

**THE DEVELOPMENT OF A MEASURE OF SCHOOL CLIMATE
AND ITS VALIDATION USING A MULTIMETHOD APPROACH**

**A Thesis Submitted to the College of
Graduate Studies and Research
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in the Department of Educational Administration
University of Saskatchewan
Saskatoon**

by

Martin L. Ruane

November, 1995



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SUMMARY OF DISSERTATION

Submitted in Partial Fulfilment

of the requirements for the

DEGREE OF DOCTOR OF PHILOSOPHY

by

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November, 1995

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THE DEVELOPMENT OF A MEASURE OF SCHOOL CLIMATE AND ITS
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The SSCS was based on Tagiuri's (1968) conceptual framework. Tagiuri's climate framework, consisting of ecology, culture, milieu, and social system dimensions, was selected for its comprehensiveness. The SSCS was developed by the researcher with the assistance of teachers and school administrators who were graduate students in the College of Education, University of Saskatchewan. It was tested on a sample of 100 students in the College of Education and revised, prior to its use in the study.

The sample included 36 Saskatchewan schools. School grade patterns included urban and rural elementary and high schools, and rural K-12 schools. The SSCS was mailed to all school-based educators in the sample. School division directors of education were mailed a summary school climate assessment form, the DASC. The researcher also visited and recorded school climate data in a subsample of four schools.

Using Cronbach's alpha, it was found that the SSCS had

adequate internal consistency for scale (.92) and subscales (.72 to .83). Factor analysis showed that there was only one factor. School climate appears to be a single complex, concept, composed of at least four intercorrelated dimensions.

Correlations between SSCS and other measures supported its validity. Pearson correlations between SSCS and DASC (.70) and between the SSCS and **teacher job satisfaction** (.46) were significant. For the subsample, correlations between SSCS and **observation data** and between SSCS and **student attitude toward school** data were significant.

Multiple regression was used to examine the effects of demographic variables on school climate. Two school variables, **staff gender composition** and **student grade** pattern, were significant. Elementary schools and schools with proportionately more female educators had more positive climates. Two personal variables, **staff position** and **experience in the school division**, were significant. Principals, and educators who had more experience in the division, reported more positive school climate. Schools with more positive climates generally had less variability in climate scores. Educators also reported that their perceptions of the school's climate had changed over time.

Several recommendations relating to research, theory, and practice were also presented.

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ABSTRACT

The study was undertaken for two purposes. The first purpose was the development of a measure of school climate, the Saskatchewan School Climate Scale (SSCS). The second purpose was to gain a better understanding of the school climate phenomenon. Motivation for the study came from a conviction that inconsistent research findings were partly the result of flawed school climate measures.

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CHAPTER 1

THE RESEARCH PROBLEM

Introduction

In a general sense, it has long been recognized that human behaviour is situation dependent. Yet, the formal study of how human behaviour is affected by the environment was initiated as recently as fifty years ago.

Behavioural psychologist, Kurt Lewin, is generally recognized as being the first to give formal expression to the importance of the environment in shaping behaviour, when he stated that behaviour (B) was a function of person (P) and environment (E) (Lewin, 1936,1951). Before that time, psychologists had attempted to describe individual behaviour as to person alone. Lewin's conceptualization led to a new emphasis on environmental effects, in both individual and group settings.

The study of organizational climate which emerged some 20 years later can be traced back to Lewin's seminal work (Ellett, 1986; Fraser, 1986) and to pioneering studies in industrial psychology by Mayo (1933) and by Roethlisberger and Dickson (1939). Organizational theorists and industrial psychologists anxious to explain, predict, and control worker behaviour looked for answers in the work setting. It was recognized that, in addition

to the nature of the task assigned and the technical competence required to perform it, the worker was influenced by the physical setting and by relationships with others in the workplace. These external and somewhat intangible influences on worker behaviour were collectively called organizational climate. Halpin and Croft (1963), defining organizational climate by analogy, stated that what personality was to the individual, climate was to the organization.

On the assumption that schools were formal organizations, school climate became an important focus in educational research (Thomas, 1976). A great number of school climate studies have been conducted since the mid 1960s. Thomas (1976) found over 200 school climate studies in which Halpin and Croft's Organizational Climate Description Questionnaire (OCDQ) (Halpin & Croft, 1963) had been used.

Early studies of school climate, in the 1960s and 1970s, were closely linked to the study of the school principal's leadership behaviour. In fact, the OCDQ (Halpin & Croft, 1963), the first instrument developed to measure school climate, was based on Halpin's earlier work on leader behaviour (Halpin, 1960). Studies from the 1980s to the present have been mainly concerned with the relationship between school climate and school

effectiveness. Frequently, these studies have been associated with either the introduction or the evaluation of school improvement or school reform projects.

School climate is still considered an important variable affecting school outcomes, but some researchers have become disillusioned with the concept (Anderson, 1982; Finlayson, 1987). They have become frustrated with the apparent inability of school climate research to provide clear and consistent answers. As a result, the research focus has, to some extent, shifted from climate to the closely related construct of culture. Strange as it may seem, one has to search very hard in the reports of culture research to find even passing reference to organizational or school climate (Reichers & Schneider, 1990; Schneider, 1990).

Reichers and Schneider (1990) speculate that the separate development of these two bodies of research has arisen for epistemological and methodological reasons. The climate research, they suggest, could be thought of as belonging to the tradition of "normal science" (Kuhn, 1970) and, as such, it shares positivist assumptions of the existence of an objective reality and the generalizability of research knowledge. Its emergence from within the general field of psychological research made it amenable to the preferred methods of

psychologists--experiment and quasi-experiment.

The culture concept, on the other hand, was borrowed from the field of anthropology. As such, it arrived on the organizational scene with an alien research tradition, underwritten by interpretivist-constructivist epistemology. From this perspective, reality was considered a subjective creation with multiple personalities. It was elusive and ephemeral and it could only be partially grasped through prolonged immersion in the (researched) members' world. Knowledge was considered idiosyncratic and could not be separated from its context, making generalizations impossible.

It is, perhaps, not surprising that climate has been researched almost exclusively through the use of comparative surveys while the case study and other ethnomethodological approaches have been the preferred methods of culture research. Very few researchers have made an attempt to bridge the gap between climate and culture. Indeed, many of those bridges consist of no more than a few references or a paragraph in a research report. Schneider deserves special mention for editing a volume which brings the two concepts together for the first time (Schneider, 1990).

Not only have culture and climate research belonged to separate traditions, but also the followers of these

traditions have waged war on one another. As Owens and Shakeshaft (1992) have stated:

... students of educational organization have witnessed a constant struggle between two epistemological paradigms, each seeking the loyalty of adherents who would shape the ways in which we think about the nature of human organizations and the behaviour of people in them. (p. 6)

Culture research owes its current popularity to books on the subject that appeared in the early 1980s (Deal & Kennedy, 1982; Peters & Waterman, 1982). At about the same time, educational researchers started to refer to the culture or ethos of schools as an important variable mediating educational outcomes (Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1979; Rutter, Maughan, Mortimore, Ouston, & Smith, 1979).

The abandonment of school climate is premature, and its neglect by culture researchers is inappropriate. Many problems associated with school climate research are soluble; it is the goal of the present study to take a step in that direction. However, it should be recognized that school climate is a very complex concept and one that will continue to disappoint and frustrate those who search for simplistic solutions to complex problems.

Background to the Problem

For many reasons, research has failed to yield a comprehensive, unified body of knowledge on school climate. One reason for the failure is that school climate is a complex concept, which has been variously conceptualized and defined. This has meant that the paths of inquiry have often diverged at the commencement of the quest; climate researchers were, in fact, often studying different entities (Anderson, 1982; Wilson, 1980).

At the conceptual level, there were two schools of thought. Some believed that climate was an organizational or group attribute; others claimed it was an individual attribute. The former reasoned that since the stimuli were organizational features external to the individual, climate should be considered an attribute of organizations. The latter contended that since the stimuli were processed by the individual, climate should be considered an individual construct.

James and his associates (James, Joyce, & Slocum, 1988) strongly defend the view that climate is solely an individual construct. The champion of the opposing camp, Glick (1988), argues that both individual, psychological climate and collective, organizational climate exist and that either may be studied according to the researcher's interest.

The problems with school climate research, however, were not solely conceptual. Measurement of the concept has also been problematic. There are literally hundreds of climate instruments in existence, most of which have not been tested for validity and reliability. Even some of those measures that have undergone rigorous testing exhibit serious flaws in their construction (Sirotnik, 1980).

Errors in the analysis of data have compounded the other difficulties (Sirotnik, 1980; Wilson, 1985). The level of analysis used in the validation of some instruments, and in some empirical studies, has been inappropriate (Burstein, 1978; Cronbach, 1976; Sirotnik, 1980; Sirotnik & Burstein, 1985). Failure to identify the appropriate level for analysis can, and often does, lead to questionable findings. For example, when the school is the appropriate level for analysis, analysis of data at the individual level greatly increases the likelihood of significant findings. This likelihood occurs because individual-level analysis inflates the degrees of freedom--the number of teachers is far greater than the number of schools. This, in turn, reduces the magnitude of observed effect required for significance at a given level of probability.

This brief review has suggested that there are

problems with climate research. However, these problems are not insoluble, and the study described in this document was an attempt to provide a solution for one of the problems associated with school climate research.

Statement of the Problem

Inconsistent or contradictory findings in school climate research can be explained, in part at least, by the instruments that researchers have used to measure the concept. Research findings are comparable only when the same entity has been measured, and the diversity of school climate instruments, based on different conceptualizations, renders comparability of school climate findings questionable.

