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Luis Esteban Garcia

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A SEARCH FOR NEW FACTORS IN ELEMENTARY PUBLIC SCHOOL ORGANIZATIONAL CLIMATE: A STUDY IN THE STATE OF ILLINOIS

By

Luis Esteban Garcia

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ABSTRACT

A SEARCH FOR NEW FACTORS IN ELEMENTARY PUBLIC SCHOOL ORGANIZATIONAL CLIMATE: A STUDY IN THE STATE OF ILLINOIS

By

Luis Esteban Garcia

The main purpose of this study was to develop an organizational climate survey to study principal-teacher interaction in Illinois public elementary schools.

The Elementary School Organizational Climate Survey (ESOCS) was composed of 11 aspects and 52 items. Two hundred elementary schools were selected and the grade teachers and the school principal were asked to respond to the initial form of the ESOCS; 739 subjects from 89 elementary schools agreed to voluntarily participate in the study. Using the school as a unit of analysis, numerous factor analyses and reliability analyses were conducted, converging on seven aspects of school climate and reducing the instrument items to 42. The instrument's aspects further reduced to a second-order factor solution. Factor 1 was named collective participative behavior (open-closed) and Factor 2 was named procedurally rigid behavior (closed-open). The two factor dimensions were used to develop a school typology. Schools were arranged on a continuum from open,

engaged, disengaged, and closed climates. The aspect decision making emerged as a new factor in the measurement of organizational climate and frustration continued to be the weakest scale in the study of school climate.

The mean scores of teachers and principals showed that principals consistently perceived the school climate to be more open than teachers on the seven aspects. Principals in this study seemed to regard themselves as effective leaders.

The one-way ANOVA comparing teachers age for the scale work by the book was significant, $F(3,85) = 3.87$, $p<.013$. The post hoc (Tukey) test indicated that teachers over the age of 47 years perceived the climate differently from the lower age groups. The one-way ANOVA comparing urban and rural schools on the scale routine duties was found to be significant, $F(1,88) = 7.92$, $p<.006$. Rural schools seemed to be engaged in unnecessary busywork that hindered teachers from more important activities.

Finally, the ESOCS-FF proved to be a reliable and valid measurement instrument with theoretical and research implications to be used in the elementary school. The typology developed provides a framework not only to study school climate but also school effectiveness, communication and, leadership.

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CHAPTER I

INTRODUCTION

This chapter of the study presents a background of the study, statement of the problem, discussion of the purpose of the study, significance of the study, research questions, procedural design, limitations of the study, definition of terms, list of independent variables, and organization of the study.

Background of the Study

Every society is composed of formal organizations. The school is considered one of the formal organizations within each society. For decades, the relationship between the school organization and its employees has been of critical interest to researchers, especially school administrators. Organizational climate is a term used to define and understand school organization. School climate has been defined in the literature as "those characteristics that distinguish the organization from other organizations and that influence the behavior of people in the organization" (Litwin & Stringer, 1968, p. 1) and as the "relatively enduring quality of the school environment that is experienced by participants, affects their behavior, and is based on their

collective perception of behavior in school" (Hoy & Miskel, 1987, p. 226). Hoy, Tarter and Kottkamp (1991) argued that there is no standard definition of organizational climate because the definition "is conceptually complex and vague" (p. 260). Several studies have been done to understand organizational climate. For example, the Organizational Climate Description Questionnaire (OCDQ), developed by Halpin and Croft (1962, 1963), has been used in more than 200 studies, including more than eight different countries (Anderson, 1982; Cheng, 1991; Hoy & Miskel, 1987; Silver, 1983).

As stated in the literature, organizational climate is a broad term and one of the most productive concepts created by organizational researchers (Guion, 1973). In the last 30 years, school climate has been associated with the effective schooling qualities of production and job satisfaction (Anderson, 1982; Corcoran, 1985; Edmonds, 1979; Rutter, Maughan, Mortimore, Ousten, & Smith, 1979; Walberg, 1982). The work in the area of school climate has been very extensive. It covers the research field and includes the popular literature (Argyris, 1958; Austin & Garber, 1985; Brookover & Lezotte, 1979; Brookover et al., 1978; Feldvebel, 1964; Lezotte & Passalacqua, 1978; Ouchi & Johnson, 1978; Stevens, 1987). School climate, as denoted by Pritchard and Karasick (1973); Schneider (1972); and Neumann, Reichel, and Abu (1988), has been used as a strong

predictor of attitudinal and behavioral variables such as job satisfaction and decision making; alienation (Hoy, 1972); school discipline (Nwankwo, 1979); principal and school effectiveness (Anderson, 1964); and innovation (Brady, 1988).

As referred to in the literature, within the school climate, there is an interaction that creates a degree of intersubjective agreement among teachers. This interaction is believed to influence the perception as well as behavior of the individual (Hoy & Miskel, 1987; Raudenbush, Rowan, & Kang, 1988).

In the last three decades, several attempts have been made to explore school climate at the elementary school level. Educational leaders and teachers are aware of how a good climate may positively affect school effectiveness, student outcome and performance, as well as personal growth, work attitude and satisfaction (Bailey, 1979; Barker, 1963; Brookover et al., 1978; Coyne 1975; Lezotte & Passalacqua, 1978; Neumann et al., 1988), values (Vyskocil & Goens, 1979), and morals (Edmonds, 1979; Weber, 1971).

The standard practice in the measurement of the school climate has been to survey organization members on a series of items. The related items have been grouped on scale scores where the items load after the performance of a statistical procedure known as factor analysis (Pallas, 1988; Rutter et al., 1985).

The major study in the school climate literature is the work of Halpin and Croft (1962, 1963), who developed the OCDQ. No other instrument has been used more widely to study school climate at the elementary school level. The OCDQ was designed to measure the social interaction of teacher-teacher and principal-teacher. Through a factor analysis method, Halpin and Croft operationalized the interaction of teacher-teacher in four scales (Disengagement, Hindrance, Esprit, and Intimacy) and the interaction of principal-teacher in four scales (Aloofness, Production Emphasis, Thrust, and Consideration). They used the individual as the unit of analysis. Halpin and Croft (1962) also classified schools into a six-prototype continuum from "open" to "closed." They did this by performing a second-order factor analysis on the scores that were double standardized. Inspired by the original work of Halpin and Croft, the OCDQ has been revised for elementary schools (OCDQ-RE) and for secondary schools (OCDQ-RS).

Statement of the Problem

The behavioral interaction of teachers and principals has been studied using different approaches. The most popular is the one developed by Halpin and Croft (1962). Thirty years later, a need exists to find comparable organizational climate scales to be used at the elementary school level. The literature reported that more than 200 studies have been done using the OCDQ and researchers have

reported that there are indications that the instrument was not measuring what it was supposed to measure. And, after 30 years, numerous questions have arisen about the reliability and the validity of both the items and scales (Cheal, 1990; Hayes, 1973; Hoy & Miskel, 1987; Hoy et al., 1991). For those same reasons, Hoy and Clover (1986) revised the OCDQ and developed the OCDQ-RE.

The major problem identified by the writer of this study was to develop an elementary school climate survey. The OCDQ and other instrument item-scales were used as a framework for selecting and developing items and scales for the new instrument.

A second problem of this study was to survey the public elementary schools in the state of Illinois as to the school climate as perceived by their grade-level teachers and the school principal.

Purpose of the Study

The purpose of this study was to develop an organizational climate survey to study the climate in Illinois public elementary schools. Specifically, this study was intended to address 11 different aspects of the school climate considered in the literature by several authors as important components of the school climate.

To develop the scales or aspects and items on the survey, the researcher focused attention on the approaches of five different school climate instrument. The most

important were (a) Halpin and Croft (1962), "Organizational Climate Description Questionnaire" (OCDQ); (b) Hoy and Clover (1986), "Organizational Climate Description Questionnaire RE" (OCDQ-RE); (c) Litwin and Stringer (1968), "Climate Questionnaire" (QC); (d) CFK LTD (1973), "CFK LTD School Climate Profile"; and (e) Likert (1978), "Profile of Organizational Characteristics" (POC). The writer selected the scales or aspects based on (a) a review of literature where 11 aspects emerged as important components of the school climate, (b) consultation with experts in the field of instruction concerning significant aspects of the school climate, and (c) the researcher's own experience as a teacher for 10 years.

The 11 identified aspects were classified into three groups of attributes: for teachers, morale, engagement, routine duties, and frustration; for principals, consideration, trust, production emphasis, and work by the book; and for the general school, communication, decision making, and order and discipline. These aspects are defined later in the chapter. The names of the aspects do not represent any of the above-mentioned approaches. The items on the questionnaire assigned to each aspect were a product of the reviewed literature, two pilot tests, and review by experts. Thus, 52 items were developed or modified from the five approaches mentioned.

Given the 11 elementary school aspects of school

climate, the writer's second purpose was to explore whether or not the various scales hold together through an examination of unspecified factor solutions. This procedure enabled the number of items and scales to be corrected, depending on how they load and group together.

The final purpose of the study was to determine if there is a difference between teachers and principals and to find out if the independent variables--teacher age, years of teaching experience, salary, gender, and school location--have an influence on different aspects of the organizational climate.

Significance of the Study

This study is of educational significance because it contributes to the body of knowledge about organizational climate in elementary schools, specifically in the public schools of Illinois. Further, it is an attempt to provide a view of the interrelationship of school principals and teachers. It is hoped that the results of this study will provide a useful tool for the understanding of school climate teacher-principal interaction. A desired impact will be to reach the research community interested in understanding school climate.

This study identified independent variables for analyzing differences in the scales. The differences in the scales offered additional information which may impact policymakers. Therefore, educational leaders may benefit

from the results of this study. This new instrument could serve not only as a basis for planning new strategies for school improvement programs, but also as a device to assess the results of such efforts. Thus, the results of this study might alert administrators where the school needs active intervention, thus accomplishing the desired goal of diagnosis and prescription.

The writer believes that this instrument will be a valid and reliable tool for use by school districts to measure their organizational climate and develop remedial plans to support needed changes that will, in fact, have an impact on school effectiveness, quality of production, and job satisfaction.

Research Questions

A new school climate instrument to assess the elementary school was developed, consisting of 52 items and 11 scales. The researcher foresaw that a series of steps needed to be taken in order to be able to analyze the data and support the hypothesized scales. In regard to the instrument, the following research questions were proposed:

I. a. What are the number of scales present in the Elementary School Organizational Climate Survey (ESOCS)?

b. What are the qualities of the scales that are identified to be present in elementary public schools in the State of Illinois?

Factor analysis without specification of the number of

factors was conducted to identify the quality of the scales and items. A subsequent step was taken to reconfirm or modify the scales and items. The following criteria were used: (a) Items that failed to load on a particular factor at a value of .40 or crossloaded on two or more factors were considered for deletion, and (b) items that reflected poorly on the total subscale reliability and low correlation (below .40) were considered for deletion. The varimax rotation, without specification of the number of factors, dictated the number of aspects that were used for the rest of the analysis.

II. a. By using second-order factor analysis, can the scales that describe the organizational climate dimensions be defined?

b. If the scales do reduce to a second-order factor analysis, what are the qualities of these scales?

c. Can the schools be categorized into a typology of school climate in terms of openness and closedness?

III. a. Is there any significant difference between the principals' and teachers' perceptions of the school climate?

b. Does the teachers' perception about school climate depend on age, years of teaching experience, salary, gender, and school location?

Descriptive analysis and exploratory MANOVA and ANOVA were used to assess the above research questions.

Procedural Design

Items were developed, changed, or modified to more accurately represent the 11 selected scales. The creation of this instrument started as a class project in a school climate graduate course and took shape in a subsequent class of research methods in which a pilot study using the instrument was conducted. After revision by the instructors, the first draft of the preliminary form was completed. A second pilot study was conducted overseas once the instrument was translated into Spanish. After seeking feedback from experts in the language, the instrument was ready to be tested. Later, the researcher decided to conduct the study in the United States. A final revision occurred when the survey was judged by a group of experts in the field at Northern Illinois University, DeKalb, for content validity. After modifications, a final form was adopted.

Selection of a population was performed by using stratified random sampling. Two hundred thirty-four school districts, representing 18 different regions, were asked to be part of the study on school climate for their elementary schools only. Grade-level (K-6) teachers and the school principal were the only subjects to be involved in the study, and they responded to the initial form of the ESOCS. After approval by the school district, all elementary schools within that district were selected. The data were

obtained through a series of mailed-survey procedures. Finally, after the coding process, the data were entered into a data-based program and later transferred to a mainframe computer for analysis.

Limitations of the Study

Several limitations were identified for this study:

1. The study was limited to the public elementary school level in Illinois.
2. The availability of subjects was limited by (a) the school superintendent's willingness to participate in the study, (b) the school principal's willingness to allow his/her school to be part of the study, and (c) teachers' decisions to participate in the study.
3. The subjects were limited to grade-level teachers (K-6) and school principals.
4. The study was limited by the inherent capability of the instruments to measure the perception of respondents.
5. The study was limited by the instrument's 4-point scale and the possible irrelevancy of some of the items to the individual, the reliance on the honesty of the individual, and the tendency of the individual to give socially acceptable responses.

Definition of Terms

School Climate: the representation of a sufficient level of intersubjectivity agreement within an organization

(school) that is under the influence of formal and informal behavior of its members that is based on their collective perception.

Elementary School: a public educational institution that works with a population of students with an age range of 6 to 12 years, the unit of analysis for this study.

Principal: the appointed chief administrator of an attendance center or elementary school.

Grade-Level Teacher: the person in the elementary school whose primary duty is the instruction of students (K-6).

Organizational Climate Description Questionnaire (OCDQ): The most popular instrument used to study organizational climate at the elementary school level developed by Halpin and Croft (1962, 1963). Their main purpose was to identify the critical aspects of teacher-teacher and teacher-principal interaction in the school, using the individual as a unit of analysis.

Organizational Climate Description Questionnaire for Elementary Schools (OCDQ-RE): The revised instrument drawn from the original OCDQ that was developed by Hoy and Clover (1986) and Hoy et al. (1991). They used the school as the unit of analysis, looking at the critical aspects of teacher-teacher and teacher-principal interaction in the school.

Elementary School Organizational Climate Survey: The

questionnaire developed for the current research. The terms "aspect," "scale," and "factor" are used interchangeably in this study. These terms are common in the organizational climate literature and mean the name that distinguishes a particular descriptor. Eleven aspects were identified and then classified into three groups of attributes: for teachers, morale, engagement, routine duties, and frustration; for principals, consideration, trust, production emphasis, and work by the book; and for the general school, communication, decision making, and order and discipline. Each aspect is defined and an example given from the questionnaire as follows:

Morale: As pointed out by Guba (1958), morale refers to the extra expenditure of energy required to accomplish institutional tasks and or the tendency of expending extra effort in the achievement of group goals. There is a clear sense of belongingness and a notion of community. Teachers believe that their social needs are being satisfied (Fox, 1973; Halpin & Croft, 1962, 1963; Sweeney, 1988). An example is question 2: Teachers tend to expend extra effort to achieve school goals.

Engagement: As pointed out by Kottkamp, Mulhern, and Hoy (1987), engagement is one of the critical aspects of school climate that refers to faculty commitment to the school and to peers and reflects the valuable behavior of involvement and dedication with a positive attitude toward

work. An example is question 7: Even after school, teachers like working with each other.

Routine duties: As pointed out by Halpin and Croft (1962, 1963), this is the faculty's feeling about administrative paper work which keeps teachers busy on nonteaching duties and consumes a great deal of time. An example is question 15: Preparation for routine administrative reports exhausts teachers' time.

Frustration: As pointed out by Kottkamp et al. (1987), frustration refers to the teachers' general patterns of negative expectations that distract them from the basic assignment of teaching. There is a general feeling of a pattern of disengagement and unfairness that interferes with the task of teaching. An example is question 18: Teachers are confused about what is expected from them.

Consideration: Several researchers reported that there is a significant relationship concerning teacher perception of principal consideration (Anderson, 1982; Bell, 1979; Breckenridge, 1976; Fox, 1973; Hopkins, 1990). The principal's behavior is perceived by teachers as a friendly one with an emphasis on mutual respect and support. The principal encourages teachers and motivates them by setting an example through hard work and expending time to help teachers solve problems. An example is question 21: In this school the principal supports the teachers.

Trust: Several researchers have identified trust as a

key element in the interaction-influence process within an organizational environment (Fox, 1973; Likert, 1967; Ouchi, 1981; Sweeney, 1988; Zand, 1972). The principal's behavior is perceived by teachers as an honest one in the establishment of an effective interpersonal relationship with an emphasis on caring, respect, and confidence. Teachers generally take responsibilities considering their true meaning of their actions because there is no element of not believing others. An example is question 28: The principal allows teachers to take extensive responsibility for their job.

Production emphasis: As pointed out by Halpin and Croft (1962) and Hoy and Clover (1986), this refers to the behavior of the principal that is characterized by a constant monitoring and control of school activities, and maintaining consistent performance standards. In this study, production emphasis has a positive meaning as compared to the common negative connotation found in the literature (Halpin & Croft, 1962). An example is question 30: The principal in this school makes sure that teachers work to their full capacity.

Work by the book: As pointed out by Halpin and Croft (1962) and Litwig and Stringer (1968), this refers to the behavior of the principal that is characterized by a rigid and close supervision. The principal's main emphasis is on enforcing rules and regulations, maintaining a social

distance between the main office and the staff, and assuring that teachers go through appropriate bureaucratic channels. An example is question 36: The principal demands that his/her staff follow the rules without any question.

Communication: As reported in the literature, communication is an essential executive function to examine the school as a social system (Hoy & Miskel, 1987; Smith, 1966). More specifically, it is the property of the school and its members to relate to each other in different forms and directions. Teachers and principal communicate among and between each other in an attempt to send and receive open and honest messages, ideas, or attitudes that may enhance the degree of interpersonal relationships between them (Hopkins, 1990; Sweeney, 1988). An example is question 43: There is open and honest communication between teachers and the principal.

Decision making: As pointed out in the literature, the school is basically a decision-making structure, a premise which served as one of the major variables in the 1990s school reform (Barth, 1988, 1990; Weiss, Cambone, & Wyeth, 1992). More specifically, when teachers are included in decision making, they become committed, and a sense of ownership develops. It appears to engage teachers in school issues and it also appears to reduce the sense of frustration (David, 1989; David, Purkey & White, 1988). Teachers' ideas are listened to and they participate in problem

solving in the school (Fox, 1973). An example is question 45: My opinions and ideas are listened to and used in this school.

Order and discipline: The school has been shown in the literature as an oriented order-discipline institution (Etzioni, 1964). One of its major goals is to have control over the students. Specifically, the personnel at the school consider order-discipline as a fundamental condition for effective teaching. Teachers and the principal agree on the meaning, flexibility, and importance of disciplinary actions as a prerequisite for effective learning to take place in the school (Nwankwo, 1979; Squires, Huitt, & Segars, 1983). An example is question 51: The principal and teachers in this school support all disciplinary actions as they are applied in this school.

Independent Variables

1. Teacher age: the number of years that represented the age of the teacher. The average age of teachers in each building was used to examine the relationship between the organizational climate scales and the average age of the faculties.
2. Teacher's years of experience: the number of years that the teacher has worked in the elementary public school. More specifically, the average years of teaching experience was used to investigate the relationship between organizational climate and the scales and the

level of years of teaching experience.

3. Teacher salary: the total amount regularly paid or stipulated for payment to the individual teacher. The average salary was used to examine the relationship between organizational climate and the scales.
4. Teacher gender: the proportion of teachers by gender was identified and used in the investigation of the relationship between the organizational climate and the scales and teachers' gender.
5. School location: the concentration of population in the area, where an urban school has more than 1,500 persons per mile and a rural school has fewer than 2,500 people. The relationship of organizational climate and the scales according to the school location was examined.

