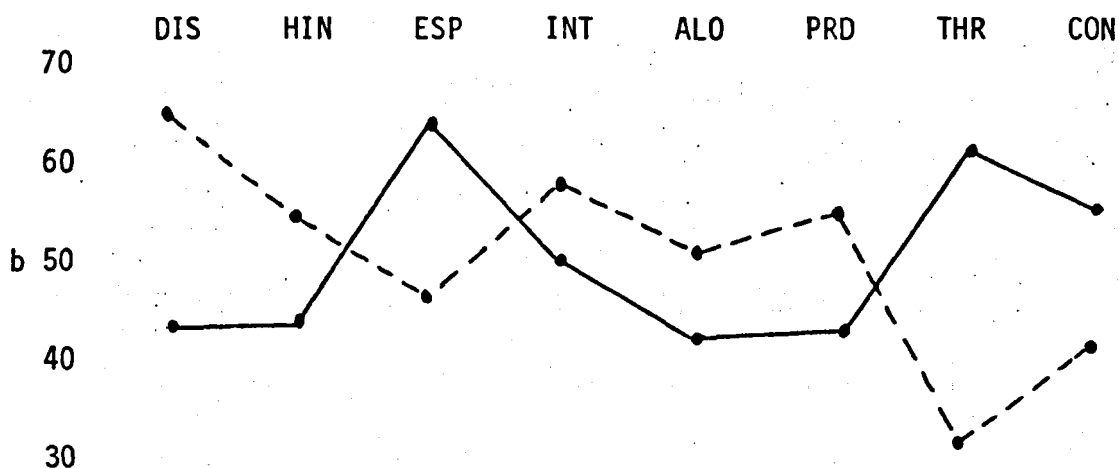


Figure 21

Graphic Comparison of School #19 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #19 was found to be Closed. Refer to page 10 for the definition of a Closed climate.

Table 52

School #20 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
35*	40	97	50	88	114

As displayed in Table 52, School #20 was found to have an Open climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #20 and the "open" climate prototypic profile scores are displayed in Table 53 and Figure 22.

Table 53

Comparison of School #20 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #20	41	39	64	64	44	42	51	56
Prototypic	43	43	63	50	42	43	61	55

Data on School #20 displayed one group behavior variation in the area of Intimacy, a score that exceeded the prototypic profile. One leader behavior score in the area of Thrust showed some variation.

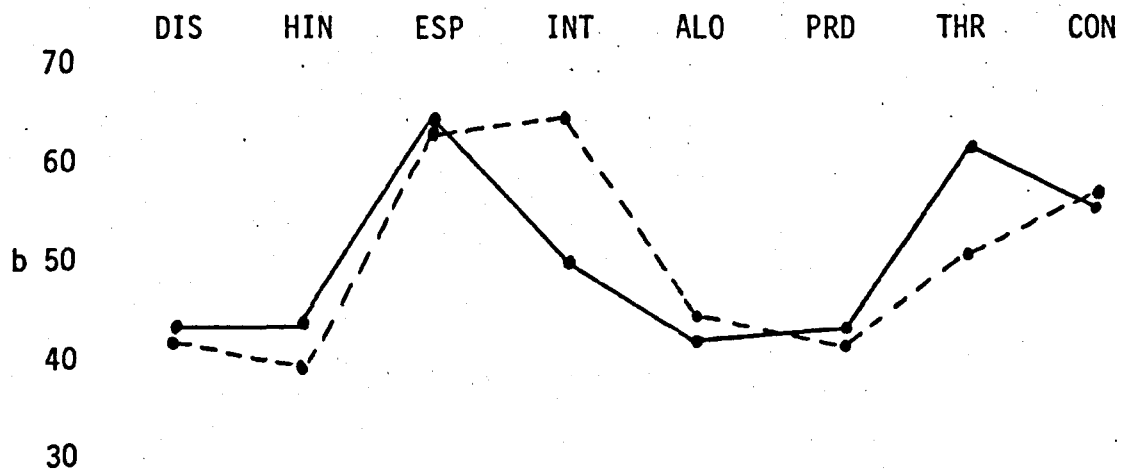


Figure 22

Graphic Comparison of School #20 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #20 was found to be Open. Refer to page 9 for the definition of an Open climate.

Table 54

School #21 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
113	90	78	87	95	45*

As displayed in Table 54, School #21 was found to have a Closed climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #21 and the "open" climate prototypic profile scores are displayed in Table 55 and Figure 23.

Table 55

Comparison of School #21 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #21	58	56	53	57	55	51	30	39
Prototypic	43	43	63	50	42	43	61	55

Data on School #21 displayed three each of group and leader behaviors to be different from the prototypic profile scores. Group behaviors were Disengagement, Hindrance, and Esprit. Leader behavior variations were Aloofness, Thrust, and Consideration.

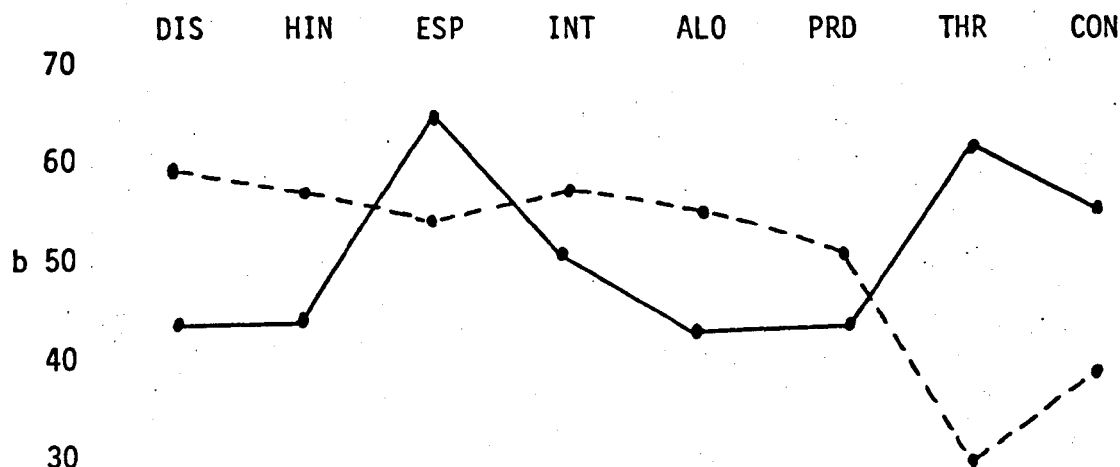


Figure 23

Graphic Comparison of School #21 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #21 was found to be Closed. Refer to page 10 for the definition of a Closed climate.

Table 56

School #22 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
41	30*	90	56	102	109

As displayed in Table 56, School #22 was found to have an Autonomous climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #22 and the "open" climate prototypic profile scores are displayed in Table 57 and Figure 24.

Table 57

Comparison of School #22 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #22	40	40	65	59	51	38	55	52
Prototypic	43	43	63	50	42	43	61	55

Data on School #22 displayed a school profile that was very close to the prototypic profile for an "open" climate. No major variations were found to exist.

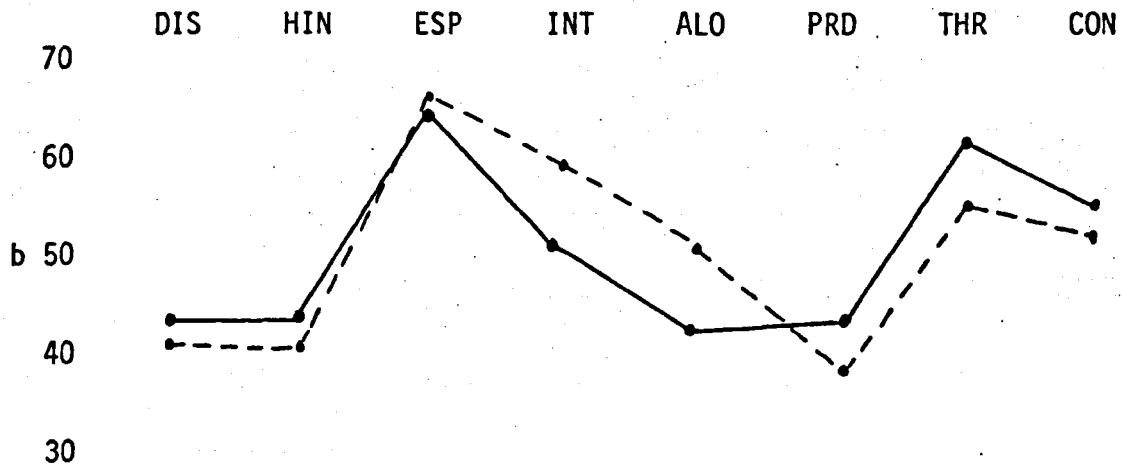


Figure 24

Graphic Comparison of School #22 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #22 was found to be Autonomous. Refer to page 9 for the definition of an Autonomous climate.