On the surface, the instruments appear similar. They share the same methodology; school climate is measured in terms of member perceptions; and, data are gathered by means of self-report, written questionnaires. The questionnaire items present statements descriptive of schools and respondents are asked to indicate the extent of their agreement with the statements. However, many instruments that share a similar format are substantively different.

The most serious flaw in school climate instruments is that some of them do not measure school climate. They

measure concepts such as job satisfaction, teacher morale, and student attitude (Howe & Gavin, 1974; James & Jones, 1976). Other more carefully constructed instruments measure dimensions of school climate, but they do not measure the whole concept (Anderson, 1982). Finally, many of the instruments are technically flawed, and their reliability and validity measures have not been ascertained (Sirotnik, 1980).

If one accepts the arguments, and supporting evidence is presented in Chapter 2, there is need for a school climate instrument that avoids the pitfalls noted above. In this study, one of the principal goals was to develop and test a comprehensive measure of school climate. This report of research describes the development and testing of the measure, the Saskatchewan School Climate Scale (SSCS).

Importance of the Study

The study was undertaken for at least two important reasons. First is the concern with fundamental issues of social inquiry; second is the concern for the practical implications of implementing educational policy. The following paragraphs indicate how the study has helped in those areas.

The accumulation of knowledge in any field of study

is enhanced by the availability of good measures. As stated earlier, school climate research has produced inconsistent findings due, in part at least, to the measures used. If the study has produced a valid, reliable, and comprehensive measure of school climate, one obstacle to progress in the field has been eliminated.

The second reason for undertaking the study was that it might benefit those charged with the implementation of educational policy. Many schools and school divisions in North America and elsewhere are attempting to implement school improvement programs. The existence of a positive school climate has been identified as a necessary precondition in implementing change in schools (Anderson, 1982; MacKenzie, 1983; Purkey & Smith, 1983; Weber, 1971; Wynne, 1981). Consequently, many programs of school improvement suggest that the assessment of school climate should be the first step in the improvement process. Later assessments of school climate provide a means of evaluating the effectiveness of the intervention. The availability of a sound instrument to measure climate should, therefore, be valuable to administrators of schools or of school divisions who are contemplating school improvement interventions. A case in point is the program of school reform initiated in Saskatchewan in the 1980s.

A provincially-administered program of school improvement, the Saskatchewan School Improvement Program (SSIP), was established in 1987 and had, at one time, more than 120 schools enrolled in the program. Unfortunately, no instrument was used consistently to assess climate in the schools at the time they entered the program. The lack of a common measure to assess schools' pre-program climate makes it very difficult to evaluate either the success of the program (SSIP) as a whole, or the progress of individual schools.

From visiting SSIP schools, the researcher has become aware of the deep conviction of teachers and administrators that conditions have improved. However, this is not the kind of hard evidence that is likely to convince scholars, impartial policy makers, or a skeptical public of the program's worth. The instrument developed in this study, the SSCS, may have applicability in various settings, but it should be especially useful in assessing school climate in Saskatchewan and in other Canadian provinces.

Research Purpose and Questions

The main thrust of the study was to develop a school climate instrument and to examine the school climate phenomenon in Saskatchewan schools. The process whereby

the instrument was developed is described in Chapter 3. The research questions below guided the empirical investigation of school climate.

What are the Essential Aspects of School Climate?

There are many elements in a school's environment, human and non-human, which constitute its climate. Are all these elements equally important? Are the human elements more important than the physical environment? For example, is it better for a teacher to have a comfortable, well-stocked classroom or to have a principal whom she holds in high regard? Are some human elements more important than others? For example, does student behaviour have a greater influence on climate than teacher-teacher or teacher-principal relationships?

An attempt was made in this study to identify the important elements of climate. On the school climate instrument, the SSCS, respondents were asked to evaluate the importance of items in describing school climate. These data made it possible to identify the salient aspects of school climate from the perspective of teachers and principals.

What Types of Climate Are There?

Past research has emphasised the comparison of school

climates along the positive-negative continuum. Little attention has been paid to the variability of climate perceptions within schools. Two schools may produce similar aggregate climate scores while having very different climates. For example, one school may be characterized by a single, cohesive group; another may house two or more divergent subgroups. In the latter case, one group's positive perceptions of the climate may be offset by another group's negative perceptions. The study has examined another aspect of school climate, the extent to which school climates are characterized by high levels of agreement or disagreement.

Do Climates Vary Between Schools?

This is the question usually posed in school climate studies. Researchers have generally found that some schools have more positive climates than others. The expectation was that this would be found in this study also. If schools vary with respect to climate, is there a relationship with other variables? In this study, educator and school demographic data were examined to see if these data covaried with school climate data.

Is There Agreement Among Measures of School Climate?

Three different approaches to measuring school

climate were used and the results compared. The self-report instrument developed in the study, the SSCS, was used to gather data on principals and teachers perceptions of climate in their schools. Directors of education in school divisions were asked for a global assessment of climate within their schools. These two sources of data, school directors' perceptions and school educators' perceptions, permitted a comparison of school climate across the entire sample.

The study's third source of school climate data was the researcher. He visited a subsample of the schools in the study and gathered school climate data. The more subjective data gathered by the researcher during the school visits was compared with mail survey, self-report data gathered from teachers, school administrators, and school division directors of education.

Definition of Terms

The most comprehensive conceptual framework of school climate is the one described by Tagiuri (1968). In a very comprehensive review of school climate literature and research, Anderson (1982) chose the Tagiuri framework to categorize school climate studies. Her decision was based on the broad, general direction that Tagiuri had provided for climate research. Wilson (1987) also agreed that the

variables measured in most climate studies could be classified according to the Tagiuri taxonomy. For these reasons, the Tagiuri climate framework was chosen to guide development of the SSCS.

Tagiuri's climate framework includes the following components: ecology, milieu, social systems, and culture. The researcher is aware of no study that has assessed all four dimensions of climate. Most of the studies have assessed either one or two of the Tagiuri dimensions (Anderson, 1982). Tagiuri's definitions and descriptions of the climate components relate to organizational climate. The definitions have been rewritten to take the school setting into account, and **school climate and its elements have been defined according to Tagiuri's (1968) general descriptions of organizational climate elements.**

School Climate

School climate is the school's work environment as perceived by teachers, school administrators, and others. In the study, the primary focus was on the perceptions of school-based educators. However, data based on the perceptions of school division directors of education and of the researcher were also gathered. Although school climate description in this study was limited to perceptions of these groups, other groups such as students

and parents are not precluded as valid sources of school climate data.

The work environment includes both human and physical elements that teachers and school administrators consider important and that influence their attitudes and behaviour. The human element includes the characteristics of the people who either work or study in the school, the relationships among them, and the school's policies and practices that have become established and institutionalized. The physical element includes the school building, grounds, facilities, and non-human resources such as school equipment and supplies.

School Ecology

School ecology refers to physical and material aspects of the school's environment. It includes, for example, the school building and its features (age, condition, decoration, spaciousness, lighting, etc.) and teaching supplies and aids (books, computers and software, maps, art supplies, etc.).

School Milieu

Milieu refers to the people in the school and their characteristics. Important characteristics of students might include their home background, motivation,

attitudes, age, stability and so on. Academic preparation, experience, and commitment may be important characteristics of teachers and school administrators.

School Social System

This climate dimension refers to the patterned relationships of persons and groups. In a school, the relationships within and across student, teacher, and administrator groups are important elements in the school's social system.

School Culture

The school's culture refers to the shared beliefs, values, and symbolic meaning attached to events. Culture is most observable as artifacts such as rules, policies, rituals, and shared language. The behavioural norms, which specify acceptable behaviour, are another aspect of culture that exists at the conscious level. The most fundamental aspects of culture, the basic assumptions and values, are so deeply ingrained and taken-for-granted that even the members of the culture may be unaware of them (Schein, 1984, 1985; Owens & Steinhoff, 1989).

Assumptions

In this study, the following assumptions were made and should be considered in the interpretation of

findings:

1. That school climate is a measurable concept.
2. That school climate measured through the perceptions of teachers, school administrators, directors of school divisions, and the researcher is conceptually valid and reliable.
3. That the respondents to the draft instrument in the pilot test were representative of respondents in the study sample.
4. That respondents understood what was asked of them, had the requested information, answered conscientiously, completed and returned questionnaires voluntarily, and were representative of the sample and the population.
4. That the data gathered on the climate instrument and school director assessments were at the interval scale of measurement.
5. That variables not studied either did not affect or did not differentially affect the variables studied.

Delimitations

Due to human limitations and limited access to resources, every researcher must delimit, or place limits on, the research study. The graduate student researcher,

with limited time and financial resources, is particularly subject to these constraints. The following delimitations were placed on the study:

1. The pilot test of the instrument was limited to a sample of 100 graduate students in the College of Education, University of Saskatchewan.
2. The study sample was limited to 36 Saskatchewan schools.
3. The data analyzed were limited to responses on the school climate instrument, the directors survey, and qualitative data gathered by the researcher.
4. School climate in this study has been limited to the conceptualization proposed by Tagiuri (1968).

Limitations

The limitations listed below are factors which may have affected the study and its findings but which lay outside the researcher's control.

1. The study was dependent on the voluntary participation of many people: graduate students, directors of education, school administrators, teachers, and students.
2. School climate was measured directly at only one point in time in this study. Therefore, an important aspect of school climate, its stability over time,

was addressed in a very limited way.