Organization of the Study

This study is organized into five chapters. Chapter I includes an introduction, statement of the problem, purpose of the study, significance of the study, research questions, procedural design, limitation of the study, definition of terms, and the organization of the study. A review of current literature pertaining to this study is contained in Chapter II. The methodology and instrumentation used for this study are presented in Chapter III. The analysis of the data is contained in Chapter IV. The summary and conclusions of this investigation are in Chapter V.

CHAPTER II

REVIEW OF RELEVANT LITERATURE

Introduction

In reviewing the research on organizational climate, it was evident that sociologists, administrators, and psychologists have struggled with this concept. Steinhoff and Owen (1976), in their review of the literature, pointed out that the term "climate" is ubiquitous and has been used as a "synonym for atmosphere, setting, culture, milieu, or environment" (p. 179). Other authors have expressed similar conclusions and seem to agree that there are ambiguities in the conceptualization of school climate.

One of the first investigators to use school climate terminology was Cornell (1955), who referred to school climate as a "delicate blending of interpretations by persons in the organization of their job or roles in relationship to others and their interpretation of the roles of others in the organization" (p. 223). Later, Merton and Christie (1958) pointed out that "school climate is a system concept, an event which appears to affect one individual or department while actually having significant influence elsewhere in the system" (p. 27). In the late 1950s, the concept of organizational climate was used mainly in the

social sciences in relationship to work environment research (Null, 1969).

Argyris (1958) is well recognized in literature dealing with organizational climate. In a case study of behaviors of role participants in a bank, he recognized the complexity of studying human behavior in any organization. He said that to approach the organization demands "ordering and conceptualizing a buzzing confusion of simultaneously existing, multilevel, mutually interesting variables" (p. 501). Cornell (1955) and Argyris (1958) worked on the interactions of people in the organization. They isolated and discussed variables that they believed had an effect on people's interactions. Cornell, for example, proposed that the following variables be studied: "teacher morales, teachers' perception of the degree of deconcentration of administrative power in the school system, [and] the extent to which teachers feel they are given responsibility when they participate in policy-making" (p. 225).

In relation to the study of school climate, a major breakthrough took place in the early 1960s. The initial efforts were made by Halpin and Croft (1962, 1963). The pioneering work of Halpin and Croft set the tone for the next 30 years. They developed the Organizational Climate Description Questionnaire (OCDQ), which is the most recognized instrument on school climate. More than 200 studies, including more than eight different countries, have used

this questionnaire. A more in-depth analysis regarding Halpin and Croft's work appears later in this chapter.

Understanding the Definition of School Climate

Understanding school climate has not been an easy task. With respect to the measurement instrument alone, the literature shows that various frameworks exist in the form of observation guides, case analysis techniques, and paper-and-pencil inventories (Steinhoff & Owens, 1976).

> Highly eclectic approaches tend to be popular in diagnosing organizational climate. This may be due to the lack of fundamental clarity as to (1) just what is meant by the term "organizational climate," and (2) what crucial factors or fact define organizational climate. (p. 182)

Despite apparent difficulties in clarifying the definition of organizational climate, several researchers noted that the definitions were quite similar to early descriptions of personality type (Forehand & Gilmer, 1964; Halpin & Croft, 1963; Hoy et al., 1991; Tagiuri & Litwin, 1968). As stated by Halpin and Croft (1963), "personality is to the individual what 'climate' is to the organization" (p. 1). Halpin and Croft (1966) clarified their definition of organizational climate by referring exclusively to the social interaction between the principal and the teachers.

Organizational climate has been defined by Feldvebel (1964) as "patterns of social interaction characterizing an organization. The main units of interaction in this concept of climate were individuals, the group as a group, and the

leader" (p. 1); and by Hamatz (1966) as "the set of characteristics which describes an organization and (a) distinguishes the organization from other organizations, [and] (b) are relatively the behavior of people in the organization" (p. 21).

In an effort to determine a more precise definition of organizational climate, Tagiuri and Litwin (1968) concluded that the following attributes were more or less common to the concept of organizational climate: (a) a concept, like personality; (b) a particular situational variable; (c) determined by characteristics, conduct, attitude, and expectation of people; and (d) an indirect determinant of behavior in that it acts upon attitudes, expectations, and states of arousal which are direct determinants of behavior. Tagiuri and Litwin (1968) stressed that

> organizational climates are an enduring quality of the internal environment of an organization that: (1) is experienced by its members, (2) influences their behavior, and (3) can be described in terms of the values of a particular set of characteristics or attributes of the organization. (p. 26)

Tagiuri and Litwin (1968) went further to formulate four descriptive dimensions that have been used to examine the literature on school climate. The descriptive dimensions are ecology, milieu, social system, and culture. Ecology is the physical and material aspect of school; milieu, the social aspects of particular individuals and group in the school; social system, the pattern of relationships that exist between individuals and groups in organizations; and

culture, the belief system, value, and cognitive structure (Anderson, 1982; Hoy et al., 1991; Miskel & Ogawa, 1988; Tagiuri & Litwin, 1968).

Stated in a similar way to Hoy and Miskel (1987) and Tagiuri and Litwin (1968), Hoy et al. (1991) defined school climate as "the relatively enduring quality of the school environment that is experienced by participants, affects their behavior, and is based on their collective perception of behavior" (p. 10). Neumann et al. (1988) summarized the concept for school organization by pointing out that climate is an enduring quality of the school environment and is "(1) affected by the principal's leadership; (2) experienced by teachers, and (3) based on collective perceptions" (p. 84).

Selected Research on Organizational Climate

The literature related to school climate has pointed out that a desirable school climate has a set of conditions which are associated with increased teacher effectiveness, student learning, and parental support. Teacher evaluation and staff development practices are often successfully combined and delivered in schools which have created and maintained a desirable school climate. The phrase "school climate" began to appear regularly in the educational literature research in the 1970s (Kelley, 1980). Researchers have developed valid and reliable assessment tools to measure climate in the school (Hoy et al., 1991), and it has

been stated by several researchers that effective schools share a number of characteristics. One characteristic consistently has arisen to the top: "a winning school climate" (Sweeney, 1988). Among the factors that Sweeny believed were common in an effective school were:

- having a supportive, stimulant environment;
- having a sense of family;
- maintaining open lines of positive communication; [and]
- bonding together with trust. (p. 1)

Fox (1973) identified similar factors common to effective schools:

- Respect by students, teachers, and administrators for themselves and others;
- Trust and confidence that others can be counted on to behave honestly;
- High morale or a good feeling about what is happening in the school;
- Opportunities for everyone to contribute ideas; [and]
- Caring or a feeling that people are concerned about each other. (p. 31)

Squires et al. (1983) stated that school climate consisted of three conditions: an emphasis on academics, an orderly environment, and expectation for success. They found the following academic factors present in effective schools:

- Teachers and principal support the academic focus of the school by spending most of the day on instructional activities;

- Teachers who give and mark homework; [and]

- Academic learning is the primary focus of the school. (pp. 66-67)

Successful school emphasizing an orderly environment have:

- Students who know that faculty work together to enforce school rules and to strictly control classroom behaviors; [and]

- Punishment delivered in a way that indicates firm disapproval of misbehavior while avoiding humiliation and avoiding modeling violence. (pp. 69-70)

Successful schools emphasizing expectations for effectiveness have:

- Teachers and principals who believe and expect all students, regardless of race or class, to master the academic work; and

- Students who believe that work is more important than luck in order to succeed. (p. 71)

Hopkins (1990), in his study regarding teachers' psychological states and the use of educational ideas, found the following factors related to school climate:

- Principals who are perceived as supportive figures are actively involved; [and]

- High degree of internal communication provides the opportunities for staff to engage in frequent discussions about an innovation (thus increasing the possibility of its successful implementation). (p. 61)

Organizational Climate Measurement Instruments

The most relevant work regarding organizational climate measurement instruments used in elementary and secondary education has been sorted out into Tagiuri's organizing scheme and listed in Appendix A, as analyzed by Anderson

(1982) and Mulhern (1984).

As mentioned at the beginning of the chapter, Anderson (1982) used the four profiles presented by Tagiuri (1968) as the major dimensions present in the environmental quality of an organization. The four descriptive dimensions--ecology, milieu, social system, and culture--were found by Anderson to be useful organizing devices in the delineation of school climate literature. The criteria used are to some extent arbitrary, as Anderson pointed out. It has been shown by researchers that "Tagiuri's dimensions are perhaps too broad to be precisely defined in an operational sense, and some of the dimensions seem to overlap considerably" (Cheal, 1990, p. 19). Anderson (1982) found that "the majority of factors measured by school climate instruments seem to fall in the social and cultural dimensions" (p. 379).

In considering some of the major organizational climate instruments found in the literature, it is apparent a great deal of diversity exists. For example, Likert (1978) developed the "Profile of Organizational Characteristics" (POC), which is a very transparent instrument based on four managerial practices: (a) supportive behavior, where each subordinate feels support and maintains a sense of personal worth; (b) group method of supervision, where the manager is the guide and relies on group meetings in which the main goal is to have people together; (c) high performance goals, where the leader is a guide helping the group to set

performance goals that are realistic and obtainable; and (d) linking pin function, where the leader acts as an intermediary between his/her group and higher management.

Likert (1978) constructed the instrument based on six organizational variables: leadership, motivation, communication, decisions, goals, and control. He drew a continuum from System 1 to 4 to attempt to move the organization from theory "X" to "Y." The basis of System 1 is that the manager does not have confidence in his/her subordinates because they are seldom involved (task oriented). System 2 is where the manager is seen as having a lack of confidence and trust in subordinates but goals are made at the top (intermediate). System 3 is where the manager has substantial but not complete confidence and trust in subordinates and the decisions are kept at the top (intermediate). System 4 is where the manager has complete confidence and trust in subordinates and decisions are shared (relationship oriented) (Likert, 1967, 1978).

A different approach was developed by Litwin and Stringer (1968). The "Climate Questionnaire" (CQ) was drawn from the work of Atkinson and Cartwright (1964). The Atkinson model is considered intrinsic to the individual where AM = M x E x I (arousal motivation is equal to motive by expectancy by incentive) (p. 12). Litwin and Stringer (1968) constructed their instrument based on three kinds of need: (a) achievement--refers to the need to excel in

competing with others, solving problems, and taking responsibility; (2) power--refers to the need to control and influence others; spending time to gain authority, the leader looks for high structure; (3) affiliation--refers to the need for warm friendly relations; the leader is always helping, counseling, and making social relations. The instrument was composed of nine scales: structure, responsibility, reward, risk, warmth, support, standards, conflict, and identity. In this approach, three types of leaders emerged: (1) authoritarian (power), (2) loose (informal), and (3) high productivity (achievement).

Another approach was presented by CFK LTD (1973) in the "CFK LTD School Climate Profile." CFK LTD looked for school climate determinants, pointing out that a positive climate is both a means and an end. Thus, a good climate has to include "productivity" and "satisfaction," because one without the other is insufficient. Productivity is basically achieving the basic skill and developing constructive attitudes with a clear set of values. Satisfaction is basically gaining a sense of personal growth and the enjoyment of working in the school as a pleasant place to give and gain reward.

The instrument developed by CFK LTD (1973) was composed of eight factors: respect, trust, high morale, opportunity for input, continuous academical social growth, cohesiveness, school renewal, and caring. CFK LTD also used the

basic needs developed by Maslow (1943) for student education. These included (a) physiological needs (e.g., light); (b) safety needs (e.g., security); (c) belonging (e.g., acceptance and friendship); (d) esteem (e.g., achievement and recognition); and (e) self-actualization (e.g., need for maximized potential achievement). According to CFK LTD, there were three school determinants: (a) program determinants (opportunity for active learning), (b) process determinants (the problem-solving ability of the school in identifying and working with conflicts), and (c) material determinants (the adequate resources and the supportive and efficient logistical system of the school).

Major Organizational Climate Measurement Instruments for Elementary Schools

The literature revealed that Halpin and Croft's (1962, 1963) pioneer work regarding conceptualization and measurement of the school climate was the most well-known and widely accepted. Halpin and Croft assumed that people's perceptions were a valid source of data. The purpose of an assessment of organizational climate, then, was to obtain an objective description of those perceptions.

Halpin and Croft (1962) began mapping the organizational climate of schools when they observed that (a) schools differ markedly in their feel, (b) the concept of morale does not provide an index of this feel, (c) "ideal" principals who were assigned to schools where improvement

was needed were immobilized by the faculties, and (d) the topic of organizational climate was generating interest (Hoy & Miskel, 1987; Hoy et al., 1991).

Halpin and Croft (1962) clarified that their context to study school climate was narrowed to the exclusive social interaction between the teachers and principal. They generated items that were classified using the following group interaction scheme:

1. Interaction determined primarily by the leader's behavior;
2. Behavior attributable to characteristics of the group;
3. Interactions determined by procedures or by actions of an executive in a position hierarchically superior to the leader himself (e.g., the superintendent and the board of education limit the principal's range of decision); and
4. Interactions determined primarily and hence associated directly with the "personality" assets and liabilities of the individual. (p. 19)

The items collected were classified into aspects of school climate using an intuitive, common-sense basis. As the process moved on, items were then selected for testing. More than 1,000 items were developed. Using inductive and deductive methods, the items were arranged; eight subtests were "verified" by factor analysis. This preliminary step was done before the OCDQ was finalized into 64 items (Halpin & Croft, 1962).

The approach that Halpin and Croft (1962) used involved a descriptive questionnaire to identify important aspects of

teacher-teacher and teacher-principal interaction. The first four factors described the teachers' perceptions and how the teachers related to other teachers in their school environment. The second climate factors were the collective perception of teachers concerning the principal:

Teacher's Behavior

1. Disengagement refers to the teacher's tendency to not be "with it," that is, "to go through the motions" without commitment to the task at hand.

2. Hindrance refers to the teacher's feelings that the principal burdens them with routine duties, committee work, and other unnecessary busy work.

3. Esprit refers to morale growing out of a sense of both task accomplishment and the satisfaction of social needs.

4. Intimacy refers to the teacher's enjoyment of warm and friendly social relations with each other.

Principal's Behavior

5. Aloofness refers to formal and impersonal principal behavior; the principal goes by the "book" and maintains social distance from subordinates.

6. Production Emphasis refers to close supervision. The principal is highly directive and not sensitive to faculty feedback.

7. Thrust refers to dynamic behavior in which the principal attempts to "move the organization" through the example the principal personally sets for teachers.

8. Consideration refers to warm, friendly behavior by the principal. The principal tries to be helpful and do a little something extra for the faculty. (cited in Hoy et al., 1991, p. 14)

Further analyses were done to investigate how the scales clustered together. Thus, a second-order factor analysis was performed. Halpin and Croft (1962) decided

that a three-factor solution best described the underlying structure of the eight subtests. The intimacy and consideration joined together to become the social need factor; esprit and thrust merged to form Factor 2, or the behavior of the group that was later called esprit; aloofness and production emphasis merged together to form Factor 3, or social control. Halpin and Croft (1962) used the individual as the unit of analysis.

Halpin and Croft (1962) double standardized the scores with a mean of 50 and standard deviation of 10, and then items were subjected to a three-factor solution as determined by the three factors identified in the second-order factor solution. Thus, six basic school climates were arrayed along a rough continuum from open to closed. The six patterns were named and ranked: Open, Autonomous, Controlled, Familiar, Paternal, and Closed. Then a prototype profile was developed using the school as the unit of analysis (Table 2.1).

The distinctive features of the open climate are its high degree of thrust, esprit, and low engagement. This combination suggests a climate in which both the principal and faculty are genuine in their behaviors. The closed climate is characterized by a high degree of apathy on the part of all members of the organization. The esprit is low because group members secure neither social-needs satisfaction nor the satisfaction that comes from task achievement.

Table 2.1.--Characteristics of prototypic profiles for each climate type.

Climate Dimension	Climate Type					
	Open	Autonomous	Controlled	Familiar	Paternal	Closed
Disengagement	Low*	Low	Low	High	High	High
Hindrance	Low	Low	High	Low	Low	High
Esprit	High*	High	High	Average	Low	Low*
Intimacy	Average	High	Low	High	Low	Average
Aloofness	Low	High	High	Low	Low	High
Production Emphasis	Low	Low	High	Low	High	High
Thrust	High*	Average	Average	Average	Average	Low*
Consideration	High	Average	Low	High	High	Low

*Salient characteristic of the open and closed climates.

Note. From Open School/Healthy Schools: Measuring Organizational Climate (p. 16) by W. Hoy, J. Tarter, and R. Kottkamp, 1991, Newbury Park, CA: Sage.

Members' behavior can be construed as unauthentic; indeed, the organization seems to be stagnant.

Criticism of the OCDQ

The weaknesses and limitations of the OCDQ are numerous. First, the criticism about the six discrete climates identified by Halpin and Croft (1962) is discussed. The six major patterns have been questioned, in particular the "middle climate" (Andrews, 1965; Silver, 1983; Watkins, 1968). It seems to be a consensus that the open to closed continuum is a "crude rank," as admitted by Halpin and Croft

(1962, p. 78). Brown (1964), in a replication of the study using the OCDQ, generated eight patterns rather than six climate types. Brown suggested that it was not advisable to place schools into discrete climates. Thomas (1976) also questioned the validity and reliability of the open to closed continuum.

The OCDQ has been criticized for not being well suited for the study of secondary schools, especially urban schools. Problems have been shown with the middle climate category, which seems to be the most vague. The validity of the instrument has been questioned, given indications that the instrument may not be measuring what it was supposed to measure (Carver & Sergiovanni, 1969; Halpin, 1966; Hoy & Clover, 1986; Miskel & Ogawa, 1988; Watkins, 1968).

The OCDQ also has been criticized by Silver (1983). She pointed out that there is a problem with the clear logic of the conceptual framework of the OCDQ. Silver remarked that the hindrance aspect referred to administrator demands and not teachers' behaviors. Also, production emphasis is mislabeled, according to Silver. It measured close and autocratic control by the principal, not an emphasis on high production. Halpin and Croft (1962) recognized the inadequacy of the concept of consideration, suggesting that two or more facets of considerate behavior have been confounded within a single measure.

The unit of analysis has been another source of

criticism because Halpin and Croft (1962) used a total analysis approach to determine the eight basic scales. Sirotnik (1980) maintained that the appropriate procedure is the between analysis because the property of the study is viewed as fundamentally intrinsic to the group, as is the case in the school. Other researchers, including Anderson (1982), Austin and Garber (1985), and Burstein (1980), cautioned about the use of the total analysis as compared to the between analysis as suggested by Sirotnik (1980). Another criticism is the fact that the study was limited to the relationship of teacher-principal; and the prime participants of the school--in this case, the students--were not present (Hoy et al., 1991).

The OCDQ has been highly criticized; and for that reason, Hoy and Clover (1986) developed a simplified version of the OCDQ. This revised climate instrument for elementary schools (OCDQ-RE) is a 42-item survey that uses six scales.

For the construction of the revised OCDQ-RE, Hoy and Clover (1986) used the following strategy. They reviewed the 64 original items of the OCDQ, performing a scrutinized factor loading for each item within the eight subtests. Twenty-four items with low factor loading were dropped. Subsequently, they decided to broaden the scope by adding new items, particularly those relating to teacher-student interaction, using the following criteria:

1. Each item reflected a property of school;

2. The statement was clear and concise;

3. The statement has content validity; and

4. The statement has discriminatory potential. (Hoy et al., 1991, p. 27)

On the development of the scales, the concept of hindrance was viewed as a characteristic of the principal and not as a dimension of the teacher, as denoted by Halpin and Croft (1962). Special consideration was given to the subscale production emphasis, aloofness, and hindrance due to the fact of conceptual clarity and labeling (Hayes, 1973).