Table 58

School #23 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
71	60	115	37*	66	89

As displayed in Table 58, School #23 was found to have a Familiar climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #23 and the "open" climate prototypic profile scores are displayed in Table 59 and Figure 25.

Table 59

Comparison of School #23 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #23	55	36	47	69	46	42	51	55
Prototypic	43	43	63	50	42	43	61	55

Data on School #23 displayed variations in group behavior in the areas of Disengagement, Esprit, and Intimacy. Leader behavior showing a variation in score was Thrust.

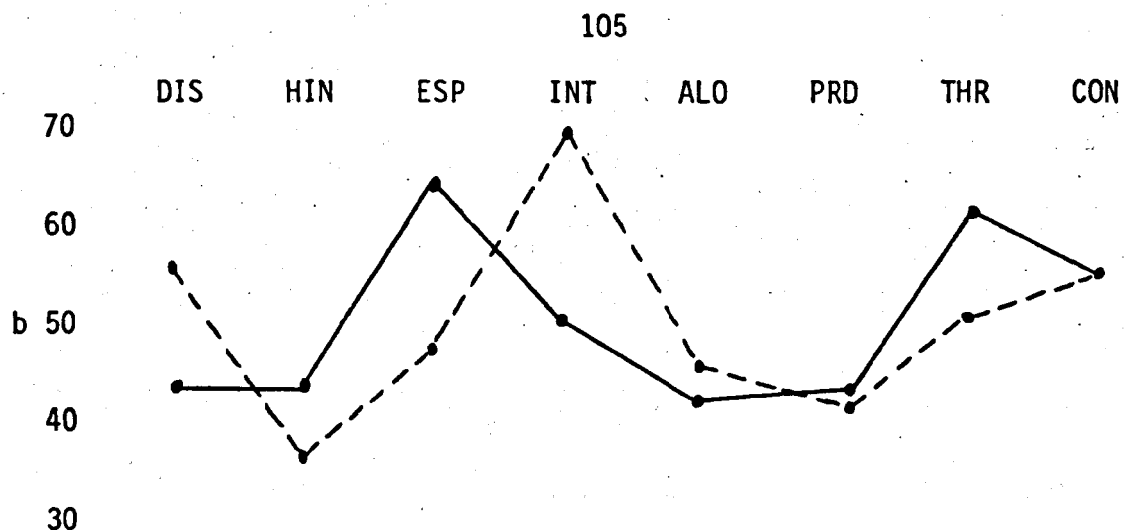


Figure 25

Graphic Comparison of School #23 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #23 was found to be Familiar. Refer to page 10 for the definition of a Familiar climate.

Table 60

School #24 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
69	66	110	53*	72	81

As displayed in Table 60, School #24 was found to have a Familiar climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #24 and the "open" climate prototypic profile scores are displayed in Table 61 and Figure 26.

Table 61

Comparison of School #24 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #24	57	45	56	69	39	42	43	48
Prototypic	43	43	63	50	42	43	61	55

Data on School #24 displayed variations in group behavior in the areas of Disengagement and Intimacy. The only leader behavior score that appeared to vary was Thrust.

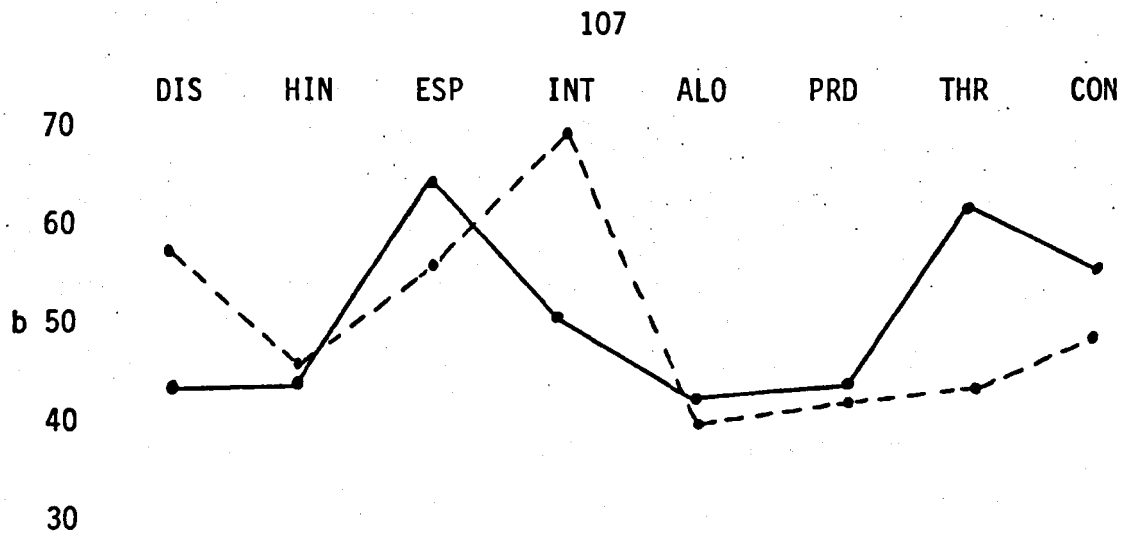


Figure 26

Graphic Comparison of School #24 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #24 was found to be Familiar. Refer to page 10 for the definition of a Familiar climate.

Table 62

School #25 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
86	83	125	39*	58	57

As displayed in Table 62, School #25 was computed as having a Familiar climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #25 and the "open" climate prototypic profile scores are displayed in Table 63 and Figure 27.

Table 63

Comparison of School #25 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #25	66	44	42	59	48	42	40	59
Prototypic	43	43	63	50	42	43	61	55

Data on School #25 displayed group behavior variation in the areas of Disengagement and Esprit. Leader behavior score variation was found only in the category of Thrust.

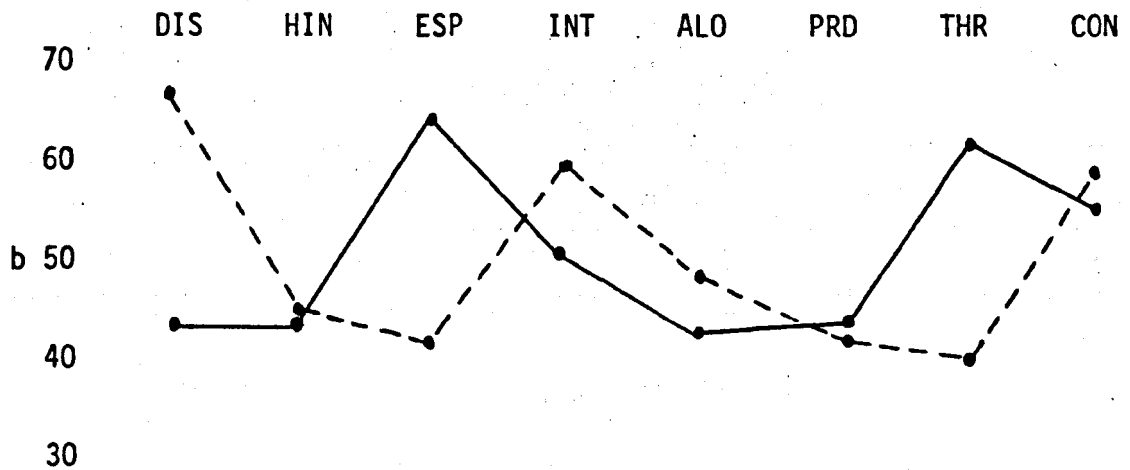


Figure 27

Graphic Comparison of School #25 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #25 was found to be Familiar. Refer to page 10 for the definition of a Familiar climate.