3. The study was subject to all the limitations commonly associated with reactive research. For example, the researcher assumed that the information supplied by respondents was a faithful representation of their perceptions. This is not always the case; respondents, for many reasons, may have withheld information. They may have underrepresented their knowledge by withholding information, or they may have overrepresented their knowledge by manufacturing responses. Such behaviour is usually due either to the respondents' desire to present a more favourable self image, or to their apprehension that revealing what they know may leave them in some way vulnerable.

The Researcher's Perspective

Researchers have not, as a rule, referenced their ontological or epistemological frames of reference, the assumption being that research was value free. The value-free status of research is a basic assumption of the descriptive model, the dominant research paradigm of the past 25 years (Owens & Shakeshaft, 1992). The dominant paradigm, however, has been under attack for some time now (Burrell & Morgan, 1979; Cornbleth, 1986; Gage, 1989).

Many researchers have become disillusioned with the model's inability to describe and explain the real world.

A competing worldview has emerged which treats as problematic the taken-for-granted assumptions of descriptive research (Borland, 1990; Eisner & Peshkin, 1990; Outhwaite, 1987). Interpretive researchers view social research as a value-laden activity, with the researcher's values and biases entering every phase of the inquiry--problem selection, methodology, findings, conclusions, and recommendations. If the view that research is a value-laden activity is correct, and the researcher believes it is, it is appropriate for researchers to reveal their biases. By doing so, they provide additional information whereby the worth of the research may be judged.

A glance at research in education reveals a number of different styles of discourse--ways in which people talk about their purposes, procedures and findings. Profound differences are sometimes portrayed as if they were merely differences in method or technique; attention is incorrectly focused on the procedures of data gathering when it should be focused on assumptions, purposes, or implications of inquiry. The different styles of discourse reflect different disciplinary matrices or paradigms and represent competing visions about the nature

of society and schooling (Popkewitz, 1986).

A comparison of the basic assumptions of the two research models, descriptive and interpretive, reveals the epistemological and ontological gulf which separates them. The descriptive model, borrowed from research in the physical sciences, is based on positivist philosophy and brings a technical-rational approach to social inquiry (Phillips, 1987). According to Outhwaite (1987), descriptive research failed because the social sciences could not be beaten into a shape acceptable to this philosophical view of science. Interpretive inquiry has its roots in social anthropology and has come into prominence in the social "sciences" over the past 25 years or so. (Interpretive researchers prefer the term **social inquiry** to social science.)

According to Guba and Lincoln (1982), there are at least five major areas of dispute between the descriptive and interpretive approaches to research (Guba & Lincoln, 1982; Lincoln & Guba, 1985). One of these, the status of research regarding values has already been addressed. The four remaining contentious issues are: the nature of reality, the inquirer-object relationship, the nature of truth statements, and the explanation of action. Before proceeding to an examination of these specific issues and their implications for the proposed study, the

researcher's general orientation to research is addressed.

The researcher considers himself a postmodernist, as opposed to a modernist. To make this statement more explicit, it is necessary to differentiate between these philosophies. Modernism had its origins in seventeenth century Europe in what was termed the Enlightenment, "the unfolding of progress through reason and the application of science" (Westwood, 1991, p. 80). The social sciences were products of the Enlightenment project. Westwood (1991) summarized the modernist influences on social research :

Historically, social science ... is part of ... foundationalism and the generation of laws, predictability and the universalizing knowledges that are characterized as scientific and separated from magic, religion, and other forms of knowledge. Epistemologically, knowledge claims are verified in relation to data, the facts established by the senses, generated by objective procedures founded upon neutral or value-free theory. (p.80)

It should be clear from the above that descriptive research espouses modernist philosophy. Giroux (1988) claimed that educational theory and practice "has always been strongly wedded to the language and assumptions of modernism" (p. 5). He stated that educators as diverse as John Dewey (1916), Ralph Tyler (1950), and John Goodlad (1984) have "shared a faith in modernist ideals" (p. 5). The researcher finds it even more remarkable that the most recent apologist for modernism is the preeminent, critical

theorist, Jurgen Habermas (1987).

Postmodernism, which surfaced in the 1960s as a reaction to modernism, is much less unified than modernism. Several commentators have noted postmodernism's inclusiveness and the difficulties that defining it poses (Giroux, 1988; Hebdige, 1986; Kitwood, 1990). Burbules and Rice (1991) identified two major trends within the movement, postmodernism and antimodernism. (The authors use upper and lower case letters to differentiate between Postmodernism as a movement and postmodernism as a trend within the movement.)

The postmodernist trend is "not entirely alien to modernism; it frequently invokes modernist categories, such as reason or equality, but seeks to reappropriate, redefine, and reground them" (Burbules & Rice, 1991, p. 397). In sharp contrast, the antimodernist trend "is characterized by a strong antipathy to the language, issues, and values of modernism, and seeks to form an entirely different problematic" (p. 398).

Two of postmodernism's leading scholars, Jameson (1984; 1988) and Lyotard (1984), identified two overarching tenets of the movement as the demise of rational man and the demise of the grand narrative. (Rational or economic man is a reference to the modernist

belief that gave undue emphasis to human rationality in explaining behaviour. The grand narrative or metanarrative was Lyotard's way of describing the modernist quest for universal truth or Grand Theory.)

The other major precept of postmodernism, the equation of knowledge with power and the pursuit of knowledge as a political activity serving the establishment, was pointed out by Foucault (1980; 1988). Foucault's ideas have strongly influenced the deconstructionist movement within postmodernism. The pedagogy of liberation (Freire, 1985), feminist research (Lather, 1989), and research aimed at revealing oppression and redressing power imbalances belong in this category.

The researcher agrees with Lyotard and Jameson that the rational man is not a useful concept and that the pursuit of ultimate truths is an unrealistic goal for research in the social sciences. He parts company with Lyotard when that author completely rejects modernism. Lyotard's negativism smacks of the anarchy of Feyerabend (1976). The researcher sees advantage in salvaging and reappropriating parts of modernism. Although he agrees with Foucault that power and politics are present in every social situation and that power and knowledge are bedfellows, the researcher does not, for now, accept a deconstructionist approach to research. The pursuit of

equity and the exposure of oppression are worthwhile social and political goals, but how credible can research be when it is undertaken from a position of deep bias? It seems to the researcher that this is an attempt to substitute one form of bias (disestablishment) for another (establishment).

The researcher's position could be described as postmodernist-eclectic. In the following section, he indicates the interpretive and descriptive positions he supports and explains how these choices may have affected the research project.

Nature of Reality

Descriptive research presupposes that reality is as concrete and tangible in the social world as it is in the physical world. This reality is considered fragmentable into independent variables and processes, any of which can be studied independently of the others. The descriptive researcher's goal is to converge on this reality in order to explain, predict, and control it.

Interpretive research views every situation as possessing multiple, intangible realities that can only be studied holistically. Inquiry into these multiple realities will inevitably diverge so that prediction and control are unlikely outcomes, although some level of

understanding/*verstehen* can be achieved.

As to the nature of reality, the researcher prefers the interpretive approach. It seems to accord better with his experiences of life; the descriptive view seems too simplistic to adequately account for human complexity. There is, however, a quantum leap from the acceptance of the interpretive view of reality to the abandonment of large-scale survey studies. It is the researcher's contention that both the descriptive and interpretive approaches can shed light on the nature of reality.

It is unlikely that research can ever bring us to a full knowledge of the nature of reality. The best that can be hoped for are approximations. The claims of descriptive research need to be modified, but it, too, provides an estimate of reality. By focusing on only part of the whole, some meaning will be lost and some distortions will occur. This, however, need not be a problem, unless the descriptive researcher overstates the case in interpreting findings and drawing conclusions. The tools of descriptive research are such that, when used properly, they provide a rough approximation of the large picture.

Interpretive research has the potential to provide a closer approximation of the realities that exist either in a single setting or in a small number of settings. On-

site observation and immersion in the participants' world make the social interactions more accessible to the shrewd and experienced observer. The interpretive approach, however, is not without its shortcomings (Smith, 1984).

Interpretive research places great emphasis on the skills of the researcher, and those skills are only acquired through a long apprenticeship. Also, and even more crucial, there is the issue of researcher credibility; we all carry psychological baggage which colours our vision. While all researchers should answer the following question, it is more crucial for the interpretive researcher: Did I see what I believe, or do I believe what I saw? The second shortcoming of interpretive research is that it does not provide information across the broad spectrum and is, therefore, less useful as a basis for developing broad policy.

Inquirer-Object Relationship

Descriptive research assumes that the inquirer can maintain a discreet distance between him, or her, and the object of inquiry. When the object is human, safeguards may need to be taken to guard against reactivity. Interpretive research accepts that there is mutual influence between researcher and participants.

The researcher accepts the interpretive view of

mutual influence between researcher and researched. It should, however, be recognized that the extent of influence between researcher and researched will vary greatly with the method used to gather data and the sensitivity of the data gathered. The relationship will certainly, or should be, of great concern to the interpretive researcher. Immersion in the participants' world is not possible without influencing and being influenced by it. Descriptive research, where the data are usually gathered by mailed, self-report instruments, is less likely to be visited by this problem--unless the information requested is highly sensitive. Usually, the guarantees of, and provisions for, anonymity and confidentiality are sufficient to reduce apprehensions.

Nature of Truth Statements

The aim of inquiry in descriptive research is to develop a nomothetic body of knowledge. This knowledge is best encapsulated in generalizations (truth statements of enduring value that are context-free). The emphasis is on learning what is common across situations. Uniqueness, or departure from commonality, is set aside as intrinsically uninteresting or as error variance.