The preliminary revised OCDQ-RE was composed by 131 untested items that needed to be pilot tested. A sample of 38 elementary schools was used in the pilot test using the school as unit of analysis, as suggested by Sirotnik (1980). To reduce the number of items, Hoy and Clover (1986) used three criteria:

> (1) items that loaded high on one factor and low on all other were retained; (2) items were evaluated for conceptual clarity and fit with primary items in the factor; and (3) items were eliminated if they reduce substantially the internal consistency of the subtests. (p. 99)

Using these criteria, 56 items were eliminated because of their low-factor loading (<.3) across all factors. Further reductions of items were done after the examination of items that loaded together from more than one subscale, as in the case of consideration and thrust. Also, items that spread across several scales were dropped, as in the case of the

items developed to measure "pupil control." As a result, a total of 42 items remained.

In the construction of the revised OCDQ-RE, six dimensions emerged--three describing the principal's behavior and three describing the teacher's behavior. Items belonging to the original subscale of consideration and thrust combined to form one factor--"the supportive principal behavior." The old and new production emphasis also clustered to form one factor called "directive leader behavior." The revised version of hindrance formed the factor called "restrictive leader behavior." On the other hand, for the teachers, the original esprit dimension suffered a major change and the new factor was called "collegial teacher behavior." The original OCDQ intimate and disengaged teachers remained with minor changes. These two factors are called "intimate teacher behavior" and "disengaged teacher behavior." The six dimensions were summarized by Hoy et al. (1991).

> Supportive principal behavior reflects a basic concern for teachers. The principal listens and is open to teacher suggestions. Praise is given genuinely and frequently, and criticism is handled constructively. The competence of the faculty is respected, and the principal exhibits both a personal and professional interest in teachers.
>
> Directive principal behavior is rigid, close supervision. The principal maintains constant monitoring and control over all teacher and school activities, down to the smallest detail.
>
> Restrictive principal behavior is behavior that hinders rather than facilitates teacher work. The principal burdens teachers with paperwork, committee

requirements, routine duties, and other demands that interfere with their teaching responsibilities.

Collegial teacher behavior supports open and professional interactions among teachers. Teachers are proud of their school, enjoy working with their colleagues, and are enthusiastic, accepting, and mutually respectful of their colleagues.

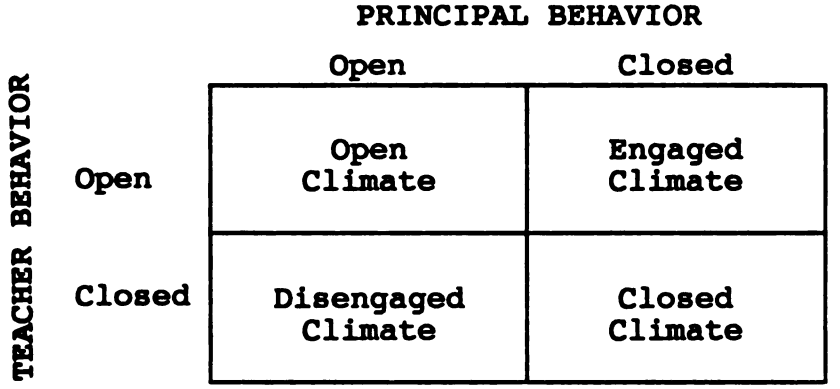
Intimate teacher behavior is cohesive and strong social relations among teachers. Teachers are proud of their school, enjoy working with their colleagues, and are enthusiastic, accepting, and mutually respectful of their colleagues.

Disengaged teacher behavior signifies a lack of meaning and focus to professional activities. teachers simply are putting in time in nonproductive group efforts; they have no common goals. In fact, their behavior often is negative and critical of their colleagues and the school. (p. 32)

Following the development of the new OCDQ-RE, it was ready for testing. In a study conducted in New Jersey, 70 elementary schools were selected and factor analyses were performed. The instrument seemed to be stable, confirming its validity and reliability, and explaining 67.2% of the variance. The alpha coefficients show the reliability of the scores for the subtest. For example, the lowest alpha was .75 for disengaged and the highest was .95 for supportive. These results show that the scales were relatively independent of each other (Hoy & Clover, 1986; Hoy et al., 1991).

The two categories of the six subtests of the OCDQ-RE were defined by Hoy and Clover (1986) and Hoy et al. (1991) as a general construct of openness, understanding that openness in principal behavior is independent of openness in

faculty behavior; hence, "two continua of openness anchored the conceptualization of the climate of elementary school and provided basis for a four-celled typology . . . of school climate: Open, Closed, Engaged, and Disengaged Climates" (Hoy et al., 1991, p. 44) (Figure 2.1).



Note. From Open School/Healthy Schools: Measuring Organizational Climate (p. 44) by W. Hoy, J. Tarter, and R. Kottkamp, 1991, Newbury Park, CA: Sage.

Figure 2.1.--Typology of school climates.

A description of each climate as shown in Figure 2.1 was stated by Hoy et al. (1991):

> Open climate. The distinctive characteristics of the open climate are cooperation, respect, and openness that exist within the faculty and between the faculty and principal. The principal listens and is receptive to teacher ideas, gives genuine and frequent praise, and respects the competence of faculty (high supportiveness). Principals also give their teachers freedom to perform without close scrutiny (low directiveness) and provide facilitating leadership devoid of bureaucratic trivia (low restrictiveness). Likewise, the

faculty supports open and professional behavior (high collegial relations) among teachers. Teachers know each other well and typically are close personal friends (high intimacy). They cooperate and are committed to teaching and their job (low disengagement). In brief, the behavior of both the principal and teachers is genuine and open.

Engaged climate. The engaged climate is marked, on one hand, by ineffective attempts of the principal to lead, and on the other, by high professional performance of the teachers. The principal is rigid and authoritarian (high directiveness) and respects neither the professional expertise nor personal needs of the faculty (low supportiveness). In addition, the principal is seen as burdening faculty with unnecessary busy work (high restrictiveness). Surprisingly, however, the teachers simply ignore the principal's unsuccessful attempts to control, and conduct themselves as productive professionals. They respect and support each other, are proud of their school, and enjoy their work (high collegiality). They not only respect each other's professional competence but they like each other as friends (high intimacy). The teachers come together as a cooperative unit engaged and committed to the teaching-learning task (high engagement). In brief, the teachers are productive in spite of weak principal leadership; the faculty is cohesively committed, supportive, and engaged.

Disengaged climate. The disengaged climate stands in stark contrast to the engaged climate. The principal's leadership behavior is strong, supportive, and concerned. The principal listens and is open to teachers' views (high supportiveness); gives teachers the freedom to act on the basis of their professional knowledge (low directiveness); and relieves teachers of most of the burdens of paperwork and bureaucratic trivia (low restrictiveness). Nevertheless, the faculty reacts badly; teachers are unwilling to accept responsibility. At best, the faculty simply ignores the initiatives of the principal; at worst, the faculty actively works to immobilize and sabotage the principal's leadership attempts. Teachers not only dislike the principal but also do not especially like each other as friends (low intimacy) or respect each other as colleagues (low collegiality). The faculty clearly is disengaged from their work. Although the principal is supportive, flexible, and noncontrolling (i.e., open), the faculty is divisive, intolerant, and uncommitted (i.e., closed).

> Closed climate. The closed climate is the antithesis of the open. The principal and teachers simply go through the motions, with the principal stressing routine trivia and unnecessary busywork (high restrictiveness) and teachers responding minimally and exhibiting little commitment to the tasks at hand (high disengagement). The principal's leadership is seen as controlling and rigid (high directiveness) as well as unsympathetic and unresponsive (low supportiveness). The misguided tactics are accompanied not only by frustration and apathy, but also by suspicion and a lack of respect of teachers for their colleagues as well as the administration (low intimacy and noncollegiality). In sum, closed climates have principals who are nonsupportive, inflexible, hindering, and controlling, and a faculty that is divisive, apathetic, intolerant, and disingenuous. (pp. 39-41)

The Elementary School Organizational Climate Survey Framework

The ESOCS was developed as a product of a process that started in a graduate school climate course, and further developed in a subsequent graduate class on research methods, where the first scales and items were developed and submitted to a process of revisions. The first draft was piloted in the Lansing, Michigan, area using an evaluation pilot form (Appendix B) to correct items. The corrected questionnaire was then submitted and final suggestions from the instructor were adopted. The ESOCS was further piloted when the instrument was translated into Spanish. The pilot took place in the city of Barquisimeto in Venezuela. The same pilot evaluation form was used to correct items. Later, the writer decided not to conduct the study in Venezuela but in the state of Illinois. The ESOCS was then adopted on its preliminary draft and a third round of

revisions occurred when the survey was judged by a group of experts in the field at Northern Illinois University, DeKalb, for the content validity of the preliminary form of the survey. After modification, a final form was adopted.

As mentioned previously, the ESOCS has 11 scales chosen from the literature as relevant components of the organizational climate. The 11 identified aspects were classified into three groups of attributes: for teachers, morale, engagement, routine duties, and frustration; for principals, consideration, trust, production emphasis, and work by the book; and for the general school, communication, decision making, and order and discipline. The 11 scales were defined in Chapter I.

CHAPTER III

METHODOLOGY

The purpose of this study was to develop an organizational climate survey to study the climate in Illinois public elementary schools. Specifically, this chapter includes a description of the research design and methodology used in the study, including the instrument development, preliminary form, initial form, sampling procedures, data collection, sample returns, treatment of the data, factor analysis, second-order factor analysis, the differences between teachers and principals, and the independent variables.

The Instrument

As stated previously, the researcher, based on the literature review in Chapter II, chose 11 aspects that have emerged as important components of the school climate. This decision was reached as a result of suggestions by experts in the field and the researcher's personal experience as a teacher. These 11 aspects of school climate served as the structure for the selection of items for use on the questionnaire. The researcher wants to point out that there are other important aspects in the literature; however, it was necessary to set a limit on the number which could be used

within the confines of the present study.

The 11 identified aspects were classified into three groups of attributes: for teachers, morale, engagement, routine duties, and frustration; for principals, consideration, trust, production emphasis, and work by the book; and for the general school, communication, decision making, and order and discipline. Each aspect was defined in Chapter I.

Preliminary Stage of the Instrument

Using the definitions described above, 11 items were generated to represent the various aspects of the ESOCS. The researcher, after selecting the aspects, decided to select items from the measurement instrument developed by Halpin and Croft (1962), Hoy and Clover (1986), Litwin and Stringer (1968), CKF LTD (1973), and Likert (1978). The first 15 items were taken from the above instrument with slight modification (first draft) to represent the hypothesized aspect. Additional items not contained in the above instrument were created from the literature in the field. One of the researcher's purposes was to enhance the number of aspects commonly used in the literature mentioned before. Therefore, 11 aspects were chosen. For the first draft, 6 items per aspect were developed for a total of 66; and, after the first feedback from the instructor in the methods class, these were reduced to five per aspect for a total of 55.

A second draft was produced after the first pilot study

(Lansing, Michigan). Several items were changed to a more consistent wording. A decision was made to modify all original items, altering their intent. A second draft incorporated the suggestions, resulting in the preliminary form of the ESOCS. Thus, 55 items comprised the ESOCS preliminary form.

Following this step, the ESOCS was translated into Spanish to be used in the public school of Venezuela. The instrument was translated and reviewed for verification of the correct meaning and interpretation of the ESOCS in Spanish with the Venezuelan student population in Lansing, Michigan. Later, the instrument was pilot tested in the city of Barquisimeto, Venezuela, elementary school. A few changes in wording were made, although the number of items and aspects remained the same.

The Initial Form of the Instrument

The researcher later decided to conduct the study in the United States, more specifically in the state of Illinois, to gain more insight and input. Therefore, a review by a panel of experts was carried out at Northern Illinois University, DeKalb, Illinois, where the preliminary form of the survey was judged for content validity by a group of experts in the field. During each review, an evaluation form was used to check for ambiguity, bias, personal opinions, and difficulty with the vocabulary (Appendix B). Also, the researcher interviewed the judges

to find out whether the items truly represented a source of measure for that particular aspect. The criteria established for the selection of the items were that the items should: (a) reflect a property of the school, (b) be clear and concise, (c) have content validity, and (d) have discriminatory potential (Hoy et al., 1991). After feedback from the judges, the final form of the ESOCS was ready to be tested. A total of 52 items remained from the preliminary 55 items (Appendix C).

The ESOCS included a brief statement on the front page indicating the researcher's interest in gathering the teacher's perceptions of the present school climate. Directions consisting of five steps were provided with an example. Teachers were asked to indicate the response that most accurately describes their perceptions by carefully circling the best answer to every statement on the following Likert-type scale:

1. Rarely occurs
2. Occasionally
3. Frequently
4. Very Frequently

The instrument was printed at Northern Illinois University and was mailed thorough the Department of Physical Education. Before mailing the instrument, permission was granted by the Michigan State University Committee on Research Involving Human Subjects. It was

stated that the rights and welfare of human subjects appeared to be protected (Appendix D).

Sampling Procedure

The present study was narrowed to the elementary public schools in the state of Illinois. The population in this study consisted of elementary grade teachers (K-6) and the school principals.

The first step in accessing the population was to draw a representative stratified random sample of school districts in the 18 Education Service Centers (regions) in the state of Illinois (Appendix E). A stratified random sample of each school district was developed using the services of the Social Science Research Institute at Northern Illinois University. The selection was made proportionally per center; the computer also produced five mailing labels for each school district to provide for the follow up. A total number of 234 school districts was drawn from a total of 972, and this number was divided by 18 (regions). An average of 13 school districts per region was selected. The computer mailing labels came with the coding identification of the school district superintendent (Appendix F). After a response from the superintendent that his/her school district would participate in the study (Appendix G), all elementary schools within that district were chosen and a letter was sent to the school principal requesting permission to use the school as one unit of this study (Appendix

H). A total of 200 elementary schools were selected, and 89 decided to participate in the study. In summary, from the original sample size (234), 15.3% of the school districts agreed to be part of the study and 44.5% of the schools participated in the project. After the principal responded that his/her school would be part of the study, all grade teachers at that school, including the building principal, were chosen. A total of 739 subjects from 89 elementary schools agreed to participate in this study.

Data Collection

Each randomly selected school district superintendent received a packet containing a cover letter from the researcher (Appendix I) explaining the purpose of the study. A copy of the instrument was included for the superintendent's review (Appendix C). A self-addressed, pre-paid envelope was also included. An approval form (Appendix G) was attached which contained two options: (a) yes, the school district will participate in the study, and (b) no, the school district will not participate in the study. The school superintendents were asked to provide a reason for not participating in the study.

A 15-day period was established to receive responses by the superintendents. A follow-up letter of transmittal (Appendix J) was sent, and a phone call was made after another 15 days to secure a response by the superintendent.

The superintendent response was 48% of the sample size

(234). From that response, 15.3% said yes and 32.7% said no. The school districts' reasons for not participating could be summarized in the following way: (a) time constraints for the district and faculties, (b) similarity of project currently in process within the district, (c) a straightforward "we don't want to participate," and (d) currently too much tension between the district and union.

The school districts willing to participate expressed their desire to have a copy of the study; and some of them pointed out that there was no need to contact the school district for this matter. They said that the school principal can be contacted directly to request permission to use their school in the study.

Each selected elementary school building principal received a packet containing a cover letter (Appendix H) explaining the purpose of the study and requesting permission to access teachers at that school. The principal was asked to send a list of teachers' names if the school would participate in the study. A self-addressed pre-paid envelope was included for the return of the principal's response. After 10 days, the researcher called schools that did not respond to the first contact to ensure that each building principal received the information. A total of 200 elementary schools was selected, and 92 decided to be involved in the study. Three schools decided to drop from the study; therefore, the final number of schools partici-

pating was 89.

After receiving the names of the teachers from the school, the researcher selected all K-6 teachers within that school and the building principal. An individual, personalized envelope containing the instrument and a cover letter (Appendix K) was sent to each subject chosen. A self-addressed pre-paid envelope was included for the return of the survey. A total of 739 grade teachers (K-6) from 89 schools returned the instrument. After 10 days of the first mailing, a reminder follow-up letter was sent to schools that had not responded.

Sample Return

From the 200 elementary schools selected for this study, 44.5% participated in the project. A total of 739 teachers and 89 elementary schools desired to participate voluntarily. It could be said that the sample return is a moderate one, compared with the standard return on the social science type of research including schools where a 50% return is considered adequate. For this study, the number of schools is critical due to the fact that schools are the unit of analysis. A debate among researchers still is unsolved in relation to (a) number of items in relation to number of cases, and (b) minimum of cases per item (Cattel, 1952; Rummel, 1970; Sirotnik, 1980).

After the return, the instrument was coded and entered into a data base. Later the raw data were transferred to

the mainframe computer at Northern Illinois University. The Statistical Package for the Social Sciences (SPSS-X, Release 4.1) was the software used for the statistics analysis procedures.

Treatment of the Data

After receiving the instrument, a procedure was established to check individual and total responses of the schools. Every survey was carefully checked; subjects who omitted a page, or more than 10 items, were dropped from the data set. A data base was programmed where items 1 to 52 were entered at 0 for no response to 1 to 4 as possible responses for each item. The data base, therefore, helped to minimize human error because only numbers from 0 to 4 could be entered. Finally, the computer print out was compared with the individual survey. All cases found to be recorded incorrectly were then corrected in the software data bank. After correction, the data were transferred to the main frame. As mentioned before, the analysis of the data was done on the Northern Illinois University mainframe computer.

Working in the same direction as Sirotnik (1980), the school was held as the unit of analysis in this study. Therefore, the study had 89 units. To do so, means were computed on the items across individuals within each group, and then an items-correlation matrix from 89 schools was factor analyzed. Consequently, as pointed out by Hoy et al.

(1991), Cheal (1990), and Sirotnik (1980), the measurement in this study must be interpreted as an estimate of the magnitude of an attribute of the school, not an attribute of teachers in the school.

Potential problems using the between-group analysis have been identified by Sirotnik (1980), Cattel (1952), and Rummel (1970), where the authors denoted that the number of items in relation to the number of units (schools) could, in fact, be a problem. It is particularly true when the number of items is greater than the number of participant groups. In this study, the number of items (52) is almost half of the number of schools (89). Then the problem will be the minimum number of units per item. This matter of the minimum allowable ratio of cases to items is still a matter of great debate, going from opinions that the ratio should be 10 cases per item, at least 5 cases per item, or just that the number of cases should exceed the number of items (Cattel, 1952; Hoy et al., 1991; Rummel, 1970).

Factor Analysis

Six criteria were used to reduce the number of items in the ESOCS: (a) only items that loaded high on one factor and low on all the others were retained; (b) items that failed to load on a particular factor at a value of .40 were deleted; (c) items that crossloaded on two or more factors were deleted; (d) items that reflected poorly on the scale reliability and low correlation (below .40) were deleted;

(e) items were evaluated for conceptual clarity and fit with primary items in the factor; and (f) items which substantially reduced the internal consistency of the aspect, as measured by Cronbach's coefficient alpha, were deleted.

Using the school as a unit of analysis, the Varimax rotation, without specification of the number of factors, dictated the number of aspects that were used for the rest of the analysis.

The program was set to record any items that loaded greater than .30. Of the total 52 items, 9 were chosen for deletion based on the following criteria:

1. One item (#14) loaded by itself on one factor (factor 9). Item 14 was considered for deletion.

2. Three items (#20, 27, 42) from different aspects loaded together in factor 8. The three items were considered for deletion.