Table 64

School #26 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
88	69	100	68	97	66*

As displayed in Table 64, School #26 was found to be a Closed climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #26 and the "open" climate prototypic profile scores are displayed in Table 65 and Figure 28.

Table 65

Comparison of School #26 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #26	56	50	57	68	49	41	37	44
Prototypic	43	43	63	50	42	43	61	55

Data on School #26 displayed group behavior variation in the areas of Disengagement and Intimacy. Other variations occurred in the leader behavior areas of Thrust and Consideration.

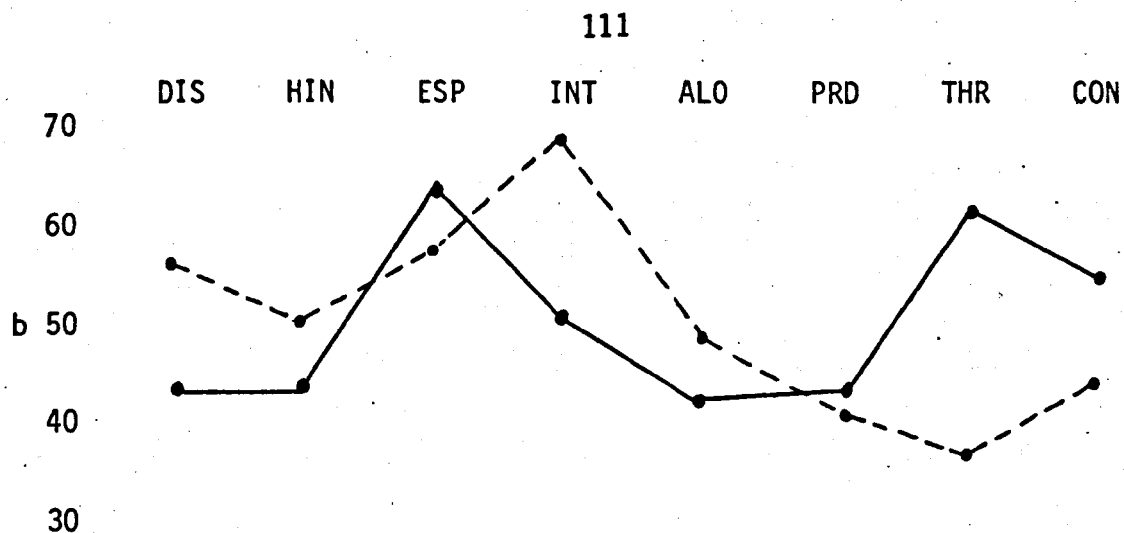


Figure 28

Graphic Comparison of School #26 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #26 was found to be Closed. Refer to page 10 for the definition of a Closed climate.

Table 66

School #27 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
34*	39	96	57	91	116

As displayed in Table 66, School #27 was found to have an Open climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #27 and the "open" climate prototypic profile scores are displayed in Table 67 and Figure 29.

Table 67

Comparison of School #27 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #27	40	39	61	65	43	43	56	53
Prototypic	43	43	63	50	42	43	61	55

Data on School #27 displayed a climate profile very closely patterned to the prototypic profile. The only behavior score to be different to any degree was the group behavior of Intimacy. This score was higher than the score outlined by the prototypic model.

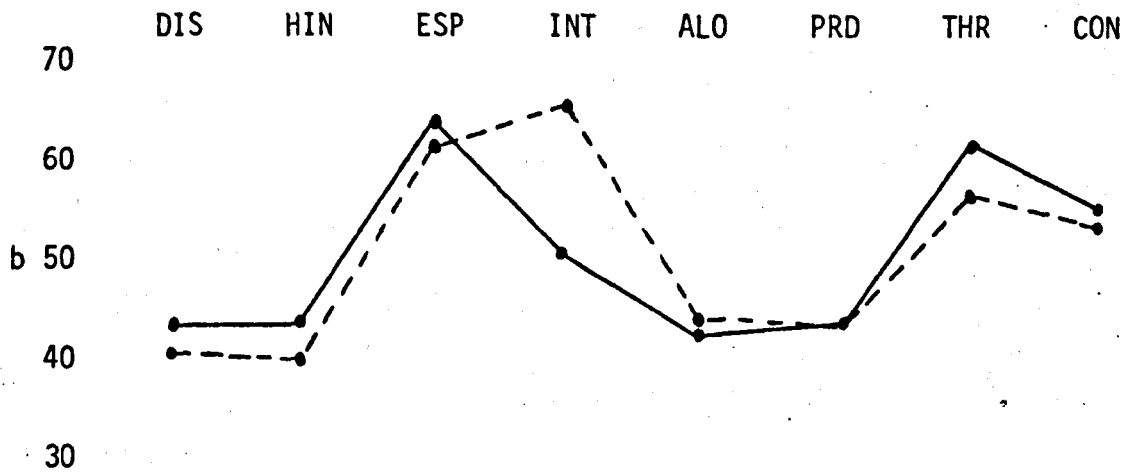


Figure 29

Graphic Comparison of School #27 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #27 was found to be Open. Refer to page 9 for the definition of an Open climate.

Table 68

School #28 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
36*	51	109	56	82	115

As displayed in Table 68, School #28 was computed as having an Open climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #28 and the "open" climate prototypic profile scores are displayed in Table 69 and Figure 30.

Table 69

Comparison of School #28 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #28	47	37	59	64	39	43	58	53
Prototypic	43	43	63	50	42	43	61	55

Data on School #28 displayed a climate profile very closely patterned after the prototypic profile of an "open" climate. The one score showing a difference from the prototypic model was the group behavior of Intimacy.

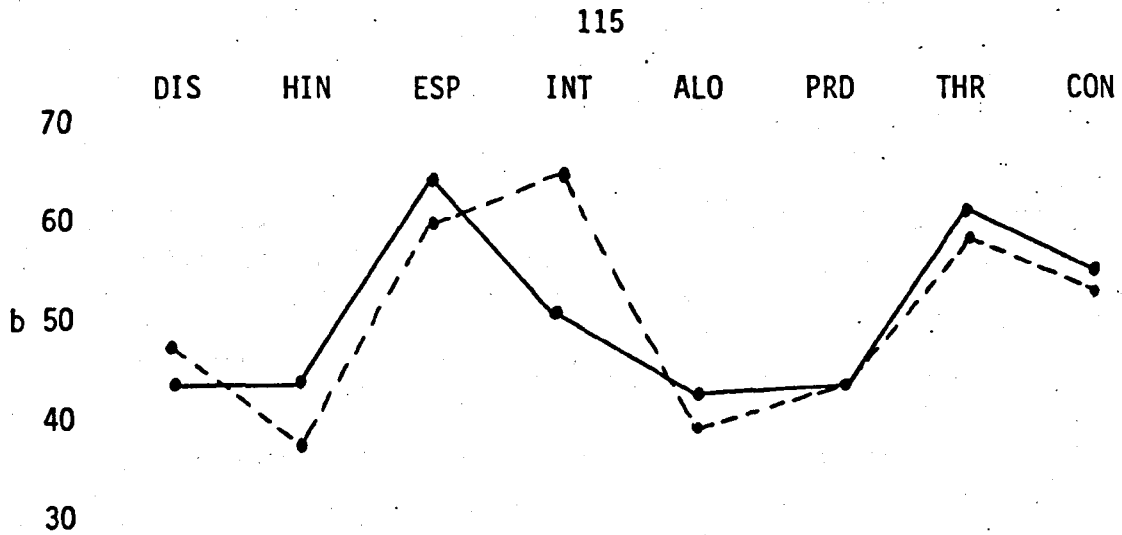


Figure 30

Graphic Comparison of School #28 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #28 was found to be Open. Refer to page 9 for the definition of an Open climate.

Table 70

School #29 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
43*	49	84	75	96	107

As displayed in Table 70, School #29 was found to have an Open climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #29 and the "open" climate prototypic profile scores are displayed in Table 71 and Figure 31.

Table 71

Comparison of School #29 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #29	39	36	60	61	45	50	61	47
Prototypic	43	43	63	50	42	43	61	55

Data on School #29 displayed a climate quite closely patterned after the Prototypic model. The one behavior score that was greater than the score of the prototypic profile was the group behavior of Intimacy.