The aim of interpretive inquiry is to develop an ideographic body of knowledge. Every situation is unique,

and that uniqueness is valued. What is learned in one situation can, at best, yield working hypotheses that may form the starting point of a second inquiry.

Both approaches have merit and should be considered complementary rather than competing. Together, they offer the best hope for the advancement of knowledge in the social sciences. Alone, they can provide valuable insights. Rather than claim victory for either approach, it is more important to be aware of the limitations of each. The researcher believes that, *ceteris paribus*, a multimethod approach in social research is superior to a single method approach.

Explanation of Action

Descriptive research views every action as the result (effect) of a real cause or causes that precede the effect temporally. The experiment is the preferred method for determining cause, but this method can rarely be applied in social settings. Usually it is impossible, and even if it were possible, it may be ruled out on moral, ethical, or ideological grounds. Interpretive research explains action in terms of multiple interacting factors, events, and processes that shape it and are part of it. The best inquirers can hope for is to establish plausible inferences about the patterns and webs that shape the

action. Field study is the preferred method for investigating these patterns.

The researcher believes that the complexity of social life is best captured in the interpretive vision. Outside the laboratory, experimental controls and manipulation are both impossible and ideologically unacceptable. (They may, of course, be unacceptable in the laboratory also.) Social behaviour is so complex that inquiry must come to terms with the fact that it can never capture it completely. In the school climate study, survey and case study data were used to create a picture of what exists. Explanations are suggested, but they cannot be stated with certainty; Alternate explanations always exist. Even if rationality was accepted as the sole explanation of human behaviour, causes and motivation are often so deeply embedded in the psyche that they are often inaccessible even to the actors.

Influence on the Study

The following is a brief description of how the researcher's perspective or philosophical orientation affected the study. In general, the study has elements of descriptive and interpretive research, which is in keeping with the perspective described above.

The study owes much to the descriptive research

tradition. Motivation for the study was dissatisfaction with climate research to produce consistent findings. The researcher aligned himself with the descriptive tradition when he believed that a body of generalizable knowledge about the school climate construct was possible. The idea of generalizable knowledge does not exist in interpretive tradition.

The decision to develop and validate a measure of school climate also belongs unequivocally in the descriptive domain. The sole purpose of constructing a measure is to permit comparisons, and this is an unacceptable approach in interpretive research where the focus is on uniqueness. In the study, the Saskatchewan School Climate Scale (SSCS) was used to measure school climate and to identify schools with positive and negative climates. This part of the study, in keeping with descriptive research tradition, treated uniqueness as error variance.

The development, too, of the SSCS followed the lines of descriptive research. The conceptual framework selected for the measure was one into which could be fitted all past research on school climate. The development and testing of the draft instrument and the quantitative analysis of pilot test data conformed to the practices of descriptive research.

In the study, all aspects of the survey were in the descriptive tradition. This included the various forms used to gather quantifiable school climate data from school-based educators, directors of education, and students. It also included the methods by which the data were gathered, mail surveys of the educator measures and group administration of the student survey. The sample, too, and the use of randomness to ensure representativeness are hallmarks of descriptive research.

Quantitative analysis of survey data and the use of inferential statistics identify the study as descriptive research. This included not only the analysis of data gathered on surveys but also observation data quantified for purposes of comparison with survey data.

There were, however, several departures from the descriptive research mould. The reader will have noted the absence of formal hypotheses in this chapter. In testing hypotheses, descriptive research views the world through dichotomous lenses of black and white, right and wrong, supported and not supported. The use of research questions rather than hypotheses gave the researcher greater latitude in the study.

The inclusion of case studies was, undoubtedly, the feature of the study that most closely conformed to interpretive research. The researcher was close to the

researched; he was influenced by his contacts with teachers, students, and administrators, and they were affected by his presence. What was important during the on-site visits was the uniqueness of the situation in each school.

There were, however, elements of the on-site visits that belong in descriptive research. The researcher used a common set of questions in the four schools. Comparisons among the schools were made, and data were quantified for comparison with survey data.

The final element of the study, the presentation of results, findings, and conclusions, was influenced by descriptive and interpretive research traditions. Generalizations made about school climate are in the descriptive tradition. The interpretive component is present in the researcher's interpretation of the results. Nothing has been established with certainty. Certain outcomes have been noted. If they should be present in replications of the study, they will inspire greater confidence, but nothing is carved in stone.

In this section, the researcher has attempted to make his biases explicit, and he has indicated how these biases may have affected the study. The reader must decide whether the researcher's biases, described here, are present in the study.

Organization of the Thesis

In this chapter, the broad parameters of the study have been described. This included a statement of the problem and its context and the importance of this study in advancing research in the social sciences in general, and in education in particular. The research questions have been stated and terms defined, as well as assumptions, delimitations, and limitations of the study. The chapter ends with a statement of the researcher's philosophical perspective. This statement should be examined closely, since it has implications for the design of the study and the interpretation of the data.

In Chapter 2, research and literature related to the study are presented. There is emphasis on exposing deficiencies in research that the present study addresses.

Chapter 3 is a description of the research design. This chapter describes the development of the Saskatchewan School Climate Scale (SSCS), the sample used in the study, and procedures used in data collection and analysis.

In Chapter 4, the respondents are described and profiled. In Chapter 5, the results of the mail surveys are presented. In Chapter 6, the results of the school visits are presented and compared with results from the surveys. Relative strengths and weaknesses of the two research approaches, mail surveys and on-site observation,

are described.

The final chapter, Chapter 7, is an attempt to place the study and its findings in the larger context. It describes the significance of the findings, noting the assumptions and limitations on which those findings rest. Finally, recommendations are proposed. Since a single study proves little, it is to be hoped that other researchers will continue the effort and either validate or invalidate the conclusions of the present study.

CHAPTER 2

REVIEW OF LITERATURE AND RESEARCH

In this chapter, the literature and research relevant to the present study are reviewed. The chapter ends with a summary.

The review begins with a description of the origins, evolution, and conceptualization of the climate construct. Following this, the problems which have been encountered in the operationalization and measurement of organizational climate are addressed. Next, the concept of school climate as an outgrowth of organizational climate is examined. The review concludes with an examination of some of the instruments that have been used to measure school climate.

Climate: Meaning and Metaphor

The term, climate, comes from the Greek, klimatos. Originally, the term referred to a zone of the earth identified by its slope or inclination from the equator or poles. Physical geographers have long used climate to describe the condition of a region or zone in relation to such atmospheric phenomena as wind, temperature, and moisture, particularly as they affect humans and animals (*The New Webster Encyclopaedic Dictionary*, 1980, p.154). Humans have always been aware of the importance of climate

in the geographical sense and have been forced to modify their behaviour in response to it. For example, it is inconceivable that one could ignore the need for clothing and shelter in the depths of a Saskatchewan winter.

That the social environment or social climate could have an equally great, perhaps greater, effect on human behaviour was not as universally recognized. It is probably true that thoughtful people in every age have reflected on how we are affected by what others do. In the sixteenth century, the English poet, John Donne wrote: "No man is an island", a metaphorical expression of this sentiment. However, the systematic study of how human behaviour is affected by the social environment did not begin until the 1930s.

Most writers on organizational climate trace its roots to the behavioural theories of Lewin (1935, 1951) and Murray's (1938) needs-pressure theory. Lewin is probably best remembered for his often-cited equation $B=f(P,E)$. For Lewin, behaviour (B) was the result of the interaction between the person (P) and his proximal psychological environment (E). He elaborated on this relationship in his field theory and provided a new direction for the study of behaviour. Earlier study of individual behaviour had focused on the person as the single important determinant.

Murray (1938), building on Lewin's work, conceptualized the dual process of personal needs and environmental press in the formation of psychological environment. Murray suggested that individuals had specific needs and that the strength of these needs represented the internal determinant of behaviour. Environmental press, the external determinant of behaviour in Murray's scheme, consisted of those situational factors in the individual's environment which impeded or facilitated his goal achievement.

While the work of Lewin and Murray focusing on individual behaviour was important in the introduction of the climate concept, valuable contributions were also made by organizational theorists belonging to the human relations or social system school (Homans, 1950; Mayo, 1933; Roethlisberger & Dickson, 1939; Whyte, 1948). Roethlisberger & Dickson's (1939) classic Hawthorne studies, Mayo's (1933) study at General Electric, and Whyte's (1948) study of workers in the restaurant industry focused on how behaviour in the workplace was influenced by social circumstances such as group work norms and informal leader behaviour.

The terms climate and atmosphere were first introduced in the social sciences by Lewin, Lippitt, and White (1939) in their study of the effects of leadership

style. They experimentally created three different types of social climate (authoritarian, democratic, and laissez faire) and studied their effects on behaviour. Pace and Stern (1958), stimulated by Murray's earlier work, extended the needs-press theory. They developed the College Characteristics Index (CCI) and pioneered the assessment of college environments.

Organizational Climate

The earliest studies of climate in the workplace began to appear about three decades ago (Argyris, 1958; Burns & Stalker, 1961). In reviewing the climate construct, Reichers and Schneider (1990) noted that its early development was atypical. The typical evolution of a construct, in their view, progresses through three stages, the first of which is *introduction and elaboration*. In this stage, there are attempts to legitimize the new concept through the production of articles which elaborate on the earliest definitions and offer various operationalizations of the concept. Empirical studies usually follow this stage; in the case of climate, however, the empirical studies often preceded the customary preliminaries. Reichers (1990) stated:

In particular, the climate construct got off to a relatively quick empirical start. At the time of its major introduction in the late 1960s, climate

researchers did not devote many years or many articles to haggling over definitions or elaborating all the possible nuances of climate. Rather, applied psychologists began gathering data and assessing validity of the concept right from the start. (p. 14)

Definition and Conceptualization

Forehand and Gilmer (1964), in a review of early organizational climate literature, were among the first to grapple with the meaning of the construct. They defined organizational climate as:

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

They suggested that acceptable measurement of climate included individual perceptions and objective indices such as structure.