3. Two items (#13, 37) substantially reduced the internal consistency of the aspect. The two items were considered for deletion.

4. Three items (#5, 17, 18) crossloaded from the teachers' aspects of frustration (#17-18) and teacher morale (#5) into principal attributes. Those three items were considered for deletion based on the criteria of conceptual clarity and not within the aspect.

In summary, one item (#5) from the morale aspect, two items (#13, 14) from the routine duties aspect, three items

(#18, 19, 20) from the frustration aspect, one item (#27) from the trust aspect, one item (#31) from the work by the book aspect, and one item (#42) from the communication aspect were considered for deletion.

The first factor analysis without specification seemed to indicate that 9 rather than 11 factors were presented. Further analyses were planned to determine the qualities of the aspects presented in the ESOCS. Those steps are discussed in the next chapter.

Second-Order Factor Analysis

Following the steps of Halpin and Croft (1962-63) and Hoy et al. (1991), a second-order factor analysis was completed on the subtest correlation matrix to explore the underlying structure of the aspects. The mean scores were standardized and a school typology was developed.

Differences Between Teachers and Principals

To compare teachers and principals, the mean from the raw scores for teachers and principals was used on each of the aspects.

Independent Variables

Descriptive analysis and exploratory MANOVAs and one-way ANOVAs were conducted to determine if the independent variables accounted for differences in the elementary school climate.

Summary

This chapter focused upon the development of the instrument, including the preliminary and initial form, the sampling procedure, data collection, sample return and the treatment of the data, factor analysis, second-order factor analysis, differences between teachers and principals, and independent variables. The next chapter includes the analysis of the data.

CHAPTER IV

ANALYSIS OF DATA

The Problem

The behavioral interaction of teachers and principals has been studied using different approaches. The most popular is the one developed by Halpin and Croft (1962). Thirty years later, a need exists to find a comparable organizational climate instrument to be used at the elementary school level.

The problem identified in this study was developing an elementary school climate survey using the Organization Climate Description Questionnaire (OCDQ) and other instrument item-scales as a framework to select and develop items and scales for the new instrument.

The researcher's primary purpose in this study was to develop and construct an organizational climate survey to study the climate in Illinois public elementary schools. Specifically, this study was intended to address 11 different aspects considered in the literature by several authors as important components of the school climate.

Given the 11 elementary school aspects of school climate, the writer's second purpose was to explore whether the various scales hold together through an examina-

tion of unspecified factor solution. This procedure enables the number of items and scales to be corrected, depending on how they load and group together.

The final purpose of the study was to determine if there is a difference between teachers and principals and to determine if the independent variables--teacher age, teachers' years of teaching experience, teacher salary, teacher gender, and school location--have an influence on different aspects of the organizational climate.

Summary of Analysis Procedures

To determine the qualities and number of scales on the Elementary School Organizational Climate Survey (ESOCS), research questions I.a. and I.b. were processed in the following way: (a) the survey items were field tested for the content validity, (b) the school building item means were aggregated, and (c) numerous factor analysis and reliability analysis procedures were conducted. A systematic deletion of items, reduction of the number of aspects, and a final factor analysis of the reduced item matrix and aspects resulted in the final form of the ESOCS: ESOCS-FF (Appendix L).

The ESOCS-FF was subject to a second-order factor analysis to determine the underlying factor structure. The average school scores for the items comprising each subtest were added to yield school subtest scores, thus representing the climate profile for each school. To provide for a

common denominator, the subtest scores were standardized with a mean of 500 and a standard deviation of 100. A two-continua factor was constructed. A box was developed to place schools according to their level of openness and closedness.

To investigate whether there is any difference between teachers and principals, the mean scores from the raw data were used on each aspect; and to test the independent variable, a two-step process was used: MANOVA and ANOVA. The main purpose of using MANOVA was to control the overall alpha level. Specifically, the researcher was interested in the set of measures as they represent some underlying construct or dimension (climate aspects). The researcher's main interest was on the separate univariate analysis. Bray and Maxwell (1982), and Hurberty and Morris (1984) pointed out that the MANOVA-ANOVA approach is seldom if ever appropriate. They stressed that researchers may find a situation in which the MANOVA test is significant but all the P univariate tests are nonsignificant or vice versa.

Analysis Procedures: Aspects of the ESOCS

Factor analysis (varimax rotation) without specification was used to determine both the number and qualities of the scales present in the ESOCS (original form) (Table 4.1). The principal components analysis yielded nine factors with Eigenvalues from 19.8 to 1.1, explaining 75.5% of the

Table 4.1.--Initial varimax factor analysis: No specification.

Var.	Factor								
	1	2	3	4	5	6	7	8	9
22	.89099								
25	.88269								
21	.87365								
23	.86790								
43	.85324								
26	.80653		.33305						
24	.79275		.32298						
29	.78164						.30403		
38	.69691				.31996				
28	.68365							.30483	
40	.66246						.43953		
51	.65597	.45746							
44	.64471		.39734						
41	.64456				.31528				
45	.64228						.44955		
52	.56815			.31800					
18*	.55253				.51552				
17*	.52805			.34794					
5*	.51375	.49350			.48080				
50	.47569	.43687				.36941			
9		.84783							
7		.75816							
2		.74455				.42988			
1		.72796							
10		.70765				.31420			
8		.58699			.44624				
4	.38611	.53540			.53108				
6		.45825							
32	.32884		.79126						
30	.32620		.78034						
31			.74746						
37*			-.73019	.33367					
34	.47498		.69763						
33	.52120		.53666				.31856		
13*	.34279		-.43450	.31406					
12				.83131					
11				.75991					
15				.69078					
16	.44304				.63712				
19	.53737				.58245				
3*	.50108	.45711			.55906				
35			-.39033			.76901			
36	.35368		-.44610			.66368			
39	.53370					.64631			
47	.36352						.63614		
49	.47607						.61567		
46	.50710						.60955		
48			-.37214				.60647		
42*						.38712		-.65459	
20*		.38871		.35170				.54734	
27*	.44842							.53498	
14*				.38888					.76578

* Item deleted.

variance (Table 4.2). An Eigenvalue of 1.00 was used as a criterion for a "true" factor. Factor 9, containing one item (#14), was dropped; and factor 8 was included in the next analysis.

Before deciding to drop the nine items selected for deletion, a new attempt was made to check the reliabilities of items and aspects. Two analyses were done: one without the items selected for deletion and the other including the items selected for deletion. The factor analysis shows that, in fact, items #18, 17, 5, 37, and 13 substantially lowered the internal consistency of the aspect. In the analysis, the varimax failed to converge with eight factors; then factor #8 was deleted (items #20, 27, 42), as expected.

Factor analysis with seven factors specified was used to determine the quality of the ESOCS-FF. These seven factors (Table 4.3), with Eigenvalues from 17.3 to 1.1, explained 75.3% of the variance (Table 4.4). The rotated factor matrix, percentage of variance, and reliability analysis are included for further reference.

The seven factors were refined into the ESOCS-FF. Using the strength of factor loading and the information from the alpha reliability analysis, the final form of the instrument held seven aspects and 42 items.

Six criteria were used to reduce the number of items on the ESOCS: (a) only items that loaded high on one factor and low on all the others were retained; (b) items that

Table 4.2.--Initial factor analysis: Principal component extraction, 52-item set.

Factor	Eigenvalue	Percent of Variance	Cumulative Percent
1	19.88165	38.2	38.2
2	5.67707	10.9	49.2
3	3.99901	7.7	56.8
4	2.60330	5.0	61.8
5	1.63430	3.1	65.0
6	1.54079	3.0	68.0
7	1.48446	2.9	70.8
8	1.30231	2.5	73.3
9	1.11565	2.1	75.5

Table 4.3.--Seven-factor varimax solution (specified): Principal component 42-item set (new item numbers).

Var.	Factor						
	1	2	3	4	5	6	7
1	.91127						
3	.89426						
2	.88385						
5	.87618						
4	.84643						
6	.81512		.36093				
8	.79220			.32832			
7	.75779		.36003				
10	.71308						
9	.69334						
13	.66894		.41608				
14	.66351						
11	.65955			.44867			
12	.65721	.44951					
15	.62100			.48893			
16	.58480					.30332	
17	.45939	.44418			-.36082		-.34012
26		.85051					
29		.76316					
27		.75610					
28		.74338			.38743		
30		.69784					
31		.58747					
32	.42115	.54397					.42103
33		.42321				-.40892	
18			.80898				
19	.30865		.79531				
20			.79077				
21	.47388		.71982				
22	.49891		.55402				
40				.67953			
42	.49135			.65367			
41	.48075			.62519			
43				.62444			
23			-.30682		.82813		
24	.33619		-.34786		.73139		
25	.54290				.68165		
35						.82969	
34						.82119	
36						.70369	
38	.56893						.59316
37	.48533						.53531

Table 4.4.--Principal component extraction: Seven-factor varimax solution specified, 42-item set.

Factor	Eigenvalue	Percent of Variance	Cumulative Percent
1	17.33756	41.3	41.3
2	4.82425	11.5	52.8
3	3.27020	7.8	60.6
4	2.29578	5.5	66.0
5	1.36960	3.3	69.3
6	1.35147	3.2	72.5
7	1.18316	2.8	75.3

failed to load on a particular factor at a value of .40 were deleted; (c) items that crossloaded on two or more factors were deleted; (d) items that reflected poorly on the scale reliability and low correlation (below .40) were deleted; (e) items were evaluated for conceptual clarity and fit with primary items in the factor; and (f) if the items reduced substantially the internal consistency of the aspect, it was deleted as measured by Cronbach's coefficient alpha.

The revised ESOCS aspects are renamed in Table 4.5. One item (#3) from the morale aspect that loaded with frustration in the first factor analysis moved to a different aspect. A decision was made, and item #3 was deleted for conceptual clarity. Thus the final number of items in the instrument became 42 with seven aspects. The Elementary School Organization Climate Survey-Final Form (ESOCS-FF) shows that the seven aspects are relatively independent of each other. Those aspects seem to be stable, and the factors also support the construct validity of the seven measures of school climate. As expressed by Kerlinger (1986), factor analysis enables researchers to find the meaning of constitutive construct. Specifically, in this study, seven hypothesized entities of school climate were constructed.

In summary, the number of aspects reduced from 11 to 7 and the number of items from 52 to 42 (Appendices C and L). The ESOCS was then rearranged. The aspects consideration,

Table 4.5--Revised ESOCS-FF new aspects: 42 items.

Aspects	Number of Items	Reliability (Alpha)	Eigenvalue	Cumulative Variance
Principal Attributes				
Mutual Respect and Consideration	17	.97	17.91	41.7
Production Emphasis	5	.89	3.36	7.8
Work by the Book	3	.88	1.42	3.3
Teacher Attributes				
Teachers' Dedication	8	.88	4.82	11.2
Routine Duties	3	.80	1.36	3.2
Frustration	2	.89	1.1	2.8
General School Attributes				
Decision Making	4	.81	2.31	5.4
Total = 7 Aspects	42	.87	--	75.4

trust, communication, and order and discipline united to form a broad aspect called mutual respect and consideration. Teachers' morale and engagement converged to form the aspect of teachers' dedication. The remaining aspects-- routine duties, frustration, production emphasis, work by the book, and decision making--maintained their identity with fewer items than shown before (Table 4.6). The revised instrument item numbers changed from the original as shown in the following 7-factor varimax solution, Table 4.7.

All further analyses in this chapter were made by using seven aspects and 42 items. This modified instrument (ESOCS-FF) is the product of the above-mentioned factor analysis. Several studies have shown that this reduction of items after the factor analysis procedure should be expected, particularly in dissertation work, as expressed by Cheal (1990). The author pointed out that reduced items and scales do not provide a desirable situation and a bigger sample size may be the solution. As mentioned before, there is a concern about the number of items in relation to the number of units of analysis. It is problematic to get a school sample larger than 200 or more, as Hoy et al. (1991) discussed in their OCDQ-RE study, where they used a sample size of 70 schools.

Procedures for Analyzing Research Questions

Several steps were planned to determine the qualities

Table 4.6.--Elementary school organizational climate study--final form.

Principal Attributes (3 factors)	Teacher Attributes (3 factors)	General School Attributes (1 factor)
Mutual Respect and Consideration--17 items	Teachers' Dedication--8 items	Decision making--4 items
Production Emphasis--5 items	Routine Duties--3 items	
Work by the Book--3 items	Frustration--2 items	

Table 4.7--Original instrument item number change due to 7-factor varimax solution.

Aspect	Item Number ESOCS	Item Number ESOCS-FF	Loading Factor
Mutual Respect and Consideration	22	1	.89
	25	2	.87
	21	3	.87
	23	4	.83
	43	5	.86
	26	6	.79
	24	7	.76
	29	8	.78
	38	9	.66
	28	10	.71
	40	11	.65
	51	12	.66
	44	13	.65
	41	14	.63
	45	15	.60
	52	16	.57
	50	17	.48
Production Emphasis	32	18	.80
	30	19	.79
	31	20	.78
	34	21	.72
	33	22	.56
Work by the Book	35	23	.83
	36	24	.73
	39	25	.68
Teachers' Dedication	9	26	.84
	7	27	.74
	2	28	.74
	1	29	.75
	10	30	.69
	8	31	.57
	4	32	.52
	6	33	.43
Routine Duties	12	34	.82
	11	35	.82
	15	36	.70
Frustration	16	37	.61
	19	38	.62
Decision Making	47	39	.68
	49	40	.65
	46	41	.63
	48	42	.62

of the aspects presented in the ESOCS.

1. To assist the content validity of the survey items, field testing was conducted using an independent panel of judges.

2. The data for each school building-items means were aggregated.

3. Factor analysis, using the unspecified N-factor was used.

4. Alpha reliability analysis of items-aspects in various specified factor solution was conducted.

5. Items deletion, based on a systematic criteria for the revision of factors, was completed as outlined above.

6. Factor analysis of the reduced aspects-items matrix, using a specified factor criterion, was used.

If the aspects of organizational climate could be defined through the statistical procedures outlined above, second-order factor analysis in various specified factor solution was used to determine and define the interrelatedness of the identified aspects.

Through the above procedures, the ESOCS was refined to portray the organizational climate of the elementary school. The final product was comprised of seven aspects and 42 items (see Table 4.5). The general school attributes--aspects of communication, and order and discipline--were combined with the principal attributes--aspects of consideration and trust--to collectively form the new mutual respect and consider-

ation aspect. The aspects production emphasis and work by the book remained as separate principal aspects.

The teachers' attributes--aspects of morale and engagement--combined to form the new teachers' dedication aspect. Routine duties and frustration scales remained as separate teachers' aspects.

From the three aspects of the general school attributes, only the decision-making aspect remained to represent this area. The scales with the number of items, alpha reliability, Eigenvalue, and the cumulative variance are represented in Table 4.5. Items 13, 14, 20, 27, 37, and 42 that were deleted were reworded for future use (see Appendix M).

After reduction of items and scales, the item numbers were changed for the final form of the instrument, as shown in Table 4.7. Also, the Alpha for each item is presented in the table.

In summary, the resultant seven factors that portrayed the ESOCS were created from the 11 aspects and the 52 items in the ESOCS-FF.

The following section contains a description of each factor as well as a discussion of how items and aspects fell into the seven factors.

Analysis of the Seven Final Scales of the ESOCS

Mutual Respect and Consideration

Mutual respect and consideration refers to the percep-

tion by teachers that the principal's behavior is honest and promotes an effective interpersonal relationship with an emphasis on mutual respect, support, and consideration. Teachers and principals communicate among and between each other in an attempt to send and receive open and honest messages, ideas, or attributes that may enhance the degree of interpersonal relationship between them. Mutual agreement on the meaning, flexibility, and importance of disciplinary actions are prerequisites for effective learning in the school.

A staff that scores high in mutual respect and consideration perceives the principal's behavior as positive. This perception encourages conduct creating a degree of confidence and motivating teachers to maintain an environment of cooperation and trust.

A staff that scores low in this aspect usually believes that the principal is not truly committed to working with teachers, thus resulting in a high degree of mistrust and perceived lack of support.

This factor contains the majority of items (17): 4 from consideration, 4 from trust, 3 from order and discipline, 4 from communication, 1 from decision making, and 1 from work by the book. The original and the new item numbers, as well as the alpha reliability, are shown in Tables 4.5 and 4.7.

Production Emphasis

Production emphasis refers to behavior by the principal which is perceived by teachers as custodial orientation. Such behavior is characterized by close supervision and constant monitoring and control of school activities in order to meet consistent performance standards.

A staff that scores high on production emphasis usually perceives the principal as a directive personality who practices and maintains constant control over school activities, thus showing a low degree of trust.

A staff that scores low on production emphasis believes that the principal is not committed to supervising and controlling school activities. Thus, there is a perception of a collaborative environment relationship.

This factor contains all five original items. The original and the new item numbers, as well as the alpha reliability, are shown in Tables 4.5 and 4.7.

Work by the Book

Work by the book refers to behavior by the principal which is perceived by the teachers as rigid and close supervision. In this scale, the principal's main emphasis is on enforcing rules and regulations, maintaining a social distance between the main office and the staff, and forcing teachers to go through bureaucratic channels.

A staff that scores high on work by the book perceives their relationship with the principal as impersonal, thus

creating social distance between the main office and teachers in a rigid environment. In this study, the responses by teachers who scored high were rotated to low.

The staff that scores low on work by the book believes that the principal is able to adapt and show flexibility, thus creating an environment of cooperation and closeness between the staff and the main office. In this study, the responses by teachers who scored low were rotated to high.

This factor contains three items, all from the original aspect. The original and new item numbers, as well as the alpha reliability, are shown in Tables 4.5 and 4.7.

Teachers' Dedication

Teachers' dedication refers to the behavior of the teachers which is perceived as commitment to the school with a tendency of expanding extra effort in the achievement of group goals. A clear sense of belongingness and a notion of community developed, thus reflecting a valuable behavior of involvement and dedication with a positive attitude toward work.

A staff that scores high in teachers' dedication perceives that colleagues are engaged on a high level of interaction within school responsibilities, and the group that forms that particular school (staff) shows a high degree of job dedication.

A staff that scores low in teaching dedication perceives that colleagues are not committed to the school and

show a low level of interaction and engagement. There is not a clear sense of belongingness among this group.

This factor contains eight items. Three items are from morale and five items are from engagement. The original and new item numbers, as well as the alpha reliability, are shown in Tables 4.5 and 4.7.

Routine Duties

Routine duties refers to the feeling of faculty that the demands of administrative paperwork are excessive assignments that keep teachers busy with non-teaching duties and consume a great deal of time.

A staff that scores high on routine duties perceives unnecessary busywork as a burden that hinders them from more important activities. In this study, the responses by teachers who scored high were rotated to low.

A staff that scores low on routine duties perceives an opportunity to engage in productive work with a fair load of assignments which do not hinder them from teaching performance. In this study, the responses by teachers who scored low were rotated to high. This factor contains three items, all from the original aspect. The original and new item numbers, as well as the alpha reliability, are shown in Tables 4.5 and 4.7.

Frustration

Frustration refers to the teachers' general patterns of

negative expectations that distract them from the basic assignment of teaching. There is a general pattern of disengagement and unfairness that interferes with the task of teaching.

A staff that scores high on frustration perceives dissatisfaction and shows negative expectations and feelings of disengagement. They view the administration as interfering with their job of teaching. In this study, the responses by teachers who scored high were rotated to low.

A staff that scores low on frustration perceives that they are not distracted from the primary job of instruction and there is a sense of engagement (absence of frustration). In this study, the responses of teachers who scored low were rotated to high.