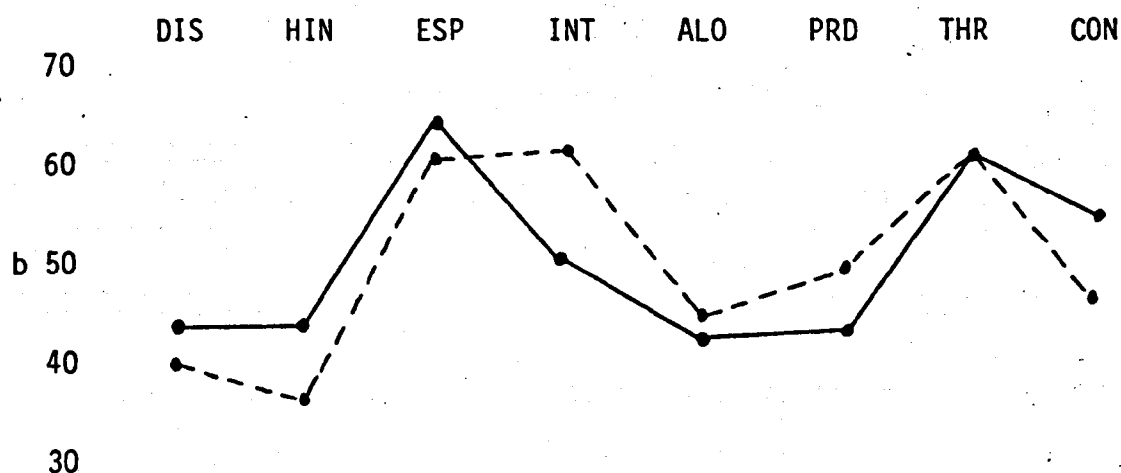


Figure 31

Graphic Comparison of School #29 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #29 was found to be Open. Refer to page 9 for the definition of an Open climate.

Table 72

School #30 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
67*	78	95	81	81	75

As displayed in Table 72, School #30 was found to have an Open climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #30 and the "open" climate prototypic profile scores are displayed in Table 73 and Figure 32.

Table 73

Comparison of School #30 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #30	44	47	35	57	47	50	69	50
Prototypic	43	43	63	50	42	43	61	55

Data on School #30 displayed only one behavior greatly different from the prototypic profile scores. This behavior was the group behavior of Esprit.

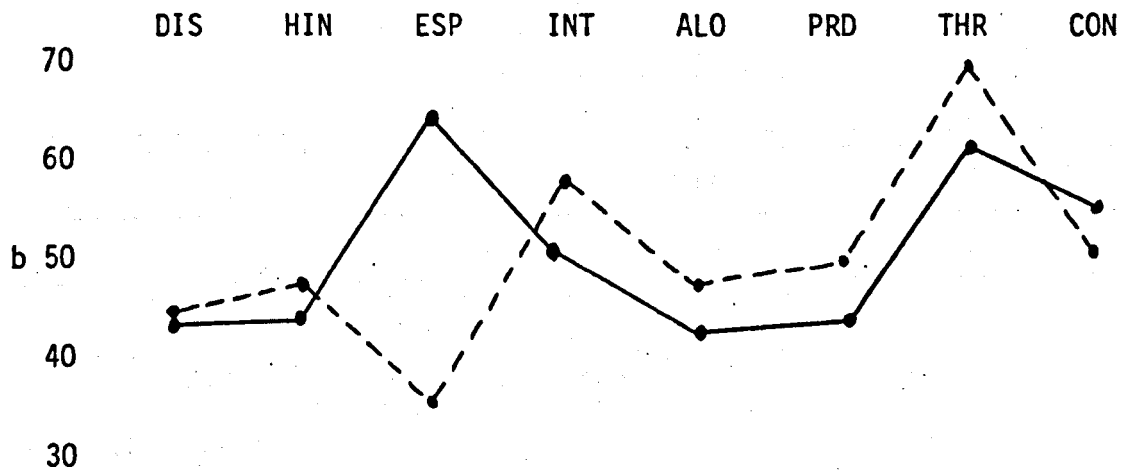


Figure 32

Graphic Comparison of School #30 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #30 was found to be Open. Refer to page 9 for the definition of an Open climate.

Table 74

School #31 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
89	84	114	55	38*	57

As displayed in Table 74, School #31 was found to have a Paternal climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #31 and the "open" climate prototypic profile scores are displayed in Table 75 and Figure 33.

Table 75

Comparison of School #31 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #31	65	47	38	63	38	48	50	50
Prototypic	43	43	63	50	42	43	61	55

Data on School #31 displayed score variations in group behavior in the areas of Disengagement, Esprit, and Intimacy. No large differences appeared in leader behaviors.

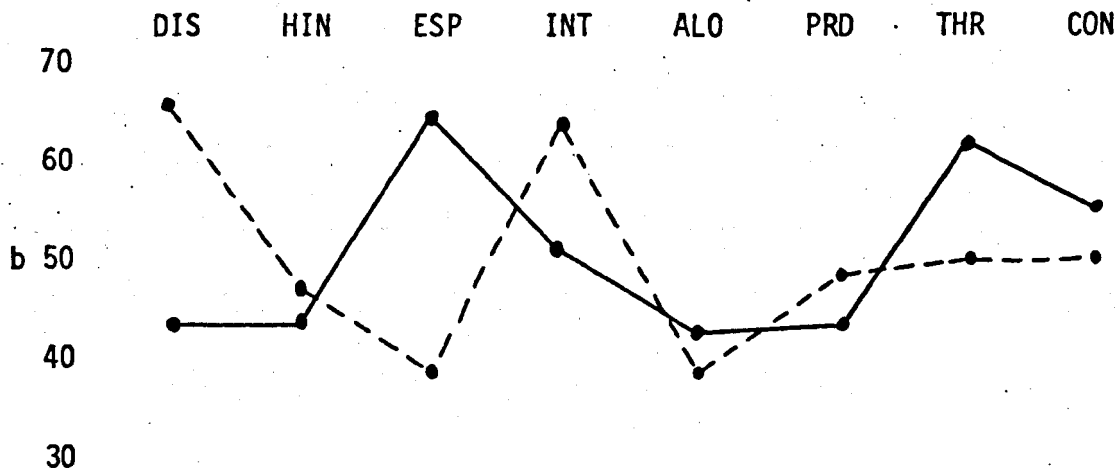


Figure 33

Graphic Comparison of School #31 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #31 was found to be Paternal. Refer to page 10 for the definition of a Paternal climate.

Table 76

School #32 Climate Similarity Index

Open	Autonomous	Controlled	Familiar	Paternal	Closed
97	68	67	94	99	66*

As displayed in Table 76, School #32 was found to have a Closed climate.

Both a numerical and graphical form of comparison between the climate profile scores of School #32 and the "open" climate prototypic profile scores are displayed in Table 77 and Figure 34.

Table 77

Comparison of School #32 Climate Profile Scores
with Prototypic Profile of an "Open" Climate

Profile	DIS	HIN	ESP	INT	ALO	PRD	THR	CON
School #32	49	54	54	56	60	51	49	27
Prototypic	43	43	63	50	42	43	61	55

Data on School #32 displayed variations in group behaviors in the area of Hindrance. Leadership behaviors showing a great variation in scores were Aloofness, Thrust, and Consideration.