A decade later, James and Jones (1974) criticized the Forehand and Gilmer definition for its all-inclusiveness:

... it seems to offer little more than a semantically appealing but "catch-all" term. In a field already replete with broad, complex, and frequently misunderstood definitions, the need for yet another sweepingly defined term is questionable. (p. 1099)

James and Jones argued that almost any organizational study could be subsumed under the rubric of climate as defined by Forehand and Gilmer, and that their definition, therefore, added nothing new to organizational theory.

In January, 1967, a major conference on organizational climate was convened at the Harvard Graduate School of Business Administration. It brought together social scientists from different research traditions with the express goal of presenting "a broad range of thinking about the concept of climate and about appropriate research methodology within an overall framework" (Tagiuri & Litwin, 1968, p. 1). The revised conference papers, published the following year under the joint editorship of Tagiuri and Litwin (1968), remain one of the most significant contributions to our understanding of the climate concept.

Tagiuri's (1968) paper, "The Concept of Organizational Climate", provided an important definition of organizational climate, one which has greatly influenced later research. Commenting on the earlier definitions of climate (Forehand & Gilmer, 1964; Gellerman, 1960; Gilmer, 1966), Tagiuri (1968) was of the opinion that they "give excessive attention to the organization as a whole and place insufficient emphasis on the perceptions of the members of the organization" (p. 27).

In Tagiuri's view of organizational climate, "the environment is interpreted by the members of the organization to have a certain quality to which they are

sensitive and which, in turn, affects their attitudes and motivation" (p. 27). His definition stated:

Organizational climate is a relatively enduring quality of the internal environment of an organization that (a) is experienced by its members, (b) influences their behaviour, and (c) can be described in terms of the values of a particular set of characteristics (or attributes) of the organization. (Tagiuri, p. 27)

It followed from Tagiuri's conceptualization that organizational climate would have to be measured by accessing the inner world of the members. The stimuli were less important than the members' perceptions of them. This has become the dominant view in climate research.

In the same paper, Tagiuri (1968) also provided a conceptual framework for the study of organizational climate, a framework upon which the present research is based. While much of the research on organizational climate reflects Tagiuri's influence, the researcher could find no study which gave due consideration to all four elements of his framework. Tagiuri listed climate's four elements:

A particular configuration of enduring characteristics of the ecology, milieu, social system, and culture would constitute a climate, much as a particular configuration of personal characteristics constitute a personality. (p. 23)

Tagiuri defined the elements of climate--ecology, milieu, social system, and culture--in the following manner:

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Ecology ... would refer to the physical and material aspects of the more generic term environment. Milieu, social system, and culture each would help distinguish three major social aspects of the more general environmental concepts. Milieu would refer to persons and groups; social system to patterned relationships of persons and groups; culture to such aspects of the social environment as belief systems, values, general cognitive structures, meaning. (p. 21)

Organizational climate studies have mainly focused on the social system and culture elements and have ignored milieu and ecology. In the few studies where attention has been directed to milieu and ecology, only objective data have been gathered. If one accepts that what is important to the member is not so much the external features of the environment but rather how he or she perceives those features, objective measures are clearly inappropriate. Such measures do not represent organizational climate as it is commonly defined.

Several others have contributed to our understanding of this global or molar climate concept. Campbell, Dunnette, Lawler, and Weick (1970) defined organizational climate as:

a set of attributes specific to a particular organization that may be induced from the way the organization deals with its members and with its environment. (p. 390)

Campbell and his associates made it clear that while the critical elements of organizational climate were individual perceptions of the organization and that it was these perceptions that influenced the individual's behaviour, climate itself was an organizational attribute. In their review of four studies, they identified four common dimensions of organizational climate as: individual autonomy; degree of structure imposed on the position; reward orientation; and consideration, warmth, and support. They indicated that the list was not exhaustive and that many factors had still to be determined.

Campbell and Beatty (1971) stressed that organizational climate was a **description** of the organizational situation. As will be shown later in this chapter, much of the controversy surrounding the construct has centred on the two positions taken by Campbell and his collaborators: that climate is an organizational rather than an individual attribute (Campbell, Dunnette, Lawler, & Weick, 1970), and that climate is a description rather than an evaluation (Campbell and Beatty, 1971).

Pritchard and Karasick (1973) redefined organizational climate on the basis of a review of previous definitions (Gellerman, 1959; Georgopoulos, 1965;

Gilmer, 1966; Litwin & Stringer, 1966; Meyer, 1967; Tagiuri, 1968). Pritchard and Karasick (1973) defined organizational climate as:

a relatively enduring quality of an organization's internal environment distinguishing it from other organizations; (a) which results from the behaviour and policies of members of the organization, especially top management; (b) which is perceived by members of the organization; (c) which serves as a basis for interpreting the situation; and (d) acts as a source of pressure for directing activity. (p. 126)

The above definition reflects the basic agreement on the main features of organizational climate which exists among theorists and researchers: that organizational climate includes stimuli which originate in the workplace and which are filtered through the individual member's psychological processes. To claim that there is consensus on all aspects of the construct would be to overstate the case. There are some opposing views, and it is to these that we now turn our attention.

Debate and Controversy

Considering the breadth of the organizational climate concept and the different backgrounds of the researchers attracted to it, it is not surprising that opposing views have surfaced (MacIntosh, 1988). In some instances, the differences seem to have been resolved; in other instances, the differences appear insoluble. For the

present, the review focuses on the conceptual problems with respect to climate, although the conceptual problems do not exist in a vacuum; they are almost always linked to, and are sometimes inseparable from, problems of operationalization, measurement, and analysis.

Some of the debate and argument has stemmed from the global nature of the organizational climate concept. This has led researchers to question whether climate is redundant, given other organizational-level or individual-level concepts. The second and more persistent debate is carried on by those who believe climate is an individual attribute and their counterparts who believe it is an organizational attribute. Each of these questions is reviewed below.

Redundancy

The redundancy debate has been carried on two fronts. On one hand, climate researchers were accused of duplicating research already conducted on organizational-level attributes such as structure; on the other, they were accused of repeating research on individual-level attributes such as job satisfaction. Each of these debates is summarily described in the following paragraphs.

James and Jones (1974), commenting on Forehand and

Gilmer's (1964) definition of organizational climate, stated:

... almost any study focusing on group or organizational characteristics would be included in the general area of organizational climate. (p. 1099)

It should be recalled that Forehand and Gilmer (1964) had suggested that appropriate measures for assessing organizational climate included objective indices as well as perceptual measures.

It is unquestionably true that the collection of objective data on the range of attributes suggested by Forehand and Gilmer (1964) would duplicate much of the research on organizational structures. However, subsequent definitions of organizational climate have specified member perceptions as an essential component and, as a result, few studies of organizational climate have relied on objective data.

Other voices have been raised to support the uniqueness of the climate construct. Empirical and conceptual arguments have been made to differentiate between organizational climate and organizational structure (Campbell, Dunnette, Lawler, & Weick, 1970; Field & Abelson, 1982; Lawler, Hall, & Oldham, 1974; Payne & Mansfield, 1973; Payne & Pugh, 1976). The distinction between climate and structure has been stated most

succinctly by Joyce and Slocum (1979):

Climate is clearly social-psychological in nature (Lewin, 1936), whereas structure is a non-psychological fact (Newman, 1975). (p. 324)

Glick (1985) considered the possible redundancy of climate with other constructs. He acknowledged that climate seemed to overlap with many constructs in organizational behaviour, and asked rhetorically if it was a useful concept. Glick felt it was, and he supported this view as follows:

The relationship between individuals and organizations is inherently multidimensional, and abandoning climate is likely to lead to unidimensional approaches such as those that focus on just leadership or communication. Organizational and psychological climate should be retained as useful categories of variables for multidimensional assessments of individual-organizational relationships. (p. 606)

The second aspect of the redundancy debate concerned the overlap between climate and individual-level concepts, especially job satisfaction (Guion, 1973; Hellriegel & Slocum, 1974; Johannesson, 1973). In a critical essay on organizational climate, Robert Guion (1973) called it "undoubtedly important, but it also seems to be one of the fuzziest concepts to come along in some time" (p. 121).

Among the points raised by Guion was redundancy or overlap between climate and satisfaction. He based his argument on two pieces of evidence. The first was the observation by Campbell et al. (1970) that climate

instrument developers had typically culled items from old job satisfaction questionnaires. The second was that since both concepts were measured the same way, through perceptions of members, they were likely to yield similar results.

Johannesson (1973) provided empirical evidence to support the contention that organizational climate and job satisfaction were one and the same. He hypothesized that "most of the variance in a perceptual measure of organizational climate could be subsumed in factors traditionally found in satisfaction research" (p. 140). In testing the hypothesis, Johannesson examined the relationships between organizational climate cluster scores and cluster scores based on two job attitude instruments, the SRA (Science Research Associates) Employee Inventory and the Job Description Index, JDI, (Smith, Kendall, & Hulin, 1969). The data tended to support his hypothesis, and Johannesson concluded that "by and large, organizational climate as measured in this study failed to add new or different variance to commonly identified satisfaction factors" (p. 141).