This factor contains two items from the original aspect. The original and new item numbers, as well as the alpha reliability, are shown in Tables 4.5 and 4.7.

Decision Making

This refers to the process of involvement that facilitates the interrelationship of school personnel. Ideas are listened to and the different parties are represented when decisions are made. Thus, teachers become committed to their work and participate in problem solving.

A staff that scores high on decision making perceives that teachers are involved and engaged in the decision-making process at the school. The ideas of the staff are

considered by the administration.

A staff that scores low on decision making perceives that there is no teacher involvement at the school decision-making level. There is a sense of frustration and disengagement.

This factor contains four items from the original aspect. The original and new items numbers, as well as the alpha reliability, are shown in Tables 4.5 and 4.7.

In summary, the ESOCS original form containing 11 aspects and 52 items was reduced to 7 aspects and 42 items. This was done using numerous factor analyses. The final form with seven aspects was submitted to a second-order factor analysis to explore research question II.a.

Second-Order Factor Analysis

Following Halpin and Croft's (1962-1963) standards for constructing a battery of subtests, it was proposed that each aspect should measure a relatively different type of behavior and at the same time the battery should tap enough common behavior to allow the investigator to find a pattern of more general factors. Finally, those factors extracted should not be discordant with those already reported in the literature (Hoy et al., 1991).

The ESOCS-FF scales are relatively independent of each other. They explain 75.3% of the variance and the different aspects are consistent with the literature on organizational climate. The non-parametric correlation shows a moderate to

high-moderate correlation (Table 4.8).

A second-order factor analysis was completed on the subtest correlation matrix to explore the underlying structure of the seven factors. The data were reduced to two factors. Factor 1 shows an alpha of .87, and Factor 2 an alpha of .50. The loading factor for the second-factor analysis is shown in Table 4.9.

A two-factor solution with a varimax rotation and the alpha are given for the seven aspects (Table 4.10).

Mutual respect and consideration, teachers' dedication, decision making, production emphasis, and frustration (absent) loaded strongly only on Factor 1, while work by the book and routine duties load strongly only on Factor 2. The two factors showed an Eigenvalue of 3.2 to 1.4, accounting for 67.6% of the total variance (Table 4.11).

Factor 1 is characterized by a high level of collective participative behavior among teachers and administrators. This behavior is meaningful and tolerant to both, resulting in a high level of social interaction, trust, acceptance, and mutual respect exist and a low sense of teacher frustration. This factor was labeled "collective participative" behavior and is arranged along a continuum from closed to open, meaning that as Factor 1 increases, faculties are highly engaged, active, and committed with an absence of frustration. The opposite will happen if Factor 1 decreases.

Table 4.8--Correlation coefficients.

Teachers' Dedication	Mutual Respect Consid.	Decision Making	Routine Duties	Product. Emphasis	Frustration	Work by the Book
1.0000	.6730**	.6252**	.2224**	.5395**	.5044**	.3315**
.6730**	1.0000	.7422**	.2653**	.6660**	.5711**	.3923**
.6252**	.7422**	1.0000	.2433**	.4185**	.4885**	.4805**
.2224**	.2653**	.2433**	1.0000	.0943	.2164	.3416**
.5395**	.6660**	.4185**	.0943	1.0000	.3499**	-.0226
.5044**	.5711**	.4885**	.2164**	.3499**	1.0000	.2991**
.3315**	.3923**	.4805**	.3416**	-.0226	.2991**	1.0000

* Significance level=.05.

** Significance level=.01.

Table 4.9.--Second-factor analysis: Rotated factor matrix (loading factor)

Scales	Factor 1	Factor 2
Mutual Respect and Consideration	.860	.321
Production Emphasis	.849	-.223
Teachers' Dedication	.795	.240
Decision Making	.696	.466
Frustration (Absence of)	.648	.405
Work by the Book	.191	.844
Routine Duties	.090	.724

Table 4.10.--Secondary factor analysis (varimax): No criteria for the seven aspects - loading.

Factor 1	Alpha	Factor 2	Alpha
Mutual Respect and Consideration		Work by the Book	
Teachers' Dedication		Routine Duties	
Decision Making			
Production Emphasis			
Frustration	.87		.50

Table 4.11.--Second-factor varimax solution for Factors 1 and 2.

Factor	Eigenvalue	Percent of Variance	Cumulative Percent
1	3.27186	46.7	46.7
2	1.45699	20.8	67.6

Factor 2 is characterized by the combination of the teachers' perception that the principal engages in meaningless burdensome duties. This is characterized by rigid, close, and constant supervision over teachers with little concern for openness and flexibility. This factor was labeled "procedurally rigid" behavior and is arranged along a continuum from open to closed, meaning that as Factor 2 increases, the faculties become more highly engaged in non-productive activities that are characterized by rigid, close supervision. The opposite will happen if Factor 2 decreases. The two second-order factors are viewed along a continuum, as follows:

Factor 1

Closed ---------- Open
Low Participation — High Participation

Factor 2

Open ---------- Closed
Low Rigidity — High Rigidity

Commensurate with the steps of Hoy et al. (1991), two second-order factors between teachers and administrators were found: (a) a measure of the degree of collective participation (openness), and the (b) a measure of the degree of procedural rigidity (closedness). These two factors are relatively independent (Hoy et al., 1991), and several combinations of climates are possible with each school. Conceptually, these two factors measured the openness and closedness of the school, thus four contrasting types of school climate are possible. Both factors can be open or closed and result in four combinations: (a) if Factor 1 is high and Factor 2 is low (open climate), teachers and principals are engaged; (b) if Factor 1 is low and Factor 2 is high (closed climate), teachers and principals are disengaged; (c) if Factor 1 is high and factor 2 is high (engaged climate), teachers are highly engaged and principals are inflexible; and (d) if Factor 1 is low and Factor 2 is low (disengaged climate), teachers are clearly disengaged from their work and principals are supportive and flexible.

Developing a School Typology for the State of Illinois

The ESOCS-FF scales are independent of each other and provide a description of school climate in terms of seven specific aspects and two general dimensions. This fact allows a map to be drawn of the building, school district,

and the state along the seven scales by compounding teacher-principal interaction.

The two factor dimensions (Factors 1 and 2) are independent of each other, and they will be used to develop a typology of school climate.

As suggested by Hoy et al. (1991), scores were standardized on each of the subtests in order to determine a common denominator to compare schools. A mean of 500 with a standard deviation of 100 was used. For example, the teachers' dedication formula Sds was T-ded = 100 x (t-ded-25.224)/3.293+500, suggested by Hoy et al. (1991), was used for each aspect. The other formulas were:

mutual respect and consideration =
100 x (M.R.C.-56.697)/7.818+500

decision making = 100 x (D.M.-11.799)/2.078+500

routine duties = 100x(R.D.-9.228)/1.676+500

production emphasis = 100 x (P.E.-16.025)/2.379+500

frustration = 100 x (Frust.-6.975)/1.066+500

work by the book = 100 x (W.B.-9.172)/ 1.782+500

The formulas used to calculate the level of openness-closedness were:

1. Level of collective participative behavior (Factor 1) = (mutual respect and consideration + (1000 - t-ded) +

(1000 - decision making) + (1000 - production emphasis) + (1000 - frustration))/5.

2. Level of procedurally rigid behavior (Factor 2) = (work by the book + (1000 - routine duties))/2 (closedness).

The teachers' state means and standard deviation which were used to calculate the standardized score by each aspect are shown in Table 4.12 and Figure 4.1.

To construct a school climate typology of the state of Illinois, school buildings were arranged into schools such that if Factor 1 and 2 were higher than the median, they received a "1." If they were low in the factor, they received a "4." If they were high on Factor 2 but low in Factor 1, they received a "2." If they were low on Factor 2 and high on Factor 1, they received a "3." A box with four cells (Figure 4.2) that parallels the one created by Hoy and Clover (1986) was constructed with Factor 1 on the vertical axis and Factor 2 on the horizontal axis. Four elementary school typical cases are shown in Table 4.13.

A crosstab table indicates the distribution of school buildings showing the distribution of schools on the four cells (Table 4.14).

Differences Between Teachers and Principals

The differences between teachers and principals' perception regarding school climate were assessed using mean scores from the raw data. The principal means are notably

Table 4.12.-- Teachers' state means and standard deviations by each aspect (nonstandardized means).

Aspect	Mean	Standard Deviation
Teachers' dedication	25.224	3.293
Mutual respect and consideration	56.697	7.818
Decision making	11.799	2.078
Routine duties	9.228	1.676
Production emphasis	16.025	2.379
Frustration	6.975	1.066
Work by the book	9.172	1.782

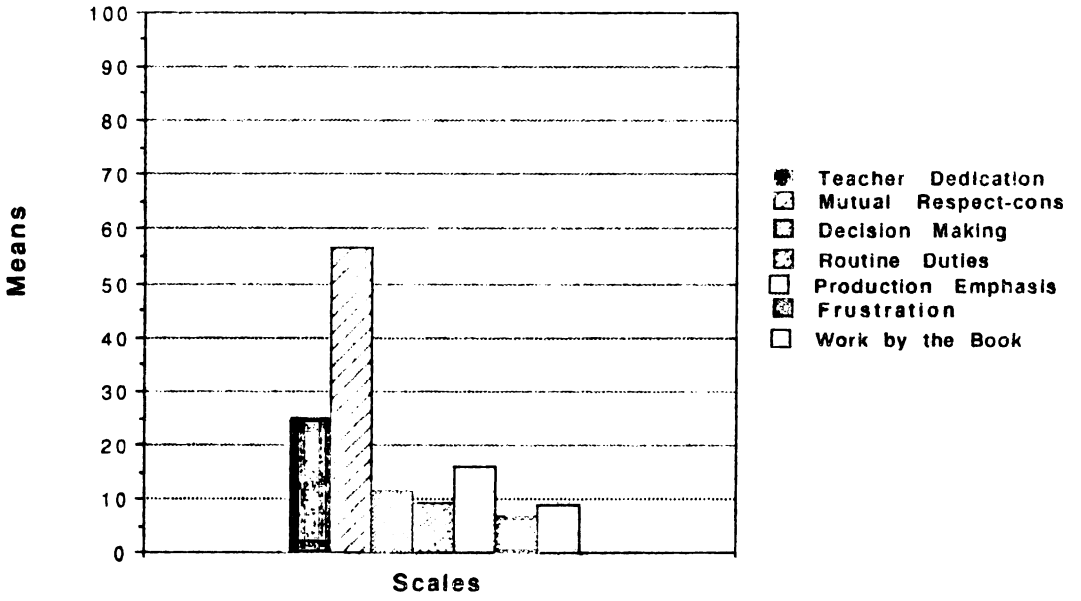


Figure 4.1.--Teachers' aspect means for whole state.

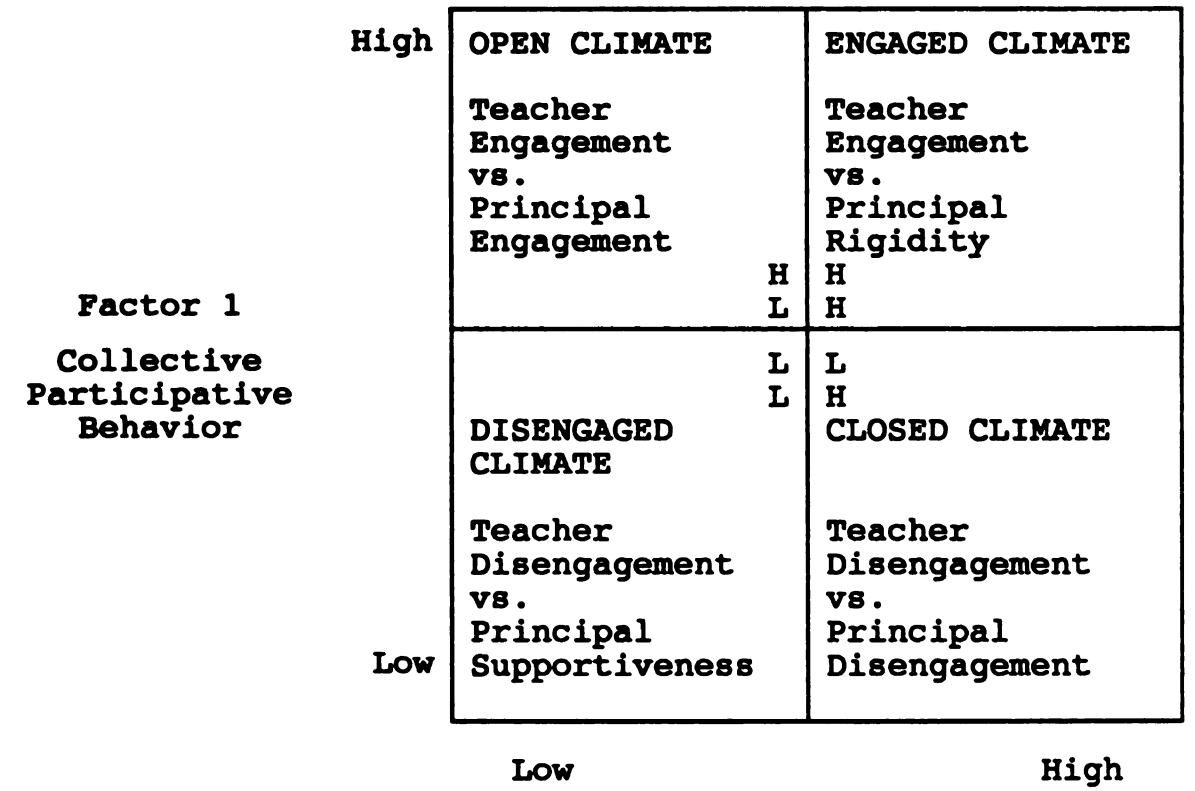


Figure 4.2.--Typology of school climate.

Table 4.13.--Example of prototype profile of elementary schools.

School No.	Factor 1	Factor 2	Rank	Classification Continuum
11	1 (H)	2 (L)	2	Open Climate
12	1 (H)	1 (H)	1	Engaged Climate
10	2 (L)	2 (L)	4	Disengaged Climate
16	2 (L)	1 (H)	3	Closed Climate

H = high.

L = low.

Table 4.14.--Crosstabs for second-factor analysis using the median.

	Count Exp. Val. Row Pct. Col. Pct. Totl. Pct. Adj. Res.	High 1.00	Low 2.00	Row Total
High	1.00	25 22.0 56.8% 56.8% 28.4% 1.3	19 22.0 43.2% 43.2% 21.6% -1.3	44 50.0%
Low	2.00	19 22.0 43.2% 43.2% 21.6% -1.3	25 22.0 56.8% 56.8% 28.4% 1.3	44 50.0%
	Column Total	44 50.0%	44 50.0%	88 100.0%

higher than the teachers' means on the seven aspects (Table 4.15 and Figure 4.3).

Independent Variables

For this study, several independent variables were used to measure the organizational climate at the elementary school level. Several exploratory statistical analyses, including MANOVA and one-way ANOVA, were conducted to determine if the independent variables accounted for differences in the elementary school organizational climate. These independent variables consisted of the teacher age, years of teaching experience, teacher salary, teacher gender, and school location.

A descriptive analysis is presented followed by MANOVA and one-way ANOVA test results.

Teacher Age

The average age of teachers for each of the 89 schools was determined. Descriptive statistics and a histogram chart (Figure 4.4) present the frequency distribution of the age groups of the teachers, ranging from 25 to 60 years. The data for age were divided into the following quartile groups:

Group	Average age of teacher per school
1	less than 41.00
2	greater than 41.00 but less than 43.67
3	greater than 43.67 but less than 47.00
4	greater than 47.00

Table 4.15.--Teacher and principal means from raw scores.

Aspect	Principal Mean	Teacher Mean
Teachers' dedication	30.7	25.2
Mutual respect and consideration	63.0	56.7
Decision making	19.0	11.8
Routine duties	17.1	9.2
Production emphasis	20.1	16.0
Frustration	12.0	6.9
Work by the book	14.0	9.2

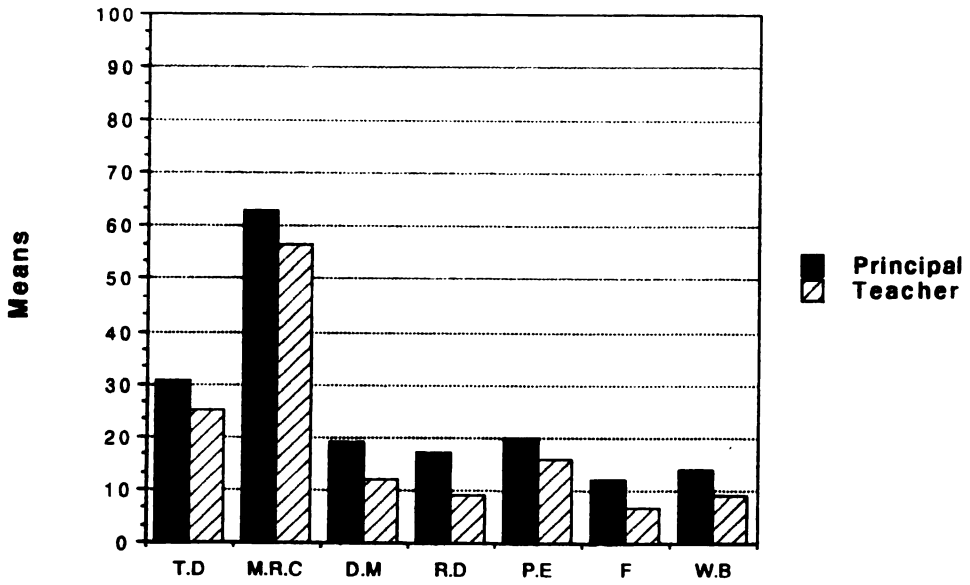


Figure 4.3.--Principals and teachers whole state means for seven factors.

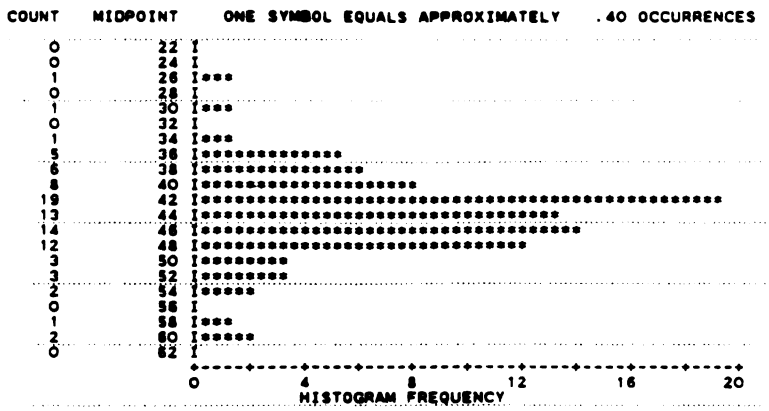


Figure 4.4.--Histogram for age of teacher variable.

A multivariate analysis of variance (MANOVA) test for age group differences on the seven scales was significant, $F(1,80867)$, $p<.019$ (Pillais). The one-way ANOVA comparing the age group for the scale work by the book was significant, $F(3,85) = 3.87$, $p<.013$. Post hoc comparison analysis indicated group 4 was different from the other groups (Table 4.16). The group means were the following: 1 = 488.2; 2 = 496.7; 3 = 475.2; and 4 = 410.5. The other six scales were found to have no statistical significance (Appendix N).

Years of Teaching Experience

The average years of teaching experience for teachers at the 89 schools were determined. Four groups were created and the distribution, ranging from 2 to 36 years of teaching experience, is presented on a histogram (Figure 4.5). The

Table 4.16--Tukey procedure for variable age.