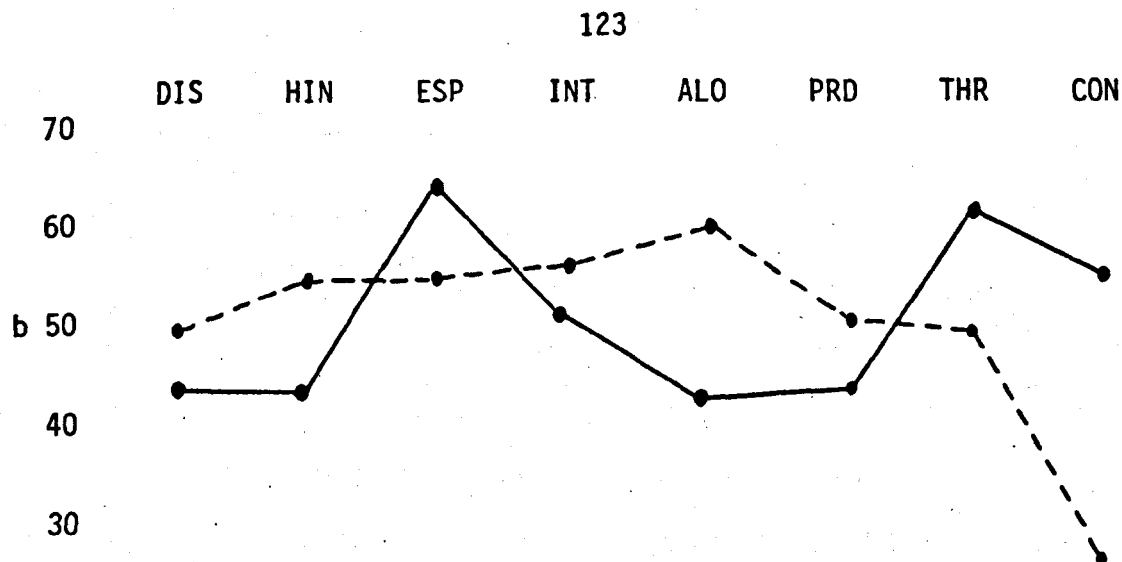


Figure 34

Graphic Comparison of School #32 with
Prototypic "Open" Climate Profiles^a

^aThe prototypic "Open" climate is represented by the solid line; the school climate by the broken line.

^bStandard scores with a mean of 50 and a standard deviation of 10.

Group's Characteristics

DIS = Disengagement
HIN = Hindrance
ESP = Esprit
INT = Intimacy

Leader's Characteristics

ALO = Aloofness
PRD = Production Emphasis
THR = Thrust
CON = Consideration

The climate of School #32 was found to be Closed. Refer to page 10 for the definition of a Closed climate.

The descriptive display of data concerning the individual school climate profile scores and the comparison of this data with the prototypic profile scores was completed in order to provide a response to null hypothesis 1. These data were computed by the Educational Research Center of New Mexico State University, Las Cruces, New Mexico. Each individual school received a set of eight subtest scores to enable the investigator to design a climate profile. The eight subtest scores resulted from an average of the mean scores obtained by each respondent identified to be from that school. The subtest scores were then used to establish the school's climate similarity index which in turn was used to place the school on the appropriate step of the O.C.D.Q.'s six-point continuum scale.

The summary of the school climates for the Billings Public Schools is displayed in Table 78.

Table 78
Billings Public Schools Climate Summary

Climate Category	Number of Schools
Open	8
Autonomous	6
Controlled	0
Familiar	7
Paternal	2
Closed	9
Total	32

Tables 14 through 77 and Figures 3 through 24 indicate that a number of the thirty-two schools in the Billings Public School District did in fact show marked differences from the prototypic norm profile of an "open" climate as established by the O.C.D.Q. (Halpin, 1966:174).

Table 79 displays the data analysis concerning null hypothesis 2. The null is restated and a discussion is included.

Table 79

Multiple Regression Analysis Hypothesis 2
Criterion Variable--Organizational Climate

Variables	Correlation with Y	B Score	t Score	Partial r's	Significant
1	-.04	1.04	6.23	.240	.05
2	-.16	-.19	-1.77	-.070	
3	-.19	-.04	-1.95	-.077	
4	-.18	.02	.72	.029	
5	-.14	.07	3.41	.134	.05
6	-.02	.07	.82	.033	
7	.004	.003	.18	.007	
0		2.58			

Multiple R = .36	Standard Error Est. = 1.88
F = 13.44	Critical value for t = 1.98 at .05 (120)df
R square = .13	F = 2.03 at .05 (7,400)df
	2.02 at .05 (7,1000)df

Null Hypothesis 2. There is no significant relationship between organizational climate scores as interpreted by individual classroom teachers in Billings Public Schools and the scores on all of the following seven predictor variables:

1. sex of the respondent;
2. age of the respondent;
3. respondent's total years of teaching experience;
4. respondent's years of teaching in Billings Public Schools;
5. respondent's years of teaching in his/her present building;
6. length of time since respondent's last professional training;
7. respondent's number of teacher-initiated educational changes.

Based on the analysis presented in Table 79, the critical value of F at .05 with (7,400) df is 2.03 and with (7,1000) df is 2.02. Because the computed value of F is greater than the lower limit of 2.02, the null hypothesis of no significant relationship is rejected.

The following variables were determined to be significant at the .05 level using the "t" statistic.

1. Sex. A significant relationship existed between organizational climate scores and the respondent's sex. As stated in Table 79, this correlation was positive as a partial r . This would seem to indicate that when all other variables are kept constant, females tend to perceive their school climate more favorably (more open) than do their male colleagues.

2. Years of teaching experience within the currently assigned school building. A significant relationship existed between organizational climate scores and the number of years each respondent had taught in the building they were assigned to. As stated in Table 79, this correlation was a positive partial r . This would seem to indicate that when all other variables are kept constant, as teachers spend more years in the same school building, they tend to view the organizational climate as less favorable (more closed).

From the data displayed in Table 79, it can be concluded that there was a significant relationship between the criterion variable of organizational climate and the predictor variables. Two of the predictor variables were found to be individually significant when all others were held constant.

Table 80 displays the analysis of the relationship between the number of teacher-initiated educational changes made by individual classroom teachers in the Billings Public Schools and the seven predictor variables selected for this study.

Table 80

Multiple Regression Analysis Hypothesis 3
 Criterion Variable--Teacher-Initiated
 Educational Change

Variables	Correlation with Y	B Score	t Score	Partial r's	Significant
1	.31	-.06	-.16	-.007	
2	-.07	-.12	-.54	-.022	
3	-.02	-.06	-1.22	-.048	
4	.05	-.03	-.55	-.022	
5	.18	-.02	-.48	-.019	
6	.05	.16	.80	.032	
7	.004	.02	.18	.007	
0		2.46			

Multiple R = .20

Standard Error Est. = 1.42

R = 3.66

Critical value for t = 1.98 at .05 (120)df

R square = .04

F = 2.03 at .05 (7,400)df

2.02 at .05 (7,1000)df

Null Hypothesis 3. There is no significant relationship between the number of teacher-initiated educational changes made by an individual classroom teacher in Billings Public Schools and the scores of all of the sevel predictor variables.

Based on the analysis presented in Table 80, the critical value of F, at .05 with (7,400) df, is 2.03 and with (7,1000) df is 2.02. Because the computed value of F is greater than the lower limit of 2.02, the null hypothesis of no significant relationship is rejected.

The "t" test scores displayed in Table 80 are used to provide answers to several of the original questions stated in Chapter 1 of

this study. The critical value for t at .05 with 120 df for a two-tailed test is 1.98.

1. There is no relationship between the organizational climate scores, as derived through individual classroom teachers' scores, and the number of teacher-initiated educational changes made by these teachers, in the Billings Public Schools, during the six-month period prior to the end of the first semester of the 1978-79 school year. (t value = .004).

2. There is no relationship between the sex of the respondent and the number of teacher-initiated educational changes made in the classrooms of Billings Public Schools. (t value = .31)

3. The age of the respondent has no effect on either organizational climate scores (t value = -.16) or the number of teacher-initiated educational changes made in the classrooms of Billings Public Schools. (t value = -.07)

4. The respondent's total number of years of teaching experience has no effect on the number of teacher-initiated educational changes made in the classrooms of Billings Public Schools. (t value = -.02)

5. The recency of the respondent's professional training has no effect on the organizational climate scores obtained by classroom teachers in Billings Public Schools. (t value = -.02)

6. The recency of the respondent's professional training has no effect on the number of teacher-initiated educational changes made in the classrooms of Billings Public Schools. (t value = .05)

SUMMARY

Seven hundred sixty-three classroom teachers in the thirty-two Billings Public Schools were sent questionnaires of whom 644 submitted usable returns. These respondents served as the data source for this study. In Tables 3 through 11 are displayed the biographic data received from the respondents.

The descriptive comparison utilized in Tables 14 through 77 revealed the similarities and differences existing in the profile scores of each individual school and those profile scores established as representative of a highly desirable (open) climate. This technique revealed the degree of variation among the subtest scores of the eight behavior characteristics measured by the testing instrument.

Each of the thirty-two schools was treated independently. Tables were provided to first display the climate similarity index and the climate category placement received by each school. Tables were then used to display the numerical scores of each of the eight behavior subtests for each school and those of the "open" climate prototypic profile. The final tables presented for each school consisted of a graphical depiction of the comparison subtest scores.