Johannesson's findings were supported in studies by Muchinsky (1977) and by Ford and Jackofsky (1978). Muchinsky found that job satisfaction, measured again by the JDI, and climate were correlated. Ford and Jackofsky

found significant relationships between satisfaction and the climate dimensions examined in their study. However, the conclusion drawn from the majority of studies which examined the issue was that "while job satisfaction and climate are related, they are not the same construct" (Field & Abelson, 1982).

Downey, Hellriegel, Phelps, & Slocum, (1974) found significant relationships between six climate factors and five climate scales, but noted the differential effects of intervening variables such as organizational level on climate and satisfaction. They concluded that the two constructs were not redundant. LaFollette and Sims (1975) reported similar findings. They also found that two measures of satisfaction were more closely related to each other than they were to a climate measure.

Payne, Fineman, and Wall (1976) found that the relationship between climate and satisfaction was dependent on the value attached to aspects of work. Other studies have all shown that climate and satisfaction relate differently to other indices of organizational effectiveness (Hellriegel & Slocum, 1974; Payne & Mansfield, 1973; Schneider & Snyder, 1975).

It should be noted that the climate-satisfaction debate focused mainly on the operationalization and measurement of the two concepts, although the underlying

assumption seemed to be that if the measures were the same, so were the concepts. However, organizational climate and job satisfaction are conceptually distinct. The frames of reference are different: organizational climate assessment requires the member to focus on the organization as a whole, while job satisfaction has an individual or personal focus. Climate represents a description of the situation, while satisfaction is an evaluation of the situation.

When it comes to perceptions, however, the distinction between description and evaluation is not as clear as some would have us believe. There is no doubt that perceptions are related to attitude, and it seems more reasonable to consider the relationship between the two as continuous rather than dichotomous. Guion and Robins (1964) tested the relationship between what they considered purely descriptive and purely affective statements about supervisory behaviour. The observed correlation between the two variables was .79. In other words, affect accounted for almost 64 per cent of the variance in the descriptive measure.

In interpreting the Guion and Robins (1964) finding, one must remember that it was based on their judgement as to what constituted statements of pure description and statements of pure affect. To the extent that the

descriptive items contained an affective element, the relationship would be inflated. In any case, the only study which attempted to partial out affect in climate data (Schnake, 1983) found much lower correlations between five climate and three satisfaction dimensions. Correlations ranged from a low of .06 to a high of .58, with the median value being .36.

To round out the climate-satisfaction review, the researcher examined the climate and satisfaction instruments used in the Johannesson (1973) study, since that study had ignited the debate. Both instruments used by Johannesson, satisfaction and climate, contain items which call for description and items which call for evaluation. In addition, the frame of reference was not consistent throughout the instruments: for some items, an organizational frame of reference was provided; and, for other items, an individual frame of reference was provided. In other words, the satisfaction and climate instruments used in the study contained enough similarity that Johannesson's findings should come as no surprise.

By the same token, the climate instrument used by Schnake (1983) is not above criticism. For example, the climate instrument he used, a modified (thirty item) version of the Litwin and Stringer (1968) Organization Climate Questionnaire, contained five items which provided

the respondent with an individual focus. Also, some of the climate items called for responses that seemed closer to the evaluative than to the descriptive end of the continuum.

Individual or Organizational Attribute

While the redundancy debate appears to be a dead issue, the individual-organizational debate is still with us (Glick, 1988; James, 1982; James, Joyce, & Slocum, 1988; Joyce & Slocum, 1984; MacIntosh, 1988; Moeller, Schneider, Schoorman, & Berney, 1988; Reichers & Schneider, 1990). At issue here is whether climate is primarily a psychological construct that may under certain circumstances be aggregated to form organizational climate, or whether it is primarily an organizational attribute. In other words, the unit of theory problem in climate research has not been resolved.

Initially, the organization was considered the natural unit of theory in climate research (Argyris, 1958; Forehand & Gilmer, 1964; Litwin & Stringer, 1968). In the mid 1970s, the unit of theory in organizational climate research became an issue (Guion, 1973; Hellriegel & Slocum, 1974; James & Jones, 1974). In their review of organizational climate, James and Jones (1974) made a distinction between psychological and organizational

climate and suggested that different units of theory were appropriate in each case. Hellriegel and Slocum (1974) introduced a third unit of theory, the subsystem, between the individual and the organizational levels--probably better known as group climate (Howe, 1977).

James, Joyce, and Slocum (1988) have been the most persistent upholders of psychological climate. Their position may be stated thus: Climate measured as individuals' perceptions is intrinsically psychological. They argued:

These processes take place within the individual and involve interactions between environmental stimuli and personalistic attributes, such as values and expectations. Thus attributing meaning to environmental stimuli is a product of cognitive information processing, and *it is individuals, and not organizations, that cognize*. The basic unit of theory for meaning is the individual. (pp. 129-130)

If perceptual agreement among individuals exists, James and associates (1988) argued, this represents a shared assignment of meaning and justifies aggregation. They did not believe, however, that aggregation implied a shift in the unit of theory:

Shared assignment of meaning justifies aggregation to the next level of analysis ... because it furnishes a way of relating a construct that is defined and operationalized at one level of analysis (the individual) to another form of the construct (e.g., group climate, subsystem climate, OC). Although the unit of analysis for the aggregate psychological variable is the situation, the definition and *basic unit of theory remains psychological*. (p. 130)

Glick has been the principal spokesperson for the thesis that climate is an organizational attribute. He defined organizational climate as "a broad class of organizational, rather than psychological, variables that describe the organizational context for individual actions" (Glick, 1985, p. 613). Glick rejected the individualist position and stated that an extension of their logic "suggests that all organizational phenomena can be reduced to psychological processes because organizations are staffed by individuals" (Glick, 1988, p. 133). He argued that meaning creation involved more than individual-level cognition:

Meaning requires communication, a social activity (Poole & McPhee, 1983). Thus, meaning must be a property of the system of social interactions rather than an individual attribute. (1988, p. 134)

As Glick (1988) pointed out the two positions represent fundamental epistemological differences. The psychological climate adherents espouse an operationist position, while the organizational climate adherents espouse a realist position. The operationist definition of organizational climate is based on the agreement of individuals' perceptions. Without perceptual agreement, organizational climate does not exist for them. For the realists, organizational climate exists whether individuals agree or disagree in their perceptions. Glick

(1988) summed up the arguments from his realist position:

Under the operationist definition, organizational climate exists only in an organization if measures indicate its existence. ... Under a realist approach, "constructs should exist for the whole population or not at all" (Glick, 1985, pp. 604-605). All measurement techniques are prone to error. Thus, negating the existence of a construct because of specific empirical results is inappropriate for a realist. Organizational climate is an organizational attribute that may be *estimated* with a central tendency of measures, but the central tendency is *not* the organization itself. (Glick, 1988, p. 135)

The epistemological debate appears insoluble since the champions of each side inhabit different paradigms (Kuhn, 1970). They proceed from different assumptions about the nature of reality and apply different criteria in judging value. For these reasons, it is unlikely that either side will ever convince the other. The researcher agrees with Glick (1988) that "it is time to stop shadowboxing and agree to disagree" (p. 135).

The researcher's position on the individual-organizational controversy lies somewhere between the two positions described. It is likely that climate is the result of interaction between the people and the setting. The research on social climate, as MacIntosh (1988) pointed out in his review of existing models of social climate, reveals three different perspectives, the personal perspective, the environmental perspective, and the interaction perspective. Basically, the three

perspectives may be described as follows: from the personal perspective, climate is viewed as people-dependent; from the environmental perspective, climate is viewed as setting-dependent; and from the interaction perspective, climate is viewed as the result of mutual influence between people and setting. The researcher shares with MacIntosh (1988) a predilection for the interaction perspective as the one which best reflects reality.

The researcher agrees with Glick and the realists that organizational climate exists whether or not perceptions converge. It may be that climate description which relies solely on the positive-negative dimension is inadequate. It might be informative to add a second dimension for describing climates, a consensus-disagreement dimension. The first dimension would be measured, and usually is, by the mean score; the second dimension could be measured by the variability of scores.

The researcher parts company with the realists when they look for objective measures to verify members' climate perceptions. While verifying the accuracy of perceptions in certain contexts makes sense (e.g., checking a pilot's depth perception), it makes no sense to consider the accuracy or inaccuracy of a worker's perceptions of the work environment. The worker's

behaviour and attitude is influenced by his or her perceptions regardless of how those perceptions accord or disagree with reality.

Climate or Culture

A review of organizational climate would be incomplete if it did not attempt to shed light on the relationship between climate and culture. In some instances, the concepts have been treated as if they were one. In other instances, researchers have worked from the assumption that one concept subsumed the other. The growth of organizational culture research in the 1980s and the corresponding decline of organizational climate research at the same time raises the question: Is the wheel being reinvented? One wonders whether the stage is set for another round in the redundancy debate. The most surprising aspect of climate and culture research is that, by and large, researchers in one discipline seem to be unaware of what is happening in the other.