Mean	Group	4	3	1	2
410.5499	4				
475.1730	3	*			
488.2008	1	*			
496.6738	2	*			

*Denotes pairs of groups significantly different at the .05 level.

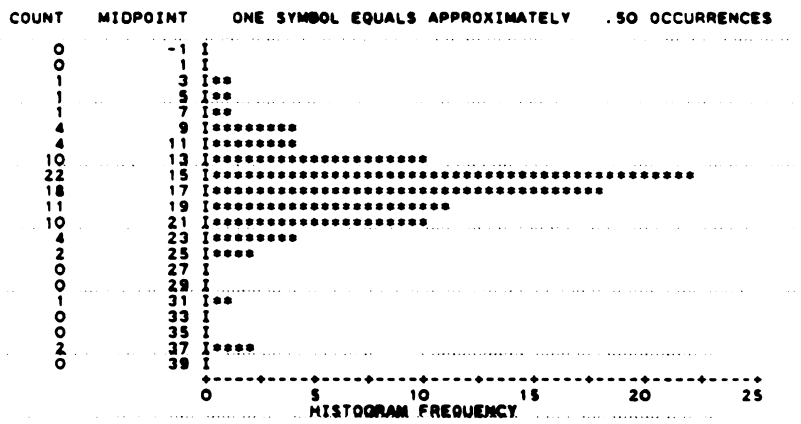


Figure 4.5.--Histogram for years of teacher experience variable.

data were divided into the following quartile ranges:

Group	Average years of teaching experience
1	less than 14.20
2	greater than 14.20 but less than 16.0
3	greater than 16.0 but less than 19.5
4	greater than 19.5

A multivariate analysis of variance (MANOVA) test for the average teaching experience on the seven scales did not reach significance, F(.95791), p<.517. The one-way ANOVA comparing years of teaching experiences for the seven scales was found to have no statistical significance; therefore, no further analysis was done (Appendix O).

Teacher Salary

The average teacher salary for teachers at the 89 schools was determined, and four groups were created.

Group	Teacher Salary
1	less than 3.20 (less than $25,000)
2	more than 3.20 but less than 3.80 (between $25,000 and $30,000)
3	more than 3.8 but less than 4.15 (between $30,000 and $40,000)
4	more than 4.15 (more than $40,000)

A multivariate analysis of variance (MANOVA) test for the average teacher salary on the seven scales did not reach significance, $F(1.08654)$, $p<.363$. The one-way ANOVA comparing teachers' salary for the seven scales was found have no statistical significance; therefore, no further analysis was done (Appendix P).

Teacher Gender

The population of this study was broken down into male and female teachers. The female population in this study was overwhelmingly greater (87.6%) than the male population (12.4%). The number of males by school buildings is not representational to conduct analysis of variance due to the unequal number of cells. No further analysis was appropriate.

School Location

School location for the 89 schools was broken down into

two groups: urban (74%) and rural (26%).

A multivariate analysis of variance (MANOVA) test for the breakdown of school location on the seven scales did not reach significance, $F(.195725)$, $p<.071$. The one-way ANOVA comparing school location for the scale routine duties was significant, $F(1,88) = 7.92$, $p<.006$). The mean difference between urban and rural schools was Urban = 451.5; rural = 516.8. The other six scales were found to have no statistical significance (Appendix Q).

Summary

The results shown in Chapter IV present the process of development of an elementary school instrument that started with 11 aspects and 52 items and was reduced to 7 aspects and 42 items using the statistical procedure of factor analysis. The instrument was further reduced using a second-factor analysis that converged into two major factors that were used to develop a school typology. Schools were placed within a continua of open, engaged, disengaged, and closed climates.

The differences between teachers' and principals' perception were assessed using the mean scores from the raw data. The demographic data were assessed using MANOVAs and ANOVAs and the variables teacher age and school location were shown to be significant. The results described in Chapter IV are discussed in the next chapter.

Chapter V focuses on the summary of the findings

described in this chapter followed by a discussion and implications for future study.

CHAPTER V

SUMMARY OF FINDINGS, DISCUSSION, AND IMPLICATIONS FOR FUTURE RESEARCH

Introduction

The purpose of this chapter is to summarize the study, present and discuss the findings and conclusions, and draw implications for future study.

Summary of the Study

The purpose of this study was to develop an organizational climate survey to study the climate in Illinois public elementary schools. A second purpose was to explore whether or not the various aspects hold together through an examination of unspecified factor solutions. The final purpose was to measure if there are differences between teachers and principals and to determine if independent variables shown in the literature as have an influence on different scales of the organizational climate.

Working from the major studies found in the literature on elementary school climate, the researcher developed an organizational climate instrument and tested it for use in the elementary school. Halpin and Croft (1962) developed an elementary school instrument with eight scales representing

the behaviors of both the principal and the teachers. In 1986, Hoy and Clover identified six scales that also represented the social interaction between the principal and teachers.

As a result of this study, using factor analysis, seven statistically valid and reliable scales were identified and defined to portray aspects of the organizational climate of the elementary school. Three scales described the principal attribute: mutual respect and consideration, production emphasis, and work by the book. Three scales described the teacher attribute: teachers' dedication, routine duties, and frustration. The final scale described the general school attribute of decision making.

Mutual respect and consideration emerge as the largest dimension, accounting for 41.3% of the total variance. This aspect resulted from the combination of the scales of consideration, trust, communication, and order and discipline.

Teachers' dedication emerged as the second dimension, accounting for 11.5% of the total variance. This scale resulted from the combination of the aspects of morale and engagement.

Production emphasis became the third dimension, accounting for 7.8% of the total variance. This scale maintained its total identity.

Decision making emerged as a new factor in the measure-

ment of organizational climate, and it became the fourth dimension, accounting for 5.5% of the total variance. This aspect maintained 80% of its total identity.

Work by the book became the fifth dimension, accounting for 3.3% of the total variance. This aspect maintained 60% of the total identity.

Routine duties became the sixth dimension, accounting for 3.2% of the total variance. This aspect maintained 60% of its total identity.

Frustration became the seventh dimension, accounting for 2.8% of the variance. This aspect maintained 40% of its total identity. This scale emerged as the weakest factor in elementary school organizational climate.

The results of this factor analysis seemed to show the importance of teachers' closeness (intimacy) as demonstrated consistently by the study of Halpin and Croft (1962) as well as that of Hoy and Clover (1986). The aspect teachers' dedication emerged as an independent factor in the measurement of the school climate. Trust and consideration merged together with communication and order and discipline to form the strongest factor of the instrument. This finding was consistent with the elementary school research (Hoy & Clover, 1986; Hoy et al., 1991). In their study, trust and consideration formed the dimension of leadership, supportive behavior. This factor also was the strongest predictor explaining most of the variance.

Teacher frustration consistently emerged as the weakest aspect in this study of organizational climate. This aspect seems to be a difficult scale to measure as also reported in the literature (Cheal, 1990). The results showed that the proportion of the seven scales of the ESOCS-FF were excellent. All of the scales had high reliability coefficients. The aspects were reasonably pure, that is, most of the items loaded high on one scale and relatively low on the other. The scales also showed indication of stability of the factor structure providing evidence of the construct validity of each aspect. The ESOCS-FF seven scales showed to be independent of each other. This lack of interdependence among the aspects would support further research using selected scales from the ESOCS-FF. This property would allow researchers to address individual dimensions of school climate as determined for their specific school need. Finally, the unit of analysis in the study was the appropriate one. The seven aspects of the elementary school climate were "organizational properties" not individual ones.

The seven resultant aspects were collectively composed of 42 items that made up the ESOCS-FF.

Second-Order Factor Analysis

Second-order factor analysis was performed as suggested by Halpin and Croft (1962, 1963) and Hoy and Clover (1986) to explore the interrelationship of the seven elementary school climate factors. Halpin and Croft identified three

factors: social need, spirit, and social control. Hoy and Clover identified two factors: teacher openness and principal-teacher openness.

The results of the two-factor solution with a varimax rotation given for the seven aspects showed that aspects from the principal attribute (mutual respect and consideration, production emphasis), teachers attributes (teachers' dedication, frustration), and the general school attribute (decision making) loaded strongly only on Factor 1. Factor 1 represented collective participative behavior. The results also showed that aspects from the principal attribute (work by the book) and teacher attribute (routine duties) loaded strongly only on Factor 2. Factor 2 represented procedurally rigid behavior.

Both second-order factors were viewed along an open-closed continuum; more specifically, the two factors measured the low and high interaction of teachers and principal aspects. These two factors were orthogonal. As pointed out by Hoy and Clover (1986) and Hoy et al. (1991), it was quite possible to have four combinations of school climate. Thus, theoretically, four contrasting types of school climate were possible. Where teachers scored high in Factor 1 and low in Factor 2, the two factors meant that their behavior was open; more specifically, teacher-principal engagement was presented (open climate). The opposite occurred when teachers' scored low in Factor 1 and high in

Factor 2. Thus, teacher-principal disengagement was presented (closed climate). Two other incongruent factors could occur. When teachers scored high in Factor 1 and high in Factor 2, there was teacher engagement versus principal rigidity (engaged climate). When teachers scored low in Factor 1 and low in Factor 2, there was teacher disengagement versus principal supportiveness (disengaged climate).

This independent combination allowed the understanding of the possibility that some schools may have principals who were considered supportive, concerned, flexible, non-controlling, and facilitation (i.e., open) and yet the faculty behavior was intolerant, divisive, uncommitted and apathetic (i.e., closed). In this case, the faculty was simply unwilling to accept a principal who was shown to be effective. These faculty were able to immobilize and sabotage the principal's leadership attempts. On the other hand, some schools may have had principals who were restrictive and controlling (i.e., closed), yet the teachers were committed and supportive of each other, showing a cohesive behavior. These teachers simply ignored the ineffective behavior of the principal as they engaged themselves in the process of teaching. In the ideal case (open), some schools may show behavior of the faculties as sincere, with a high degree of mutual respect for each other as well as a high degree of tolerance of divergent ideas and behaviors. With a positive and supportive faculty relation-

ship, trust and engagement highlight the daily life of the school. In contrast to the ideal case, some schools may show behavior of the faculty as divisive, with a high degree of intolerance and apathetic and ritualistic behavior where mistrust and disengagement highlight the daily life of the school (Hoy et al., 1991).

The second factor solution provided evidence of the construct validity of each aspect. The two factors were independent of each other and the instrument seemed to offer a new alternative to study the elementary school climate. The typology developed seemed to have both theoretical and practical significance. This approach provided a framework for the study of school climate, school effectiveness, leadership as well as a perspective for developing change strategies and school improvement programs. The researcher believed that the instrument itself needed to be subjected to further analysis to ensure its stability, using a wide range of population and sample.

In conclusion the ESOCS-FF seemed to be a parsimonious and reliable research tool that needs to be further tested. This set of measures seemed to map the domain of organization climate for elementary schools. The ESOCS-FF contained seven aspects that can be grouped into two behavioral categories: collective participative (open-closed) and procedural rigidity (closed-open). This category was defined in a general construct of openness and each openness

was independent of the other, hence two continuums of openness, as suggested by Hoy and Clover (1986), underlied the climate of elementary schools. This provided the basis for the four-celled typology of organizational climate: open, engaged, disengaged, and closed climates.

Teachers and Principal

The present study was based on a sample of teachers and principals. The results showed differences between teachers and principal perception in all the seven aspects. Consistently, principals perceived the school climate to be more open than teachers. Principals in this study seemed to regard themselves as effective leaders. They saw themselves as particularly successful in all of the aspects. This finding may have an effect on the selection process. It is possible that principals who decided to be part of the study were confident of their effectiveness as leaders and the quality of their working environment. This finding also suggested that the principal perception of school climate was a separate issue from the perception of the teachers. Therefore, caution must be taken when principal data are interpreted separate from the teacher data. It is not surprising to find principals rating themselves higher than did their teachers. Halpin (1966), in summarizing some results of various leadership studies, pointed out that there was a positive relationship between the way leaders believed they should behave and the way which their group

members described them as behaving. Finally, this result suggested that further examination of the principal leadership role in the school should be made.

Independent Variables

The variable teacher age was found to be significant on the scale work by the book. The results demonstrated that teachers over the age of 47 were displaying behavior that emphasized the use and the following of rules and regulations. This finding suggested that as time passes by teachers seem to become rigid and, as Hoy and Miskel (1987) suggested, this could be a product of what is called a bureaucratic expectation, where teachers are expected to behave in appropriate ways based on the school's rules and regulations or policy. Thus, it could be said that as teachers get older they become more adapted to the bureaucratic way of control rather than to a free open situation. Also, this results seemed to suggest that as time passed by the bureaucratic structure modified teacher personality, as pointed out by Merton (1957).

The variable school location was found to have significance on the scale routine duties. The results showed that rural schools were engaged in excessive assignments that kept teachers busy on nonteaching duties. Rural schools seemed to emphasize unnecessary busywork. This finding was related to what Raudenbush et al. (1989) indicated about rural high schools: teacher morale and participation were

low, suggesting that rural schools engaged in activities that hindered teachers being engaged in productive work. This finding is a critical aspect that needs to be addressed by the authority of the educational system in the state of Illinois.

The variables years of teaching experience and teacher salary were found to have no significant affect on the faculty's perception on the seven scales studied in this research. The results of the one-way ANOVA for this independent variable are shown in Appendices M-P.

The variable gender was not tested with MANOVA or ANOVA due to the fact that 86.7% of the responses were female. There were many schools without male responses. This situation suggested that elementary schools in this state are composed mainly of female teachers. It also could be said that male teachers may not have been interested in participating in the study. This finding is important for further replication of the study where the gender variable is going to be considered.

Conclusions

On the basis of the findings of this study, the following conclusions are presented.

The results of various factor analysis testing of the qualities of the aspects of the ESOCS show that seven statistically valid and reliable scales portray the organizational climate of the elementary school. The seven

aspects are independent of each other and the results show evidence of the construct validity of each scale, indicating the stability of the instrument. The aspect decision making emerged as a new factor in the measurement of organizational climate and the aspect frustration continued to be the weakest scale in the elementary school organizational climate, which leads to the question, Are we really measuring frustration or is frustration a vague aspect that is difficult to measure?

The interrelationship of the seven aspects was explored and two factors were identified. Factor 1 represented collective participative behavior (open-closed) and Factor 2 represented procedurally rigid behavior (closed-open). The two factors were viewed along an open-closed continuum. They are orthogonal and a combination of four theoretically contrasting types of school climates were mapped. The independence of the two factors is another evidence of the construct validity of the instrument scales. The ESOCS-FF seemed to be a parsimonious and reliable research tool that could be used to study leadership, communication, school effectiveness and decision making at the elementary school level. Further research using the ESOCS-FF is recommended to test and support the stability of this research instrument.

The results show that principals perceive the school climate as more open than teachers do, suggesting that they

see themselves as effective leaders. This result could be tied to the selection process that allowed superintendents and principals the choice of participating or not. Therefore, school principals who participated may be the ones who were confident of the quality of their working environment. In this study, numerous superintendents who allowed their school to participate in this project responded that currently there is too much tension among teachers, principal, district and union. This may be evidence that schools that participated in this study are a product of filter selection, which implies that a degree of bias is introduced in the study during the selection process when superintendents agree to allow their school to participate.

The results of the exploratory MANOVA and one-way ANOVA to determine if the independent variables accounted for differences showed that teachers over the age of 47 are showing behavior that displays rigidity and adaptation to bureaucratic expectation. It seems to prove the point made by Merton (1957) that as time passes the bureaucratic structure modified teachers' personality. In other words, teachers are socialized within the system that molds their behavior. This process is referred to as bureaucratic socialization (Hoy & Miskel, 1987).

Teachers working in rural school districts were found to be engaged in excessive nonteaching duties, suggesting that rural school districts are involved in activities that

hinder teachers being engaged in productive work. These results may call the attention of policy makers in the state of Illinois to plan and incorporate actions leading to correct the rigidity found in the population over 47 years old and the excessive nonteaching duties found in the rural school districts.

Elementary schools in Illinois seem to be overwhelmingly represented by female teachers, suggesting that in fact elementary schools are composed of mainly female teachers or that female teachers are the ones choosing to respond to surveys. These two factors are combined together although this finding is no surprise because traditionally elementary schools have been represented by female teachers. Studies including a more balanced gender distribution may vary the findings of this study.

In conclusion, the ESOCS-FF is a valid developed and tested measurement instrument. It has theoretical and research implications in the study of organizational climate in the elementary school. Several suggestions and implications for further studies are provided in this chapter.

Implications for Future Study

The ESOCS-FF is presented for use in the elementary school as a reliable and valid measurement instrument with theoretical and research implications. The seven aspects accounted for 75.3% of the variability. The instrument was developed and tested at the elementary school level.

The typology developed provides a framework not only to study the organizational climate but school effectiveness, communication, leadership, decision making, communication, control processes and goal setting. The typology developed has provided practitioners with a tool to examine and diagnose difficulties in the school. The ESOCS-FF can be easily administered and scored and it can serve as a base for planning change strategies and school improvement programs. Also, the ESOCS is ready to be tested on a Hispanic (Latino) population. It can be said that the ESOCS-FF is a tool for assessing the success of the principal and the commitment of teachers.

For future replication of this study, researchers should consider the participation rate of the unit of study. It is problematic to obtain a large sample size due to the selection process; it requires two levels of administrative approval and a faculty's cooperation to voluntarily participate in the study. A large participating school sample would permit the development of broader instrument norms. This, in fact, would add external validity and, of course, enhance the utility of this instrument.

The length of the instrument is sound, which implies an easy and fast completion. The researcher's major concern was the scale frustration, which needs to be enlarged into four or five items. This aspect needs further consideration as to what constitutes frustration when we study school

climate. This expansion would serve to strengthen the overall factor structure. Therefore, it is suggested for replication of this study the researcher seek to expand the reliability of the scale frustration.

The researcher highly recommends checking the gender composition of the schools to avoid the problem of having mainly one group responding.

When using the school as a unit of analysis, the independent variables should be carefully selected to reflect the group, for example, gender, ethnicity, and school location (urban-suburban-rural).

It is recommended for the analysis of the data that when using MANOVAs also do ANOVAs, because the two tests do not test the same thing and important information could be missed.

Generalizability

Although the sample was randomly drawn from the Illinois population (grade teachers and principals), the participation in this project was voluntary. In addition, only elementary schools were approached to participate in the study. Furthermore, generalizing beyond the sample must be undertaken cautiously and with full cognizance of the limitation of the research design. The participants in this study are believed to be the product of a filtered selection (superintendent-principal). Therefore, caution should be taken when generalizing about Illinois elementary public

schools and the findings from this study.

With the understanding of the above-mentioned limitation, the ESOCS-FF's seven independent scales identified appeared to have potential as a useful tool to help describe the differences in the elementary organizational climate. The internal structure of the instrument was found to be highly reliable and valid, the typology developed offered a practical tool to portray the climate of the elementary school in a large group of buildings or specific enough to portray individual buildings.

APPENDICES

APPENDIX A

MAJOR SCHOOL CLIMATE INSTRUMENTS, CATEGORIZED BY TAGIURI'S CLIMATE TAXONOMY

Table A.1.--Major school climate instruments, categorized by Tagiuri's climate taxonomy (T = teacher, P = principal).