According to the multiple regression analysis, it was revealed that there were two significant multiple correlations between organizational climate scores and the seven predictor variables used in this study.

No significant relationship was found when using the number of teacher-initiated educational changes as the criterion variable.

Tables were provided to show the list of predictor variables, the correlation with the criterion variable, B scores, t scores, and the partial r scores. The "t" statistic was used to arrive at a score providing a test of significance and level of acceptance of each predictor variable. The significant level of .05 was displayed when appropriate. Scores for the multiple R, the R squared, the F value, and the standard error of estimate were also provided in the tables. Critical values for the t and F scores were provided.

Each table analyzed the predictor variables with the criterion variable and was explained by a statement of the hypothesis, the data analysis, and comments on the various significant relationships.

Using a multiple regression analysis, it was indicated that significant relationships do exist between organizational climate and the seven selected predictor variables. Likewise, there exists a significant relationship between the number of teacher-initiated educational changes and the seven selected predictor variables.

Significant "t" scores were found to exist in the following areas:

1. When all other predictor variables were held constant, the female classroom teacher perceived the organizational climate as more favorable (more open) than her male colleague. This was a positive correlation.

2. When all other predictor variables were held constant, as the number of years a classroom teacher spends in the same school building increases, the perception of a favorable organizational climate decreases (more closed). This was a positive correlation.

Chapter 5

SUMMARY, RECOMMENDATIONS, AND CONCLUSIONS

INTRODUCTION

Chapter 5 contains a summary of the study, conclusions of the study, and recommendations resulting from the study. The chapter is divided into the following four sections: Introduction, Summary of Study, Conclusions, and Recommendations. The Summary of the Study section is further divided into four areas: The Problem, The Procedures, the Literature Reviewed, and the Findings of the study.

SUMMARY OF STUDY

The Problem

The problem of this study was to determine the relationship between organizational climate, as interpreted through classroom teachers, and teacher-initiated educational changes in Billings Public Schools.

The variables incorporated into the study included the following:

1. the sex of each respondent;
2. the age of each respondent;
3. the total years of teaching experience of each respondent;

4. the number of years each respondent had been employed as a teacher in the Billings Public Schools;

5. the number of years each respondent had been assigned teaching duties at their present school building;

6. the length of time since each respondent had participated in formal professional development activities (conferences, workshops, in-service, clinics, college classes, exclusive of state-required Native American studies);

7. the score category each respondent attained on the Organizational Climate Description Questionnaire;

8. the number of teacher-initiated educational changes made by each respondent during the first semester of the 1978-79 school year.

The Procedure

The procedure used in determining the relationship among those variables stated in the problem statement was designed as one of correlational analysis. The biographical variables were correlated (multiple regression correlation coefficient) with the separate criterion variables of (1) organizational climate scores, and (2) number of teacher-initiated educational changes.

Data for the study were collected in January, 1979, when all full-time classroom teachers assigned duties in one of the thirty-two

school buildings in Billings Public Schools were given the opportunity to participate in the study. The instrument used in the collection of these data is shown in Appendix A. Part 1 of the instrument was used to collect biographical information and included the Organizational Climate Description Questionnaire which was used to gather data concerning school climate; Part 2 was used to collect data regarding the number of teacher-initiated educational changes.

Validity and reliability of the Organizational Climate Description Questionnaire were established by Halpin and Croft (1962:55-7). The validity of the second questionnaire used in this study, "Survey of Teacher-Initiated Educational Change," was established by knowledgeable individuals in the education field serving as a "panel of experts" to review the content of the instrument. Reliability was checked through a test-retest, utilizing a sample of elementary, junior high, and high school classroom teachers on campus at Montana State University during Summer Quarter 1978. The resulting reliability coefficient of .90 was interpreted as showing that the instrument had acceptable reliability.

Data collection resulted in a study population which included usable responses from 644 out of the 763 classroom teachers who were identified as having met the study criteria and who were contacted during the original questionnaire distribution.

Literature Reviewed

A review of the literature related to organizational climate revealed that this area of interest began outside the education setting primarily in the field of industrial management. Organizational climate began as a unification of the areas of industrial management, sociology, and psychology. Recorded works of this melting process grew into prominence with Barnard (1938), although the term "organizational climate" is credited to Frances Cornell through his article published in Phi Delta Kappan in 1955.

Argyris (1958), Forehand and Gilmer (1964), Halpin (1966), and Tagiuri (1968) were some of the individuals who made great efforts to more adequately define organizational climate and attempted to give meaning to the concept. Argyris was one of the first to be given credit for determining the interrelationship between organizational goals and personal needs of employees, a model later refined by Getzels.

The human resources within the organizational setting continued to be researched in-depth by Mayo, Roethlisberger, Dickson, McGregor, and Likert, as well as Argyris. More recently, Rogers became a strong force in the continued investigation.

This investigation into the components involved in organizational climate led to the development of a number of climate measuring devices. Some of the individuals who have attempted to design organizational climate measurement instruments include Hemphill, 1955; Halpin

and Croft, 1961; Stern, 1962; Likert and Likert, 1967; and Kimpston and Sonnabend, 1975.

Research incorporating the criterion variables of this study, those of organizational climate and educational change, has been quite recent. Marcum (1968) studied organizational climate in relation to school innovativeness. This research revealed that innovative schools were perceived as having a more "open" climate. Reynoldson (1968) replicated the Marcum study with the same results. The research teams of Brumbaugh and Christ (1972) and Kimpston and Sonnabend (1975) expanded their work more into the relationship between school climate and the readiness for planned change. These teams, moreover, gave strong support to the idea that "open" climates have high correlation with innovativeness.

Findings

The findings of this study, as reported in Chapter 4, appear in the forms of descriptive comparisons and multiple regression coefficients of correlation. The descriptive comparisons as presented in Tables 14 through 77, which resulted in the rejection of null hypothesis 1, are displays of the organizational climate profile scores of each individual school as compared to the "open" climate prototypic profile norm scores that have been established by the Organizational Climate Description Questionnaire.

The multiple regression correlation coefficients used in the testing of null hypotheses 2 and 3 resulted in the rejection of both those hypotheses at the .05 level of significance for a two-tailed test.

In rejecting null hypothesis 2 it was concluded that there is a significant positive relationship between organizational climate scores as interpreted by individual classroom teachers in Billings Public Schools and the scores on all of the following seven predictor variables when treated together. The predictor variables were:

1. the respondent's number of teacher-initiated educational changes;
2. the respondent's sex;
3. the respondent's age;
4. the respondent's total number of years of teaching experience;
5. the number of years the respondent had taught in the Billings Public School District;
6. the number of years the respondent had taught in the school building he/she was in at the time of the study;
7. the length of time since the respondent had participated in formal professional development activities.

In rejecting null hypothesis 3 it is concluded that there is a significant relationship between the number of teacher-initiated

educational changes made by an individual classroom teacher in Billings Public Schools and the scores on all of the following seven predictor variables listed:

1. the respondent's organizational climate score;
2. the respondent's sex;
3. the respondent's age;
4. the respondent's total number of years of teaching experience;
5. the number of years the respondent had taught in the Billings Public School District;
6. the number of years the respondent had taught in the school building he/she was in at the time of the study;
7. the length of time since the respondent had participated in formal professional development activities.

The "t" test scores computed for null hypothesis 2 revealed significant predictor variables in two cases. These "t" scores were also found to be significant at the .05 level with (7,400) df.

Significant predictor variables were identified as:

1. Sex. Female classroom teachers tend to perceive organizational climate as being more favorable (more open) than do their male colleagues.
2. Years of teaching experience within the same assigned school building. As the number of years a classroom teacher spends

in the same school increases the organizational climate score decreases or becomes less favorable (more closed).

CONCLUSIONS

The list of general questions in Chapter 1 included questions concerning the relationships between two separate criterion variables and certain predictor variables. With respect to the classroom teachers in Billings Public Schools this study has provided the following answers to those questions:

1. The organizational climate scores of the thirty-two individual schools in the Billings Public School District vary widely from each other. A number of these schools display a sizeable variation from the normed scores of a desirable "open" climate.

2. The organizational climate scores of the classroom teacher participants in Billings Public Schools varied throughout the six-point rating scale of the O.C.D.Q. instrument.