Similarities between Climate and Culture

The similarity between the two concepts has been noted by several writers (Denison, 1990; Glick, 1985; Pettigrew, 1990; Reichers & Schneider, 1990; Schneider, 1985). Indeed, climate and culture have been used by some

researchers as if they were synonymous (Argyris, 1958; Katz & Kahn, 1966, 1978; Maehr & Braskamp, 1986). Denison (1990) set forth the similarities between the two concepts based on the core argument "that both concepts refer to what might be called the perceived nature and logic of the internal social environment of a human organization" (p. 31). Those similarities are:

(1) the focus on organizational systems as a meaningful level for behavioural analysis; (2) the attempt to deal with connections between basic beliefs and assumptions on the one hand and actual behaviours and practices on the other; (3) the difficulty in explaining the impact that a system has on individuals and the impact that individuals have on a system; and (4) the problems associated with trying to characterize the "objective" features of an organization's character when the only real criteria (sic) of existence is intersubjectivity. (Denison, 1990, p. 31)

Schneider (1990) has edited the only book devoted to the twin concepts of climate and culture. In a chapter coauthored with Reichers (Reichers & Schneider, 1990), the authors pointed to similarities between the concepts. These similarities are to be found in the substantive nature of the concepts, the processes by which they are formed, and their joint concern with shared meaning. The shared meaning feature has led to the identification and study of group climates and subcultures. Reichers and Schneider (1990) summarize the similarities as follows:

Both climate and culture deal with the ways by which organization members make sense of their environment.

These sense-making attempts manifest themselves as shared meanings that form the basis for action. Both climate and culture are learned, largely through the socialization process and through symbolic interaction among group members. Climate and culture are at the same time both monolithic constructs and multidimensional ones. Thus, we can correctly speak of organizational climates, cultures, and subcultures. (p. 29)

Differences between Climate and Culture

Despite the similarities between climate and culture, there is general agreement that the concepts are not identical (Denison, 1990; Glick, 1985; Ott, 1989; Pettigrew, 1990; Reichers & Schneider, 1990; Schein, 1985). Schein's (1984) definition of culture is comprehensive and fairly representative:

Organizational culture is the pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaption and internal integration, and that have worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems. (p. 3)

According to Schein, to understand a culture, the researcher must penetrate to the level of basic assumptions, "which are typically unconscious but which actually determine how group members perceive, think, and feel" (1984, p. 3). These basic assumptions, or basic values, influence the espoused or consciously-held values of members, which, in turn, influence behaviour and

establish behavioural norms. As a consequence of those norms, certain behaviours are reinforced and become institutionalized in rituals, myths, stories, language, and so on.

If one accepts the above definition, it becomes obvious that culture can be studied at several levels. Schein noted that the observable phenomena, behaviours and artifacts, were accessible, but not easily understood. Their meaning may be inaccessible to the researcher-observer and may not be always accessible even to the insider. In contrast to accessible, observable phenomena, the basic assumptions or core values of the organization are always very difficult to discover. The level at which the investigation takes place seems to provide the key to the sameness which has been identified in the climate and culture concepts.

If the focus in the culture research is on observable behaviour, then it comes very close to climate research. If the culture researcher relies on members perceptions of behavioural norms, the distinction between culture and climate, more accurately social climate, disappears. (Social climate describes members' perceptions of the human environment. The Tagiuri framework proposed for use in this study has an ecological element which relates to perceptions of the physical environment.) Thus, although

the concepts of climate and culture are distinct, there is overlap between them.

Reichers and Schneider (1990) agreed with Schein (1985) that "climate can be most accurately understood as a manifestation of culture" (p. 24). They stated that:

Culture is probably a deeper, less consciously held set of meanings than most of what has been called organizational climate. (p. 24)

Pettigrew (1990) pointed out differences between climate and culture that suggest culture may be amenable to multimethod research:

Crucially, organizational culture deals with beliefs, perceptions, and behaviour, whereas organizational climate is built up from measures of qualitative assessments of individual perception. (p. 416)

Whatever the degree of overlap at the conceptual level, there has been much less with respect to methodology. Climate researchers and culture researchers come from different scientific traditions and bring with them different methodologies. Denison (1990) suggested that the differences "go far deeper than simply using different techniques; they are longstanding differences in theoretical orientation and epistemological tradition" (p. 31).

Climate researchers have adopted the traditional methods of psychological research to study a concept which originated in the field of psychology, while culture

researchers have adopted the methods of social anthropology to study a concept borrowed from that field. The methods used in culture research have been based on ideographic assumptions that emphasize the local meaning of beliefs, values, and artifacts, and the unique nature of each culture. By contrast, climate researchers have preferred to use "nomothetic, quantitative procedures" (Reichers & Schneider, 1990, p. 24) that are geared to identifying universal values and treat uniqueness as error variance.

Such differences as have been noted above account for the fact that there has been little or no discourse between culture and climate researchers; they lack a common language. Some researchers (Ashforth, 1985; Denison, 1990; Reichers & Schneider, 1990) believe a synthesis is possible, especially with respect to methodology. It is particularly suggested that culture researchers should recognize what has taken place in climate research and consider with what advantage they might employ survey methods in comparative studies. Ashforth (1985) may have gone too far when he suggested that the only differences between the concepts were methodological.

School Climate

The final section of the literature review deals with the conceptualization, operationalization, and measurement of school climate. The school climate review supports the need for the present study by establishing the inadequacy of conceptualization and measurement of school climate in past studies. Since the major thrust of the present study was the development of a school climate instrument, particular attention is directed to an examination of existing instruments.

Conceptualization of School Climate

The origins of school climate research can be traced to developments which took place both inside and outside the field of education. Anderson (1982) noted:

School climate research is clearly the stepchild of both organizational climate research and school effects research. (p. 368)

The linkage with organizational climate research is most apparent when one considers that the most frequently used measure of school climate (Halpin & Croft, 1963) evolved from the study of leadership in organizations. The appropriateness of borrowing and adapting theory and instrumentation from organizational studies was based on the "acceptance that schools (and education systems) are *formal organizations*" (Thomas, 1976, p. 443). It is worth

noting that Thomas stated that:

In other ways, however, schools are quite unique social organisms whose behaviour must be better understood (p. 443)

The borrowing, or adaptation, of instruments developed in organizational or business contexts has emphasized the similarities between schools and other organizations and ignored their uniqueness. The validity of such instruments in educational settings is questionable.

The influences on school climate research from within the field of education came from a number of different research thrusts. One of these, usually associated with educational psychology, focused on student achievement particularly as it was affected by teacher effectiveness. A logical step was to consider other possible influences on student learning, and this led to the study of classroom climate, an area of research related to, but distinct from, school climate research.

Other influences on school climate research are associated with the field of educational administration. These included studies of the principalship and focused on the key role played by the school principal in the life of the school. Weick's (1976) conceptualization of schools as "loosely coupled" organizations focused attention on the school as the unit of study and on the importance of

the principal's role (Ellett & Licata, 1985; Ellett & Walberg, 1979; Klein, 1983; MacKenzie, 1983). Early school climate studies concentrated on the principal and, while the focus has broadened to include other factors, the principal's role in influencing school climate and school effectiveness has wide acceptance.

Equally important in influencing school climate research was the research on school effects and on effective schools. School effects research became prominent in the 1960s when James Coleman and associates undertook a large scale, federally-sponsored study to examine the equality of educational opportunity in the United States (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, & York, 1966). The study indicated that school effects on student achievement, when compared with the effects of home and community on student achievement, were insignificant. The findings were interpreted to mean that schools did not produce important student outcomes. This interpretation led to reanalyses of the Coleman data and to new studies on school effects.

In the wake of the Coleman study, empirical evidence and researcher conviction combined to produce the conclusion that schools did make a difference, and that schools differentially affected student outcomes. This led to the search for effective schools and the

identification of their characteristics. Although there are many problems with this body of research, positive school climate has been identified as a characteristic of effective schools in so many studies that it is in all likelihood true.

Halpin and Croft (1963) defined school climate analogically, by comparing it to human personality:

Organizational climate can be construed as the organizational "personality" of a school; figuratively, "personality" is to the individual what "climate" is to the organization. (p. 1)

Steele and Jenks (1977) were equally vague when they defined school climate as "what it feels like to spend time in a social system--the weather in that region of social space" (p. 2).

Brookover and his colleagues (Brookover, Schweitzer, Schneider, Beady, Flood, & Wisenbaker, 1978) were more specific in defining school climate in a manner that accords well with how researchers have measured the concept. They conceived of climate as "a school's academic norms, expectations, and beliefs" (p. 303). Keefe and colleagues (Keefe, Kelley, & Miller, 1985) defined school climate in a way that is reminiscent of Tagiuri (1968) as "the relatively enduring pattern of shared perceptions about the characteristics of an organization and its members" (p. 74).

The lack of a clear and precise definition has accounted for a great deal of diversity in research that is labelled school climate research. Although unifying threads in school climate research are few and fragile, Anderson (1982) recorded areas of agreement and supporting research:

- Schools do possess something called climate unique to each organization. (Kalis, 1980; Owens, 1970; Sinclair, 1970)
- Such differences, while discernible, are elusive, complex, and difficult to describe and measure. (Cusick, 1973; Rutter et al., 1979; Weber, 1971)
- Climate is influenced by, but is not a proxy for, particular dimensions of the school such as student body characteristics. (Farkas, 1974; Snyder & Spreitzer, 1979)
- Climate affects many student outcomes, including cognitive and affective behaviour (Brookover et al., 1978), values (Vyskocil & Goens, 1979), and personal growth and satisfaction. (Bailey, 1979)
- Understanding the influence of climate will improve the understanding and prediction of student behaviour. (Anderson, 1982)

Operationalization and Measurement of School Climate

Diversity with respect to climate increased from the conceptual to the operational level, and this, perhaps, is not surprising. Even when there was agreement on the dimensions of climate, researchers opted to study only those dimensions that interested them. In terms of the climate dimensions identified by Tagiuri (1968), only two,

social system and culture, have received much attention in research. Anderson (1982) considered the neglect of the ecology and milieu variables a reflection of researcher theoretical bias.