Instrument	Ecology	Milieu	Social System	Culture
ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE (OCDQ) (Halpin & Croft, (1963)			Hindrance (T) Intimacy (T) Aloofness (P) Consideration (P) Production-emphasis (P)	Thrust (P) Disengagement (T) Esprit (T)
HIGH SCHOOL CHARACTERISTICS INDEX (HSCI) (Mitchell, 1968)			Strong environmental control	Strong intellectual orientation School activities Negative attitude toward environment
MY SCHOOL INVENTORY (MSI) (Ellett & Walberg, 1979)		Satisfaction	Friction Competitiveness Cohesiveness	Difficulty
LEARNING ENVIRONMENT INVENTORY (LEI) (Anderson & Walberg, 1974)	Environment	Satisfaction	Competitiveness Cohesiveness Friction Cliqueness Favoritism Formality Democratic	Speed Difficulty Apathy Diversity Goal direction Disorganization
ELEMENTARY SCHOOL ENVIRONMENT SURVEY (ESES) (Sinclair, 1970)	Building and facilities Materials and equipment Financial incentives Special services		Administrative practices Workloads School/community relations Supervisory relations Voice in education programs Performance and development	Practicality Community Awareness Propriety Scholarship

Table A.1.--Continued.

Instrument	Ecology	Milieu	Social System	Culture
PUPIL CONTROL IDEOLOGY (PCI) (Willower, Eidell, & Hoy, 1967)			Custodial--humanistic (continuum)	
PUPIL CONTROL BEHAVIOR (PCB) (Willower, 1977)			Same as PCI	
ROBUSTNESS SEMANTIC DIFFERENTIAL (RSD) (Licata et al., 1978)			Dramatic--not dramatic (continuum)	
SCHOOL DESCRIPTION INVENTORY (SDI) (Anderson, 1970)			Status maintenance Behavior control	
QUALITY OF SCHOOL LIFE (QSL) (Epstein & McPartland, 1976)		Satisfaction	Reaction to teachers	Commitment to classwork
QUALITY OF SCHOOL LIFE (QSL) (Williams & Batten, 1981)		General well-being Negative effects	Teachers	Status Identity Opportunity
Observations (Wynne, 1980)				Coherence

Table A.1.--Continued.

Instrument	Ecology	Milieu	Social System	Culture
Questionnaires (MCDill & Rigsby, 1973)				Academic emulation Intellectualism-estheticism Cohesive and egalitarian estheticism Scientism Humanistic excellence Academic orientation-student status system
Questionnaires (Brookover et al., 1979)				Academic futility (S) Future evaluations and expectations (S) Present evaluations and expectations (S) Academic norms (S) Expectation of teacher push and teacher norms (S) Ability, evaluations, expectations, quality of education/college (T) Present evaluations and expectations for high school completion (T) Teacher/student commitment to improve (T) Academic futility (T) Perception of principal's expectations (T) Parent concern/expectations for quality education (P) Efforts to improve (P) Principal and parent evaluation of present quality of school (P) Present evaluations and expectations of students (P)

Source: J. Mulhern, "Organizational Climate of Secondary Schools: Revision of the OCDQ" (Doctoral dissertation, Rutgers University, 1984), Dissertation Abstracts International (1984).

APPENDIX B

PILOT TEST EVALUATION FORM

PILOT TEST EVALUATION FORM

Subject # _____

Please spend ten more minutes to provide me with an assessment of this instrument.

1. Were any of the questionnaire items stated ambiguously?
   Yes _____ No _____

   If yes, which one? (write the item #)
   (a) ____ (b) ____ (c) ____ (d) ____

1.2 In each of these ambiguous cases, what possible meaning did you read into the item? (Please write the word or words and possible meanings.

   a.

   b.

   c.

   d.

1.3 How would you change the items and which words would you rather use?

   a.

   b.

   c.

   d.

2. Did you feel any of the questionnaire items were biased?
   Yes ____ No ____

   If yes, which one? (a) ____ (b) ____ (c) ____ (d) ____

2.1 What type of biases did you detect?

2.2 Did any of the items reveal the opinions of the person who constructed the questionnaire? Yes ____ No ____

If yes, which one? (a) ____ (b) ____ (c) ____ (d) ____

2.3 How would you change the items?

a.

b.

c.

d.

3. Did you feel any pressure (other than that imposed by your own beliefs) to select a given response to any of the questionnaire items?

Yes ____ No ____

If yes, which item tended to be forcing?

(a) ____ (b) ____ (c) ____ (d) ____

3.1 In each of these cases, which response did you think was expected?

a.

b.

c.

d.

3.2 How would you change the items?

a.

b.

c.

d.

4. Did you find the vocabulary too difficult?

Yes ____ No ____

4.a If yes, in which item do you think the wording was too difficult?

(a) ____ (b) ____ (c) ____ (d) ____

4.b What word would you use?

a.

b.

c.

d.

5. In your opinion, the questionnaire is:

____ too long
____ too short
____ acceptable
____ other _____

OTHER COMMENTS:

APPENDIX C

ELEMENTARY SCHOOL ORGANIZATIONAL CLIMATE SURVEY--FINAL FORM

ELEMENTARY SCHOOL ORGANIZATIONAL CLIMATE SURVEY (ESOCS)

Return to: Luis Garcia
Physical Education Department
231 Anderson Hall
Northern Illinois University
DeKalb, IL 60115

On the following pages is a list of items that may be used to describe specific aspects of school climate. Since we are collecting perceptions, there are no correct or incorrect answers. For each item, I am asking you to indicate your perception about actual school climate in your school. Some of the items might be hard to answer, but please mark your best response to every statement.

DIRECTIONS:

1. READ each item carefully.

2. THINK about how frequently the described situation occurs in YOUR school.

3. DECIDE which word most accurately describes your perception of school climate.

4. CAREFULLY circle the item you have selected.

KEY: 1. RARELY OCCURS
2. OCCASIONALLY
3. FREQUENTLY
4. VERY FREQUENTLY

EXAMPLE: In this school, teachers cooperate with each other. 1 2 3 4

5. ANSWER EACH QUESTION

ELEMENTARY SCHOOL ORGANIZATIONAL CLIMATE SURVEY

	Rarely Occurs	Occasionally	Frequently	Very Frequently
	1	2	3	4
1. In this school, teachers accomplish their work with great enthusiasm, vigor, and pleasure.	1	2	3	4
2. Teachers tend to expend extra effort to achieve school goals.	1	2	3	4
3. Teachers like working in this school.	1	2	3	4
4. Teachers feel that their need for belonging is satisfied in this school.	1	2	3	4
5. Teachers are proud of being members of the staff of this school.	1	2	3	4
6. Teachers spend time after school with students who have academic or personal problems.	1	2	3	4
7. Even after school, teachers like working with each other.	1	2	3	4
8. There is a feeling of team spirit throughout the school.	1	2	3	4
9. Teachers are very dedicated in doing their jobs.	1	2	3	4
10. Teachers feel that they have to accomplish their tasks on time.	1	2	3	4
11. Attendance reports require too much of teachers' time.	1	2	3	4
12. Teachers are kept busy with routine, non-teaching duties which are not related to teaching.	1	2	3	4
13. Teachers need more independence in writing lesson plans.	1	2	3	4
14. Grading reports are unnecessarily time consuming.	1	2	3	4

	Rarely Occurs	Occasionally	Frequently	Very Frequently
	1	2	3	4
15. Preparation for routine administrative reports exhausts teachers' time.	1	2	3	4
16. Teachers talk about leaving this school.	1	2	3	4
17. The administrators in this school interrupt teachers in their teaching duties.	1	2	3	4
18. Teachers are confused about what is expected of them.	1	2	3	4
19. Teachers feel that they are not treated fairly in this school.	1	2	3	4
20. Teachers do not demonstrate much concern for their work.	1	2	3	4
21. In this school, the principal supports his/her teachers.	1	2	3	4
22. The principal treats teachers with respect.	1	2	3	4
23. The principal in this school devotes his/her time to helping teachers solve their problems.	1	2	3	4
24. The principal encourages teachers' efforts to improve.	1	2	3	4
25. The principal in this school shows teachers that he/she is on their side.	1	2	3	4
26. Teachers have confidence in principal's decisions.	1	2	3	4
27. There is no trust between the principal and teachers.	1	2	3	4
28. The principal allows teachers to take extensive responsibility for their job.	1	2	3	4
29. Teachers can share their personal problems with the principal.	1	2	3	4

	Rarely Occurs 1	Occasionally 2	Frequently 3	Very Frequently 4
30. The principal in this school makes sure that teachers work to their full capacity.	1	2	3	4
31. School activities are checked closely by the principal.	1	2	3	4
32. The principal monitors instruction carefully.	1	2	3	4
33. The principal is willing to try new ideas to increase school production.	1	2	3	4
34. The principal maintains definite standards of school performance.	1	2	3	4
35. The primary objective of this school is to follow the rules.	1	2	3	4
36. The principal demands that his/her staff follow the rules without any question.	1	2	3	4
37. The principal checks the subject matter ability of the teachers.	1	2	3	4
38. The principal is not flexible in adapting the rule to his/her situation.	1	2	3	4
39. The principal will not tolerate any deviation from regular procedure on the part of teachers, regardless of the reason.	1	2	3	4
40. In this school, communication flows in all directions (downward, upward, horizontally).	1	2	3	4
41. In this school, communication is downward.	1	2	3	4
42. Communication in this school is basically in writing.	1	2	3	4
43. There is open and honest communication between teachers and the principal.	1	2	3	4

	Rarely Occurs	Occasionally	Frequently	Very Frequently
	1	2	3	4
44. Teachers are kept informed about everything of interest to them.	1	2	3	4
45. My opinions and ideas are listened to and used in this school.	1	2	3	4
46. I have been involved in some of the important decisions that have been made in this school.	1	2	3	4
47. When important decisions are made in this school, there is representation of all parties (faculty, community, students).	1	2	3	4
48. The principal makes most of the decisions in this school.	1	2	3	4
49. The staff of this school participates in problem-solving and school improvement in this school.	1	2	3	4
50. The personnel of this school feel that order and discipline are meaningful and important.	1	2	3	4
51. The principal and teachers in this school support disciplinary actions as they are applied in this school.	1	2	3	4
52. The principal and teachers in this school agree that some flexibility is needed to handle discipline problems appropriately.	1	2	3	4

The following demographic data will assist us in generating profiles and categories of respondents. Please be assured that analyses will be anonymous. Neither you, your district, nor your school will be identified in reporting the results of this study.

Circle your age and number of years teaching experience you have (counting the present year as a full year) in the appropriate boxes below. Mark your age and years of teaching experience in the area below the boxes.

53. Age

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

54. Years of teaching experience

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

In order to answer the following questions, blacken the circle immediately to the left of the response you choose.

55. What is your gender? O Male O Female

56. What type of community is your school?
O urban O rural O suburban O other: _____

57. Your annual salary is:

_____ less than $20,000.00
_____ between $20,100.00 and $25,000.00
_____ between $25,100.00 and $30,000.00
_____ between $30,100.00 and $40,000.00
_____ between $40,000.00 and $50,000.00
_____ more than $50,000.00

Thank you for your time and interest in completing this survey.

APPENDIX D

HUMAN SUBJECTS LETTER

MICHIGAN STATE UNIVERSITY

OFFICE OF VICE PRESIDENT FOR RESEARCH
AND DEAN OF THE GRADUATE SCHOOL

EAST LANSING • MICHIGAN • 48824-1046

June 11, 1992

Luis E. Garcia
Northern Illinois University
Physical Education Department
231 Anderson Hall
DeKalb, IL 60115-9913

RE: SCHOOL CLIMATE IN THE ILLINOIS ELEMENTARY SCHOOLS, IRB #92-282

Dear Mr. Garcia:

The above project is exempt from full UCRIHS review. The proposed research protocol has been reviewed by a member of the UCRIHS committee. The rights and welfare of human subjects appear to be protected and you have approval to conduct the research.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval one month prior to June 5, 1993.

Any changes in procedures involving human subjects must be reviewed by UCRIHS prior to initiation of the change. UCRIHS must also be notifed promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to my attention. If I can be of any future help, please do not hesitate to let me know.

Sincerely,

David E. Wright, Ph.D., Chair
University Committee on Research Involving
Human Subjects (UCRIHS)

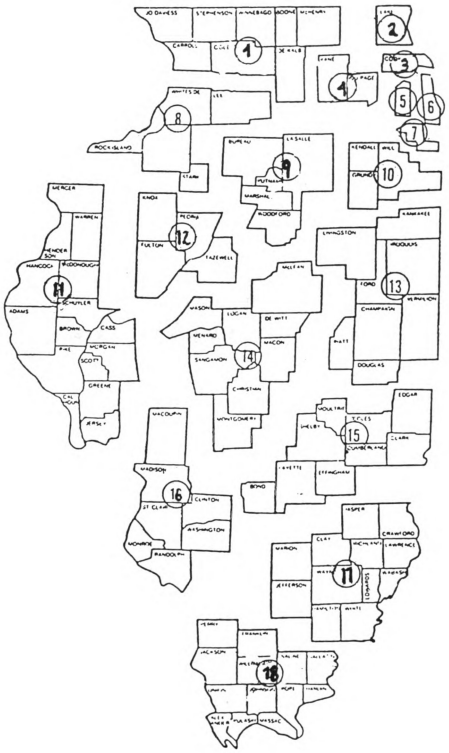
DEW/pjm

Dr. Samuel Moore

APPENDIX E

REPRESENTATIVE STRATIFIED RANDOM SAMPLE OF SCHOOL DISTRICTS IN 18 EDUCATIONAL SERVICE CENTERS IN THE STATE OF ILLINOIS

MAP OF EDUCATIONAL SERVICE CENTERS



APPENDIX F

SAMPLE OF COMPUTER MAILING LABELS

18 100 0010 2003 2681
[redacted] SCHOOL
1200 GRAND AVE
JOHNSTON CITY IL 62951

18 100 0020 2010 2684
[redacted] SCHOOL
502 E MAIN ST
MARION IL 62959

APPENDIX G

SUPERINTENDENT RESPONDENT FORM

SUPERINTENDENT RESPONDENT FORM

1. ( ) Yes
Our school district will participate in the study of school climate in elementary schools and we encourage the school principal and teachers to be involved in the study.

Additional Comments:

2. ( ) No
We are sorry, at this time we cannot assist you for the following reasons:

School District _____

Name _____

Street _____

City _____

State/Zip _____

Telephone _____

Fax # _____

APPENDIX H

LETTER TO PRINCIPALS

Northern Illinois University
Physical Education Department
231 Anderson Hall
DeKalb, IL 60115-9913

November 22, 1993

Dear School Principal:

Your school was one of 200 schools randomly selected to participate in this project on organizational climate. Your district superintendent has already reviewed and approved your school's opportunity to participate in the study. Your school will be able to consider active participation by completing and returning the questionnaire before the new year.

The relationship of organizational climate to both the quality of production/service outcome and job satisfaction has received extensive attention in both research and popular literature. During the past 30 years, researchers have studied the organizational climate in industries, businesses, and colleges, as well as secondary and elementary schools. Organizational climate in school settings is of growing interest to administrators, teachers, parents, and students. It has been found to affect the students' personal growth and satisfaction as well as their behaviors (cognitive and effective) and values. Thus, there is a need for greater understanding of the organizational climate of elementary schools. Research in this area has significant potential to influence and enhance school effectiveness. As educational leaders in a changing society, we need direct and practical data on conditions in schools to effectively formulate useful models of innovation.

To expedite the information-gathering process, it would be most helpful if you would send me a list of your teachers and the class level which they teach. I will then prepare for each teacher a packet including a cover letter, survey form, and self-addressed, return envelope for the response. In addition, I will include a separate cover letter, survey form, and return envelope for your response, as principal of the school. I assure you that all responses will be kept confidential. No individual or school will be named in any part of the study.

At your request, a copy of the completed study and/or an organizational climate profile of your school will be mailed to you upon completion of this project.

Thank you for taking time from your busy schedule to be involved in the project. Please feel free to contact me at (815-753-1331) or (815-756-9523) if you would like more information about the study.

Sincerely,

Luis Garcia
Instructor

LG/rb

APPENDIX I

SURVEY COVER LETTER

Northern Illinois University
Department of Physical Education
231 Anderson Hall
DeKalb, IL 60115-9913

June 30, 1992

&NAME&
&SCHOOL DISTRICT&
&ADDRESS&
&CITY&, &STATE& &ZIP&

Dear

In partial fulfillment of my doctoral program at Michigan State University, I am planning to conduct a school climate research study during September 1992. Since I am presently on the faculty at Northern Illinois University, it is ideal for me to conduct this study in the state of Illinois and within the local school districts. I am most hopeful that your district elementary schools will be able to participate in this project.

The purpose of the study is to examine school climate as perceived by principals and teachers in the public elementary schools. School climate, as defined by Litwin and Stringer (1968), refers to "a set of measurable properties of the work environment perceived directly by the people who live and work in the environment and which influence their motivational behavior."

The relationship of organizational climate to both the quality of production/service outcome and job satisfaction has received extensive attention in both research and popular literature. During the past 30 years, researchers have explored the organizational climate in industries, businesses, and colleges, as well as secondary and elementary schools. Organizational climate in school settings is of growing interest to administrators, teachers, parents, and students. It has been found to affect the students' personal growth and satisfaction as well as their behaviors (cognitive and effective) and values. Thus, there is a need for greater understanding of the organizational climate of elementary schools. Research in this area has significant potential to influence and enhance school effectiveness. As educational leaders in a changing society, we need direct and practical data on conditions in schools to effectively formulate useful models of innovation.

I would appreciate your willingness to allow your school district to participate in this study. If you wish to do so, please mark the first option on the attached form, which will indicate that you will allow me to send information regarding this study to the school principals and teachers, seeking their willingness to participate in the study. If you do not wish to participate, please mark the second option.

I have enclosed a copy of the survey for you to review. I assure you that all responses will be kept anonymous and confidential. No individual or school will be names in any part of the research.

Please feel free to contact me (815-753-1331 or 815-756-9523) if you would like more information about this study. Thank you for taking time from your busy schedule to assist me in this endeavor.

Sincerely,

Luis Garcia

LP/rob

APPENDIX J

FOLLOW-UP LETTER OF TRANSMITTAL

Northern Illinois University
Department of Physical Education
231 Anderson Hall
DeKalb, IL 60115-9913

July 15, 1992

&NAME&
&SCHOOL DISTRICT&
&ADDRESS&
&CITY&, &STATE& &ZIP&

Dear

During the summer of 1992, I sent a letter to your school district inviting your participation in my doctoral research study on school climate. In case my correspondence did not reach you, or you have not had an opportunity to review it at this busy time of year, a copy is enclosed. I believe that your school could provide invaluable information for my study and am hopeful you will be able to participate in this project.

If I can provide more information regarding this study, please do not hesitate to contact me (my office phone is 815-753-1331). I appreciate your consideration and look forward to your response.

Respectfully,

Luis Garcia, Instructor
Department of Physical Education

LP/rb

enc.

APPENDIX K

COVER LETTER TO TEACHERS AND PRINCIPAL

Northern Illinois University
Physical Education Department
231 Anderson Hall
DeKalb, IL 60115-9913

December 14, 1992

Dear Elementary School Colleague:

I am conducting a study on school climate. The main purpose of this study is to examine how the work environment (principals and teachers) is perceived directly by the people who live and work in that environment. This study is being conducted in the Illinois Elementary school system.

Your school has been randomly selected to participate in the study and permission by the school district has been granted. I will appreciate your voluntary participation by completing and returning the attached survey. This survey should take approximately thirty minutes. A self addressed envelope has been included for the return of the survey.

I highly appreciate your participation and thank you for taking the time from your busy schedule to answer this survey. Please feel free to contact me (815-753-1331) or (815-756-9523) if you would like more information about this study.

I assure you that your response will be anonymous and no individual or school will be named in any part of the research.

Sincerely,

Luis Garcia

Luis Garcia
Instructor

LG/rb

att.