3. Although the average number of teacher-initiated educational changes made by classroom teacher participants in Billings Public Schools was low, the variety of changes was extensive.

4. There was no relationship between organizational climate scores of Billings Public Schools and the number of teacher-initiated educational changes used in the schools.

5. The sex of the classroom teacher participants was related to the organizational climate scores of Billings Public Schools. Females tended to perceive school climate as more favorable (open) than their male colleagues.

6. The sex of the classroom teacher participants did not correlate with the number of teacher-initiated educational changes made in Billings Public Schools.

7. The age of the classroom teacher participants was not related to organizational climate scores of the Billings Public Schools.

8. The age of the classroom teacher participants was not related to the number of teacher-initiated educational changes made in Billings Public Schools.

9. The total number of years of teaching experience of each classroom teacher participant was not related to the organizational climate scores of Billings Public Schools.

10. The total number of years of teaching experience of each classroom teacher participant was not related to the number of teacher-initiated educational changes made in Billings Public Schools.

11. The length of time since classroom teacher participants had been involved in formal professional development activities was not related to the organizational climate scores in Billings Public Schools.

12. The length of time since classroom teacher participants had been involved in formal professional development activities was

not related to the number of teacher-initiated educational changes made in Billings Public Schools.

RECOMMENDATIONS

1. School administrators should become more aware of the concept of organizational climate and make a sincere effort to introduce a climate measurement instrument into current personnel evaluation practices. Such an instrument would allow the development of a data baseline concerning personal perceptions of those people making up the organization. Organizational climate measurement can provide a usable data system in evaluating goal achievement concerning staff-administration relations.

2. School administrators and staff members should develop a dialogue concerning school climate and how it effects goal achievement. Together both parties should constantly attempt to evaluate attitudes and improve any deficiencies that limit the climate of the school.

3. School administrators and staff members should strive to share their knowledge of teaching techniques, methods, and materials not currently used by classroom teachers within their school.

4. Further studies should be conducted to discover what motivates teachers to initiate educational changes within their classrooms.

5. Further studies should be conducted to re-examine the possibility of a relationship between school climate and teacher-initiated educational change incorporating additional variables not included in this study.

6. Administrator preparation institutions should offer instruction concerning climate evaluation.

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LITERATURE CITED

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APPENDICES

APPENDIX A

QUESTIONNAIRE COVER LETTER TO BILLINGS
PUBLIC SCHOOL CLASSROOM TEACHERS

Dear Teacher:

As a classroom teacher in the Billings school district, your opinions are of great value as part of a doctoral study currently underway at Montana State University.

Professional attitudes and teaching techniques of today's classroom teacher are in a constantly changing state. What prompts changes is of concern to educators seeking to foster meaningful and necessary improvements in school programs.

The object of this study is to determine if classroom teachers' perceptions concerning their school are related to innovative techniques, processes or materials used in the education program.

Please allow me to impose upon your busy schedule to complete the enclosed survey form and return it in the envelope provided. Your response will be kept confidential with only school and numerical data to be reported. The code number will be used simply to identify those returning the survey so that I might send reminders to those who might forget.

A summary report of the survey will be sent to you if you desire upon completion of the project.

I would like to thank you for your assistance in this research project. I am aware of the demands placed upon you, yet with your help I feel a worthwhile contribution to educational improvement may be made.

Sincerely yours,



Jeff Jacobson
Social Studies Dept.
Riverside Junior High

BIOGRAPHICAL INFORMATION

Please respond to the following questions.

4-5. Name of your School _____.

6. Sex _____ Female
(check)

_____ Male

7. Age Group _____ 20-29 years
(check)

_____ 30-39 years

_____ 40-49 years

_____ 50-59 years

_____ 60 or more years

8-9. Total years of teaching experience = _____.

10. Total years of teaching experience in Billings Dist. #2 = _____.

11. Total years of teaching experience in your present building = _____.

12. Time since your most recent participation in a professional development activity. Consider conferences, workshops, in-service, clinics, college classes, etc.. (Please exclude Native American Studies for this study.)

(check) _____ 1 year or less

_____ 2 years

_____ 3 years

_____ 4 years

_____ 5 or more years

PART I "ORGANIZATIONAL CLIMATE"**Marking Instructions**

Printed below is an example of a typical item found in the
Organizational Climate Description Questionnaire:

1. Rarely 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 alternative 3 to show that the interpersonal relationship described by this item "often occurs" at that school. Of course, any of the other alternatives could be selected, depending upon how often the behavior described by the item does, indeed, occur in your school.

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

1. Rarely occurs
2. Sometimes occurs
3. Often occurs
4. Very frequently occurs

13. Teachers' closest friends are other faculty members at this school.	1	2	3	4
14. The mannerisms of teachers at this school are annoying.	1	2	3	4
15. Teachers spend time after school with students who have individual problems.	1	2	3	4
16. Instructions for the operation of teaching aids are available.	1	2	3	4
17. Teachers invite other faculty to visit them at home.	1	2	3	4
18. There is a minority group of teachers who always oppose the majority.	1	2	3	4
19. Extra books are available for classroom use.	1	2	3	4
20. Sufficient time is given to prepare administrative reports .	1	2	3	4
21. Teachers know the family background of other faculty members.	1	2	3	4
22. Teachers exert group pressure on non-conforming faculty members.	1	2	3	4
23. In faculty meetings, there is a feeling of "let's get things done."	1	2	3	4
24. Administrative paper work is burdensome at this school.	1	2	3	4
25. Teachers talk about their personal life to other faculty members.	1	2	3	4
26. Teachers seek special favors from the principal.	1	2	3	4
27. School supplies are readily available for use in class-work.	1	2	3	4
28. Student progress reports require too much work.	1	2	3	4
29. Teachers have fun socializing together during school time.	1	2	3	4

1. Rarely occurs
2. Sometime occurs
3. Often occurs
4. Very frequently occurs

30. Teachers interrupt other faculty members who are talking in staff meetings.	1	2	3	4
31. Most of the teachers here accept the fault of their colleagues.	1	2	3	4
32. Teachers have too many committee requirements.	1	2	3	4
33. There is considerable laughter when teachers gather informally.	1	2	3	4
34. Teachers ask nonsensical questions in faculty meetings.	1	2	3	4
35. Custodial service is available when needed.	1	2	3	4
36. Routine duties interfere with the job of teaching.	1	2	3	4
37. Teachers prepare administrative reports by themselves.	1	2	3	4
38. Teachers ramble when they talk in faculty meetings.	1	2	3	4
39. Teachers at this school show much school spirit.	1	2	3	4
40. The principal goes out of his way to help teachers.	1	2	3	4
41. The principal helps teachers solve personal problems.	1	2	3	4
42. Teachers at this school stay by themselves.	1	2	3	4
43. Teachers accomplish their work with great vim, vigor, and pleasure.	1	2	3	4
44. The principal sets an example by working hard himself.	1	2	3	4
45. The principal does personal favors for teachers.	1	2	3	4
46. Teachers eat lunch by themselves in their own classrooms.	1	2	3	4
47. The morale of the teachers is high.	1	2	3	4

1. Rarely occurs
2. Sometimes occurs
3. Often occurs
4. Very frequently occurs

48.	The principal uses constructive criticism.	1	2	3	4
49.	The principal stays after school to help teachers finish their work.	1	2	3	4
50.	Teachers socialize together in small select groups.	1	2	3	4
51.	The principal makes all class-scheduling decisions.	1	2	3	4
52.	Teachers are contacted by the principal each day.	1	2	3	4
53.	The principal is well prepared when he speaks at school functions.	1	2	3	4
54.	The principal helps staff members settle minor differences.	1	2	3	4
55.	The principal schedules the work for the teachers.	1	2	3	4
56.	Teachers leave the grounds during the school day.	1	2	3	4
57.	The principal criticizes a specific act rather than a staff member.	1	2	3	4
58.	Teachers help select which courses will be taught.	1	2	3	4
59.	The principal corrects teachers' mistakes.	1	2	3	4
60.	The principal talks a great deal.	1.	2	3	4
61.	The principal explains his reasons for criticism to teachers.	1	2	3	4
62.	The principal tries to get better salaries for teachers.	1	2	3	4
63.	Extra duty for teachers is posted conspicuously.	1	2	3	4
64.	The rules set by the principal are never questioned.	1	2	3	4
65.	The principal looks out for the personal welfare of teachers.	1	2	3	4