APPENDIX L

ELEMENTARY SCHOOL ORGANIZATIONAL CLIMATE SURVEY--

REVISED FORM

ELEMENTARY SCHOOL ORGANIZATIONAL CLIMATE SURVEY (ESOCS-FF)

Revised Instrument

Return to: Luis Garcia
Physical Education Department
231 Anderson Hall
Northern Illinois University
DeKalb, IL 60115

On the following pages is a list of items that may be used to describe specific aspects of school climate. Since we are collecting perceptions, there are no correct or incorrect answers. For each item, I am asking you to indicate your perception about actual school climate in your school. Some of the items might be hard to answer, but please mark your best response to every statement.

DIRECTIONS:

1. READ each item carefully.

2. THINK about how frequently the described situation occurs in YOUR school.

3. DECIDE which word most accurately describes your perception of school climate.

4. CAREFULLY circle the item you have selected.

KEY: 1. RARELY OCCURS
2. OCCASIONALLY
3. FREQUENTLY
4. VERY FREQUENTLY

EXAMPLE: In this school, teachers cooperate with each other. 1 2 3 4

5. ANSWER EACH QUESTION

ELEMENTARY SCHOOL ORGANIZATIONAL CLIMATE SURVEY

	Rarely Occurs 1	Occasionally 2	Frequently 3	Very Frequently 4
1. The principal treats teachers with respect.	1	2	3	4
2. The principal in this school shows teachers that he/she is on their side.	1	2	3	4
3. In this school, the principal supports his/her teachers.	1	2	3	4
4. The principal in this school devotes his/her time to helping teachers solve their problems.	1	2	3	4
5. There is open and honest communication between teachers and the principal.	1	2	3	4
6. Teachers have confidence in principal's decisions.	1	2	3	4
7. The principal encourages teachers' efforts to improve.	1	2	3	4
8. Teachers can share their personal problems with the principal.	1	2	3	4
9. The principal is not flexible in adapting the rule to his/her situation.	1	2	3	4
10. The principal allows teachers to take extensive responsibility for their job.	1	2	3	4
11. In this school, communication flows in all directions (downward, upward, horizontally).	1	2	3	4
12. The principal and teachers in this school support all disciplinary actions as they are applied in this school.	1	2	3	4
13. Teachers are kept informed about everything of interest to them.	1	2	3	4

	Rarely Occurs	Occasionally	Frequently	Very Frequently
	1	2	3	4
14. In this school, communication is downward.	1	2	3	4
15. My opinions and ideas are listened to and used in this school.	1	2	3	4
16. The principal and teachers in this school agree that some flexibility is needed to handle discipline problems appropriately.	1	2	3	4
17. The personnel of this school feel that order and discipline are meaningful and important.	1	2	3	4
18. The principal monitors instruction carefully.	1	2	3	4
19. The principal in this school makes sure that teachers work to their full capacity.	1	2	3	4
20. School activities are checked closely by the principal.	1	2	3	4
21. The principal maintains definite standards of school performance.	1	2	3	4
22. The principal is willing to try new ideas to increase school production.	1	2	3	4
23. The primary objective of this school is to follow the rules.	1	2	3	4
24. The principal demands that his/her staff follow the rules without any question.	1	2	3	4
25. The principal will not tolerate any deviation from regular procedure on the part of teachers, regardless of the reason.	1	2	3	4
26. Teachers are very dedicated in doing their jobs.	1	2	3	4
27. Even after school, teachers like working with each other.	1	2	3	4

	Rarely Occurs	Occasionally	Frequently	Very Frequently
	1	2	3	4
28. Teachers tend to expend extra effort to achieve school goals.	1	2	3	4
29. In this school, teachers accomplish their work with great enthusiasm, vigor, and pleasure.	1	2	3	4
30. Teachers feel that they have to accomplish their tasks on time.	1	2	3	4
31. There is a feeling of team spirit throughout the school.	1	2	3	4
32. Teachers feel that their need for belonging is satisfied in this school.	1	2	3	4
33. Teachers spend time after school with students who have academic or personal problems.	1	2	3	4
34. Teachers are kept busy with routine, non-teaching duties which are not related to teaching.	1	2	3	4
35. Attendance reports require too much of teachers' time.	1	2	3	4
36. Preparation for routine administrative reports exhausts teachers' time.	1	2	3	4
37. Teachers talk about leaving this school.	1	2	3	4
38. Teachers feel that they are not treated fairly in this school.	1	2	3	4
39. When important decisions are made in this school, there is representation of all parties (faculty, community, students).	1	2	3	4
40. The staff of this school participates in problem-solving and school improvement in this school.	1	2	3	4

	Rarely Occurs	Occasionally	Frequently	Very Frequently
	1	2	3	4
41. I have been involved in some of the important decisions that have been made in this school.	1	2	3	4
42. The principal makes most of the decisions in this school.	1	2	3	4

The following demographic data will assist us in generating profiles and categories of respondents. Please be assured that analyses will be anonymous. Neither you, your district, nor your school will be identified in reporting the results of this study.

Circle your age and number of years teaching experience you have (counting the present year as a full year) in the appropriate boxes below. Mark your age and years of teaching experience in the area below the boxes.

53. Age

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

54. Years of teaching experience

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

In order to answer the following questions, blacken the circle immediately to the left of the response you choose.

55. What is your gender? O Male O Female

56. Which of the following categories best represents your ethnic background?

___ American Indian
___ Black
___ Caucasian/white
___ Hispanic
___ Oriental/Asian
___ Other (specify)

_____

57. What type of community is your school?
O urban O rural Osuburban O other: _____

58. Your annual salary is:

_____ less than $20,000.00
_____ between $20,100.00 and $25,000.00
_____ between $25,100.00 and $30,000.00
_____ between $30,100.00 and $40,000.00
_____ between $40,000.00 and $50,000.00
_____ more than $50,000.00

Thank you for your time and interest in completing this survey.

APPENDIX M

SUGGESTED WORDING CHANGES FOR ITEMS DELETED FROM ELEMENTARY SCHOOL ORGANIZATIONAL CLIMATE SURVEY

Suggested Wording Changes for Items Deleted from ESOCS

Item 13. Teachers in this school waste more of their time on writing lesson plans.

Item 14. Grading reports consumes most of the teachers' time in this school.

Item 20. Teachers in this school do not indicate an interest for their work.

Item 27. Teachers trust the principal in this school.

Item 37. The principal in this school follows rules to check the subject matter ability of teachers.

Item 42. Communication between teachers and principal in this school is basically in writing.

APPENDIX N

ONE-WAY ANOVA TABLES FOR THE INDEPENDENT VARIABLE TEACHER AGE

Table N.1.--One-Way ANOVA: Independent variable age by aspect teachers' dedication.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	13657.9365	4552.6455	.5232	.6675
Within groups	87	757076.9923	8702.0344		

Bartlett-Box F =2.367, p = .069

Group	Count	Mean	Standard Deviation	Standard Error
1	24	484.9226	88.8554	18.1375
2	22	480.2639	67.5200	14.3953
3	24	477.3180	89.0569	18.1787
4	21	452.5342	121.9286	26.6070

Table N.2.--One-Way ANOVA: Independent variable age by aspect mutual respect and consideration.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	19409.7462	6469.9154	.6221	.6026
Within groups	86	894339.5268	10399.2968		

Bartlett-Box F = .924, p = .428

Group	Count	Mean	Standard Deviation	Standard Error
1	24	448.9703	84.4103	17.2302
2	22	489.9451	94.0033	20.0416
3	24	466.5260	113.6786	23.2045
4	20	470.0307	114.1717	25.5296

Table N.3.--One-Way ANOVA: Independent variable age by aspect decision making.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	10010.7751	3336.9250	.4490	.7187
Within groups	87	646640.1076	7432.6449		

Bartlett-Box F =1.261, p = .286

Group	Count	Mean	Standard Deviation	Standard Error
1	24	463.5146	68.3726	13.9565
2	22	480.2301	87.4329	18.6408
3	24	450.7419	83.5525	17.0551
4	21	464.0474	104.4081	22.7837

Table N.4.--One-Way ANOVA: Independent variable age by aspect routine duties.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	52391.6078	17463.8693	2.5794	.0587
Within groups	87	589035.9343	6770.5280		

Bartlett-Box F =2.954, p = .031

Group	Count	Mean	Standard Deviation	Standard Error
1	24	475.3083	103.1872	21.0630
2	22	504.7028	64.1698	13.6811
3	24	437.7436	90.4705	18.4672
4	21	466.4223	58.9131	12.8559

Table N.5.--One-Way ANOVA: Independent variable age by aspect production emphasis.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	28840.5990	9613.5330	1.0719	.3653
Within groups	87	780257.1030	9868.4724		

Bartlett-Box F =2.007, p = .111

Group	Count	Mean	Standard Deviation	Standard Error
1	24	454.8830	87.9715	17.9571
2	22	482.4028	66.8548	14.2535
3	24	478.3522	108.0916	22.0641
4	21	505.3944	109.4697	23.8882

Table N.6.--One-Way ANOVA: Independent variable age by aspect frustration.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	60237.4316	20079.1439	2.2992	.0837
Within groups	87	762116.4129	8759.9588		

Bartlett-Box F =7.021, p = .000

Group	Count	Mean	Standard Deviation	Standard Error
1	24	487.6485	56.7143	11.5768
2	22	501.2366	64.4341	13.7374
3	24	472.3265	96.6575	19.7301
4	21	430.6933	138.9367	30.3185

Table N.7.--One-Way ANOVA: Independent variable age by aspect work by the book.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	94560.8335	31520.2778	3.8652	.0121
Within groups	85	693165.5457	8154.8888		

Bartlett-Box F =1.822, p = .141

Group	Count	Mean	Standard Deviation	Standard Error
1	23	488.2008	65.3692	13.6304
2	22	496.6738	85.0203	18.1264
3	24	475.1730	105.1981	21.4735
4	20	410.5499	100.7411	22.5264

APPENDIX O

ONE-WAY ANOVA TABLES FOR THE INDEPENDENT VARIABLE TEACHER'S YEARS OF EXPERIENCE

Table O.1.--One-Way ANOVA: Independent variable teacher's years of experience by aspect teachers' dedication.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	38077.8260	12692.6087	1.5072	.2183
Within groups	87	732657.1028	8421.3460		

Bartlett-Box F =3.714, p = .011

Group	Count	Mean	Standard Deviation	Standard Error
1	21	504.6072	91.3775	19.9402
2	26	475.4211	91.5015	17.9449
3	21	473.9505	53.5213	11.6793
4	23	445.7453	116.5910	24.3109

Table O.2.--One-Way ANOVA: Independent variable teacher's years of experience by aspect mutual respect and consideration.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	5460.0957	1820.0319	.1723	.9148
Within groups	86	908289.1774	10561.5021		

Bartlett-Box F =1.701, p = .165

Group	Count	Mean	Standard Deviation	Standard Error
1	21	468.3776	81.7434	17.8379
2	26	461.0062	98.0265	19.2246
3	21	481.6254	93.2585	20.3507
4	22	464.3224	131.0174	27.9330

Table O.3.--One-Way ANOVA: Independent variable teacher's years of experience by aspect decision making.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	15385.6349	5128.5450	.6958	.5571
Within groups	87	641265.2479	7370.8649		

Bartlett-Box F =1.988, p = .114

Group	Count	Mean	Standard Deviation	Standard Error
1	21	466.8202	66.7582	14.5678
2	26	447.0386	73.1504	14.3460
3	21	483.2050	90.2118	19.6858
4	23	464.2905	107.7864	22.4750

Table O.4.--One-Way ANOVA: Independent variable teacher's years of experience by aspect routine duties.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	7505.8381	2501.9460	.3434	.7940
Within groups	87	633921.7040	7286.4564		

Bartlett-Box F =1.662, p = .173

Group	Count	Mean	Standard Deviation	Standard Error
1	21	476.8496	108.7506	23.7313
2	26	478.0889	75.2187	14.7516
3	21	470.9683	86.2469	18.8206
4	23	455.5256	69.7954	14.5534

Table O.5.--One-Way ANOVA: Independent variable teacher's years of experience by aspect production emphasis.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	6129.2481	2043.0827	.2214	.8813
Within groups	87	802968.4540	9229.5225		

Bartlett-Box F =1.423, p = .234

Group	Count	Mean	Standard Deviation	Standard Error
1	21	465.5818	86.3363	18.8401
2	26	478.8211	78.6958	15.4335
3	21	485.6783	98.0665	21.3999
4	23	486.8688	118.0760	24.6205

Table O.6.--One-Way ANOVA: Independent variable teacher's years of experience by aspect frustration.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	51433.2761	17144.4254	1.9348	.1299
Within groups	87	770920.5684	8861.1560		

Bartlett-Box F =7.571, p = .000

Group	Count	Mean	Standard Deviation	Standard Error
1	21	491.1329	61.4912	13.4185
2	26	480.4806	57.2972	11.2369
3	21	491.9369	98.9145	21.5849
4	23	433.6610	137.7649	28.7260

Table O.7.--One-Way ANOVA: Independent variable teacher's years of experience by aspect work by the book.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	44965.3749	14988.4583	1.7152	.1700
Within groups	85	742761.0043	8738.3648		

Bartlett-Box F =3.674, p = .012

Group	Count	Mean	Standard Deviation	Standard Error
1	20	508.5578	54.2352	12.1274
2	26	448.9295	86.4002	16.9445
3	21	470.1726	117.0371	25.5396
4	22	456.9840	103.8072	22.1318

APPENDIX P

ONE-WAY ANOVA TABLES FOR THE INDEPENDENT VARIABLE TEACHER SALARY

Table P.1.--One-Way ANOVA: Independent variable teacher salary by aspect teachers' dedication.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	40269.9667	13423.3222	1.5987	.1955
Within groups	87	730464.9621	8396.1490		

Bartlett-Box F =1.579, p = .192

Group	Count	Mean	Standard Deviation	Standard Error
1	23	506.5990	96.0276	20.0231
2	22	472.9205	65.0743	13.8739
3	22	469.9942	102.8474	21.9271
4	24	448.6208	97.0296	19.8061

Table P.2.--One-Way ANOVA: Independent variable teacher salary by aspect mutual respect and consideration.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	22554.2719	7518.0906	.7255	.5395
Within groups	86	891195.0011	10362.7326		

Bartlett-Box F = .694, p = .556

Group	Count	Mean	Standard Deviation	Standard Error
1	23	472.4098	98.4527	20.5288
2	22	485.6834	85.4852	18.2255
3	21	441.4252	117.5392	25.6492
4	24	472.1220	103.8768	21.2038

Table P.3.--One-Way ANOVA: Independent variable teacher salary by aspect decision making.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	11297.6547	3765.8849	.5077	.6780
Within groups	87	645353.2281	7417.8532		

Bartlett-Box F =1.128, p = .336

Group	Count	Mean	Standard Deviation	Standard Error
1	23	454.1637	95.4367	19.8999
2	22	461.7683	65.2394	13.9091
3	22	457.7435	92.5129	19.7238
4	24	482.3829	87.4425	17.8491

Table P.4.--One-Way ANOVA: Independent variable teacher salary by aspect routine duties.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	30603.4637	10201.1546	1.4530	.2330
Within groups	87	610824.0784	7020.9664		

Bartlett-Box F =1.854, p = .135

Group	Count	Mean	Standard Deviation	Standard Error
1	23	480.2480	92.9879	19.3893
2	22	439.9110	85.5994	18.2499
3	22	471.0187	94.2271	20.0893
4	24	488.5591	59.0761	12.0589

Table P.5.--One-Way ANOVA: Independent variable teacher salary by aspect production emphasis.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	8329.7005	2776.5668	.3017	.8241
Within groups	87	800768.0015	9204.2299		

Bartlett-Box F =1.618, p = .183

Group	Count	Mean	Standard Deviation	Standard Error
1	23	485.0778	73.3801	15.3008
2	22	491.8988	90.8553	19.3704
3	22	466.9456	118.4628	25.2564
4	24	473.8511	96.5166	19.7014

Table P.6.--One-Way ANOVA: Independent variable teacher salary by aspect frustration.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	30560.6177	10186.8726	1.1193	.3458
Within groups	87	791793.2268	9101.0716		

Bartlett-Box F =3.904, p = .009

Group	Count	Mean	Standard Deviation	Standard Error
1	23	494.5958	72.9568	15.2125
2	22	489.2120	64.7192	13.7982
3	22	460.0034	104.8178	22.3472
4	24	452.1967	124.4137	25.3958

Table P.7.--One-Way ANOVA: Independent variable teacher salary by aspect work by the book.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	3	1303.3412	434.4471	.0470	.9864
Within groups	85	786423.0380	9252.0357		

Bartlett-Box F =1.687, p = .168

Group	Count	Mean	Standard Deviation	Standard Error
1	22	470.9877	86.1740	18.3724
2	22	474.8903	72.0116	15.3529
3	22	465.5035	108.0758	23.0418
4	23	466.0957	112.0655	23.3673

APPENDIX Q

ONE-WAY ANOVA TABLES FOR THE INDEPENDENT VARIABLE SCHOOL LOCATION

Table Q.1.--One-Way ANOVA: Independent variable school location by aspect teachers' dedication.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	1	9534.2168	9534.2168	1.1127	.2944
Within groups	88	754037.1980	8568.6045		

Bartlett-Box F = .073, p = .787

Group	Count	Mean	Standard Deviation	Standard Error
1	71	468.0569	91.5749	10.8679
2	19	493.2776	96.3268	22.0989

Table Q.2.--One-Way ANOVA: Independent variable school location by aspect mutual respect and consideration.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	1	30.1202	30.1202	.0029	.9574
Within groups	87	912242.4499	10485.5454		

Bartlett-Box F = .431, p = .511

Group	Count	Mean	Standard Deviation	Standard Error
1	70	468.2217	104.8663	12.5339
2	19	466.8020	92.3319	21.1824

Table Q.3.--One-Way ANOVA: Independent variable school location by aspect decision making.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	1	8.5810	8.5810	.0012	.9728
Within groups	88	644760.2795	7326.8214		

Bartlett-Box F = .604, p = .437

Group	Count	Mean	Standard Deviation	Standard Error
1	71	462.9458	82.8445	9.8318
2	19	463.7024	95.5496	21.9206

Table Q.4.--One-Way ANOVA: Independent variable school location by aspect routine duties.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	1	52820.9363	52820.9363	7.9206	.0060
Within groups	88	586857.1844	6668.8316		

Bartlett-Box F =1.405, p = .236

Group	Count	Mean	Standard Deviation	Standard Error
1	71	457.4624	84.9830	10.0856
2	19	516.8258	67.2100	15.4190

Table Q.5.--One-Way ANOVA: Independent variable school location by aspect production emphasis.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	1	29536.2075	29536.2075	3.3963	.0687
Within groups	88	765298.8869	8696.5783		

Bartlett-Box F =1.472, p = .225

Group	Count	Mean	Standard Deviation	Standard Error
1	71	487.4341	97.1237	11.5265
2	19	443.0433	76.3719	17.5209

Table Q.6.--One-Way ANOVA: Independent variable school location by aspect frustration.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	1	9492.5807	9492.5807	1.0292	.3131
Within groups	88	811611.1051	9222.8535		

Bartlett-Box F =2.633, p = .105

Group	Count	Mean	Standard Deviation	Standard Error
1	71	468.0456	101.1343	12.0024
2	19	493.2112	72.8928	16.7228

Table Q.7.--One-Way ANOVA: Independent variable school location by aspect work by the book.

Source	df	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between groups	1	4902.1864	4902.1864	.5387	.4650
Within groups	86	782547.9786	9099.3951		

Bartlett-Box F = .038, p = .846

Group	Count	Mean	Standard Deviation	Standard Error
1	70	465.3599	96.0854	11.4844
2	18	483.8633	92.5179	21.8067

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