1. Rarely occurs
2. Sometimes occurs
3. Often occurs
4. Very frequently occurs

66.	School secretarial service is available for teachers' use.	1	2	3	4
67.	The principal runs the faculty meeting like a business conference.	1	2	3	4
68.	The principal is in the building before teachers arrive.	1	2	3	4
69.	Teachers work together in preparing administrative reports.	1	2	3	4
70.	Faculty meetings are organized according to a tight agenda.	1	2	3	4
71.	Faculty meetings are mainly principal-report meetings.	1	2	3	4
72.	The principal tells teachers of new ideas he has run across.	1	2	3	4
73.	Teachers talk about leaving the school system.	1	2	3	4
74.	The principal checks the subject-matter ability of teachers.	1	2	3	4
75.	The principal is easy to understand.	1	2	3	4
76.	Teachers are informed of the results of a supervisor's visit.	1	2	3	4
77.	Grading practices are standardized at this school.	1	2	3	4
78.	The principal insures that teachers work to their full capacity.	1	2	3	4
79.	Teachers leave the building as soon as possible at day's end.	1	2	3	4
80.	The principal clarifies wrong ideas a teacher may have.	1	2	3	4

PART II "EDUCATIONAL CHANGE"

SURVEY OF TEACHER-INITIATED EDUCATIONAL CHANGE

Listed on the following pages you will find examples of methods used in elementary, junior high, and high school classrooms.

Please read the list carefully and circle your response for each of methods included, according to the following criteria:

☐ NO = "I have not used this method in my teaching to date."

☐ CU = "I have been using this method consistently over the years."

☐ NU = "I have used this method for the FIRST TIME during the past semester."

NOTE: When you circle ☐ NU (New Use), briefly describe how you have used the method in your instructional program.

- | | | | |
|--|----|----|----------|
| 1. Student Involvement Activities | | | |
| A. Dramatizations | NO | CU | NU _____ |
| B. Simulations | NO | CU | NU _____ |
| C. Case Studies | NO | CU | NU _____ |
| D. Role Playing | NO | CU | NU _____ |
| E. Other _____ | | CU | NU _____ |
| 2. Team Teaching Activities | NO | CU | NU _____ |
| 3. Individualized Instruction Techniques | | | |
| A. Learning Activity Package (LAP) | NO | CU | NU _____ |
| B. Task Cards | NO | CU | NU _____ |
| C. Programmed Instruction | NO | CU | NU _____ |
| D. Other _____ | | CU | NU _____ |
| 4. Motivational Techniques | NO | CU | NU _____ |
| 5. Classroom Lecture Techniques | NO | CU | NU _____ |
| 6. Affective Domain Activities | | | |
| A. Values Clarification | NO | CU | NU _____ |
| B. Sensitivity Training | NO | CU | NU _____ |
| C. Other _____ | | CU | NU _____ |
| 7. Behavior Modification Techniques | NO | CU | NU _____ |
| 8. Projects/Problem Solving Techniques | NO | CU | NU _____ |
| 9. Guided Discovery/Inquiry Techniques | NO | CU | NU _____ |

10. Demonstration/Laboratory Techniques	NO	CU	NU	_____
11. Student Grouping Techniques	NO	CU	NU	_____
12. Review/Drill and Practice Activities	NO	CU	NU	_____
13. Verbal Interaction Activities				
A. Group Discussion	NO	CU	NU	_____
B. Question and Answer	NO	CU	NU	_____
C. Panels	NO	CU	NU	_____
D. Debate	NO	CU	NU	_____
E. Brainstorming	NO	CU	NU	_____
F. Story Telling	NO	CU	NU	_____
G. Other _____		CU	NU	_____
14. Evaluation Techniques				
A. Of students	NO	CU	NU	_____
B. Of curriculum	NO	CU	NU	_____
C. Of teaching methods	NO	CU	NU	_____
D. Of materials	NO	CU	NU	_____
E. Other _____		CU	NU	_____
15. Curriculum/Content Revisions				
A. Addition of units	NO	CU	NU	_____
B. Deletion of units	NO	CU	NU	_____
C. Other _____		CU	NU	_____
16. Classroom Game/Simulation Activities	NO	CU	NU	_____
17. Learning Center Activities	NO	CU	NU	_____
18. Data Gathering and Documentation Methods				
A. Student Case Studies	NO	CU	NU	_____
B. Anecdotal Records	NO	CU	NU	_____
C. Record/File Keeping	NO	CU	NU	_____
D. Other _____		CU	NU	_____
19. Community Involvement Activities				
A. Field Trips	NO	CU	NU	_____
B. Material Resources	NO	CU	NU	_____
C. Guest Speakers	NO	CU	NU	_____
D. Parent Involvement	NO	CU	NU	_____
E. Other _____		CU	NU	_____
20. Public Relation Activities				
A. With Parents	NO	CU	NU	_____
B. With Community	NO	CU	NU	_____
C. With School System	NO	CU	NU	_____
D. Other _____		CU	NU	_____

21. Media/Materials

- | | | | |
|--------------------------------|----|----|----|
| A. Teaching Machine | NO | CU | NU |
| B. Computers | NO | CU | NU |
| C. Television | NO | CU | NU |
| D. Video Tape | NO | CU | NU |
| E. Radio | NO | CU | NU |
| F. Recordings | NO | CU | NU |
| G. Films, Filmstrips | NO | CU | NU |
| H. Transparencies | NO | CU | NU |
| I. Printed Reference Materials | NO | CU | NU |
| J. Textbooks | NO | CU | NU |
| K. Manipulative Materials | NO | CU | NU |
| L. Chalkboard/Flannel Board | NO | CU | NU |
| M. Other | | CU | NU |

22. Classroom Organization

- | | | | |
|----------------------------|----|----|----|
| A. Seating Arrangement | NO | CU | NU |
| B. Bulletin Board/Displays | NO | CU | NU |
| C. Other | | CU | NU |

23. Other Teacher-Initiated Changes (Please describe briefly in the spaces provided.)

[illegible]

COMMENTS:

Check the box if you wish a project summary. ☐

APPENDIX B

Table 81

Inter-Correlation Matrix
Criterion Variable--Organizational Climate

	Y'	X_1	X_2	X_3	X_4	X_5	X_6	X_7
Y'	1.00	-.04	-.16	-.19	-.18	-.14	-.02	.004
X_1	--	1.00	.02	.14	.20	.34	.08	.31
X_2	--	--	1.00	.75	.68	.50	.20	-.07
X_3	--	--	--	1.00	.87	.61	.23	-.02
X_4	--	--	--	--	1.00	.73	.25	.05
X_5	--	--	--	--	--	1.00	.19	.18
X_6	--	--	--	--	--	--	1.00	.05
X_7	--	--	--	--	--	--	--	1.00

 Y' = Organizational Climate Scores X_1 = Sex X_2 = Age X_3 = Total years of teaching X_4 = Years of experience in
Billings District X_5 = Years of experience in
present building X_6 = Recency of professional
development activities X_7 = Number of teacher-initiated
educational changes

APPENDIX C

Table 82

Percent of Respondents by School

School #	% of Respondents	School #	% of Respondents
1	100	17	100
2	66	18	66
3	90	19	91
4	70	20	83
5	94	21	86
6	91	22	94
7	77	23	81
8	83	24	100
9	85	25	96
10	61	26	88
11	57	27	89
12	100	28	100
13	72	29	100
14	86	30	90
15	100	31	68
16	86	32	94

APPENDIX D

COLLEGE OF EDUCATION
THE EDUCATIONAL RESEARCH CENTER

OFFICE OF THE DIRECTOR
Box 3H/Las Cruces, New Mexico 88003
Telephone (505) 646 1706

September 27, 1979

Dr. Henry Parsons
Assistant Graduate Dean
Reid Hall
Montana State University
Bozeman, Montana 59717

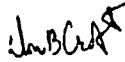
Dear Dr. Parsons:

REF: Jeff Jacobson/OCDQ

This will confirm the fact that, as author, I gave Mr. Jacobson verbal permission to reproduce the OCDQ for use in his study.

If you have further questions, please contact me.

Sincerely,



Don B. Croft
Coordinator
Educational Research Center

DBC/pb



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