Some researchers felt it was important to study climate holistically, while others felt a fragmented, reductionist approach should precede a synthesis. This was part of a much broader debate in the social sciences, the debate over the nature of reality and how one might come to know it.

Even when the same dimension of climate was selected for study, it was not always operationalized the same way. This resulted in studies of the same climate dimension in which different variables were examined. A further complication was the existence of multiple and varied measures of the same variable.

The greatest similarity to be found in many of the school climate studies is the reliance on perceptual measures. By and large, school climate has been measured through self-report questionnaires. The typical school climate instrument consists of descriptive statements about a number of dimensions of school life and a response scale. Respondents are asked how accurately each statement describes their school. The scale provides a number of descriptors, usually three to five, to permit

respondents to indicate the extent to which a statement is accurate or inaccurate. Respondents are usually teachers and school administrators but may also include other school staff, students, parents, school division administrators, or school trustees.

Other approaches to the measurement of school climate have included objective data or proxies, interviews with school personnel, and observation of school activities. The use of objective data in early studies of school climate reflect a realist, ontological stance and a distrust of perceptual data. The realist position was that school climate, if it existed, was a concrete reality which could be arrived at and verified by a triangulation of measures; if perceptions were accurate, they would match objective measures of the same phenomena. This approach was abandoned for two reasons. First, it was shown that perceptual measures were reliable and often corresponded closely with objective measures. Second, and much more important, it was accepted that it was perceptions that influenced behaviour, whether those perceptions were accurate or not.

The other approaches to measuring school climate, observation and interviews, are considered useful as stand alone techniques or as supplements to self-report questionnaires. However, because they are time-consuming,

they are rarely used in comparative, large-scale studies. Their forte is in the small-scale case study of a single school, or a few schools, where there is greater interest in the uniqueness of the situation than in commonality across situations. Such uniqueness is treated as error variance in large-scale studies.

One large-scale study of school climate using observation has been reported by Wynne (1981) and is worthy of mention. He supervised students as they made observations in 140 schools over a 10-year period, and analysed their reports. On the basis of these reports, Wynne identified characteristics of what he termed "good" (1981, p. 377) schools. Other studies have used observation to measure school climate, either alone (Weber, 1971) or in combination with other techniques (Brookover & Schneider, 1975; Rutter et al., 1979). Interviews have been used in studies by Brookover and Lezotte (1979), Duke and Perry (1978), and in the Phi Delta Kappa study (1980).

The vast majority of school climate researchers have relied on self-report questionnaires, and a great variety of such instruments exists. Some of these instruments have undergone rigorous tests to establish their validity and reliability, but a far greater number have been used without any concern for their psychometric quality. Some

instruments have been used repeatedly in school climate studies, while others, tailored to meet specific needs in a school or school division, have not. A number of the more established, school climate instruments are reviewed below.

The Organizational Climate Description Questionnaire (OCDQ) was developed by Halpin and Croft (1963) and has been used more frequently than any other school climate instrument. The 64 items are divided into eight subtests, four of which measure teacher behaviour and four of which measure principal behaviour. According to the responses, schools could be classified in six categories along a continuum from open climate to closed climate. In terms of the Tagiuri framework, the OCDQ measures characteristics of the social system and culture dimensions.

Despite its great popularity with researchers, Thomas (1976) noted that the OCDQ had produced inconsistent findings in relation to student achievement, and of the six climate types only the open and closed types seemed meaningful. Other problems identified with the OCDQ are that its developers did not analyse the data appropriately in establishing the instrument's psychometric properties, and that it was unsuitable for measuring climate at the high school level. Two recent revisions of the OCDQ, one

for use at the elementary level, OCDQ-RE (Hoy & Clover, 1986), and one for use at the secondary level, OCDQ-RS (Kottkamp, Mulhern, & Hoy, 1987) have attempted to rectify the OCDQ's school-level problem.

The OCDQ, despite its flaws, established the format for later school climate instruments. Halpin recognized two limitations of the OCDQ, but he did not revise it. He realized that the instrument did not measure all of the climate dimensions, and he felt that the OCDQ's climate continuum was simplistic.

An inspection of OCDQ items revealed positive and negative aspects of the measure. On the positive side, the OCDQ is one of the few instruments examined by the researcher that presents a consistent, organizational frame of reference to the respondent. On the negative side, some of the OCDQ items seem more evaluative than descriptive.

Some of the instruments widely used in early studies of school climate were not strictly measures of school climate. Examples are the School Survey (SS) (Coughlan, 1970) and the Quality of School Life (QSL) (Epstein & McPartland, 1976). The SS is a measure of teacher morale and was developed following "a survey of the literature on teacher morale" (Coughlan, 1970, p. 222). Many of the items have an individual focus and call for judgement

rather than description, e.g., "I think my work performance is appraised and evaluated fairly in this school" (Coughlan, 1970, p. 229).

The QSL, an economical instrument with only 27 items, measures student reaction to three dimensions of school life. One of the three dimensions measures satisfaction with school in general and the items have an individual rather than a school focus. The other two dimensions, commitment to classwork and reaction to teachers, also have a predominantly individual focus, with a few items targeting classroom-level practices. An example of a QSL item is "In class, I often count the minutes till it ends" (Epstein & McPartland, 1976, p. 18).

The school climate instruments developed since about 1980 have been greatly influenced by the effective schools movement, and the dimensions or subscales measured correspond very closely with the generally accepted characteristics of school effectiveness, e.g., clear goals/mission, safe and orderly environment, instructional leadership, high expectations, participatory decision making, parental involvement, effective instruction, and frequent monitoring of student progress. Representative of this group of instruments are the Connecticut School Effectiveness Questionnaire (CSEQ) (Connecticut Department of Education, 1984), the School Assessment Survey (SAS)

(Wilson, Firestone, & Herriott, 1985), the Wayson School Climate and Context Inventory (SCCI) (Bobbett, 1991), and the Charles F. Kettering Ltd. (CFK) School Climate Profile (Johnson, Dixon, & Robinson, 1987). Brief comments about each of the four instruments follow.

The CSEQ is based on Edmond's (1979) definition of an effective school, a school where the proportion of low-income children obtaining mastery is the same as the proportion of middle-income children doing so. The questionnaire has 100 items which measure teacher perceptions of the extent to which seven common characteristics of effectiveness are present in the school. The instrument is fairly comprehensive in scope, provides the school-level frame of reference, and most of the items seem to be descriptive. On the negative side, some of the items contain multiple ideas, and some request more information than teachers would reasonably be able to supply. This makes it difficult for the teacher to respond and difficult for the researcher to interpret the responses.

SAS is a teacher survey that "measures a variety of school climate and organizational factors related to school effectiveness and improvement" (Wilson, 1985, p.50). The SCCI measures eight dimensions characteristic of good schools and has a total of 45 items. The school

is the frame of reference and the items are mainly descriptive. However, the items are much too long, e.g. "Staff members recognize the stereotypes they may hold about the students and the community and work to see students and parents as individuals; the school community works in various ways to break down stereotypes" (Bobbett, 1991, p. 16).

Unlike the other instruments reviewed here, the CFK requests two sets of responses, "What is" and "What should be". The first set of responses presumably describe the school's climate, and the discrepancy between the two sets of scores indicate the respondent's degree of satisfaction or dissatisfaction with the climate. The 40-item instrument has, according to the developer, eight subscales. However, a psychometric analysis indicated that a three-factor solution was a more appropriate grouping (Johnson, Dixon, & Robinson, 1987). Some items tend towards the evaluative end of the continuum, and the frame of reference fluctuates between school and individual.

In conclusion, it is apparent that many of the instruments used to measure school climate are flawed. They measure concepts other than school climate such as satisfaction or morale; they measure only part of school climate; or, they present a changing frame of reference.

These defects are reason enough to motivate the researcher to develop an instrument which avoids these pitfalls. An additional thrust is the desire to develop a homegrown, measure of school climate, one that examines aspects of school life with which Saskatchewan school educators are familiar.

Summary

In this chapter, literature and research related to school climate have been reviewed. The main points made in the chapter have been summarized below.

Lewin was among the earliest to recognize that the external environment influenced behaviour. Organizational theorists and industrial psychologists followed this lead in examining behaviour in the workplace. The climate metaphor was borrowed from physical geography to describe many intangibles in the workplace thought to influence worker behaviour. The leadership behaviour of the supervisor and peer group influences became important foci of study in organizational climate research. In education, the principal's leadership behaviour received a great deal of attention in studies of school climate.

Lack of agreement in defining and measuring climate has produced a body of research which lacks coherence and consistency. Some early researchers equated climate with

the physical features of the work environment and used measures of organizational structure as proxies for climate. The psychological component of climate, member perceptions, were ignored due to a lack of faith in perceptual data, especially when the data could not be validated by concrete, tangible measures. Perceptions are now considered an essential ingredient of climate.

Many of the studies have related climate to worker satisfaction or to organizational effectiveness. The claim that climate research was satisfaction research has been substantially refuted, although some climate measures bear a marked resemblance to satisfaction measures. The difference between the two constructs is that satisfaction provides a personal focus and calls for an evaluation, while climate provides an organizational focus and calls for a description.

Studies of the relationship between climate and effectiveness have not produced consistent findings. This can be explained, in part at least, by a lack of consistency in the conceptualization and measurement of the variables. The Tagiuri framework for school climate with its dimensions of ecology, milieu, social system, and culture appears to be the most comprehensive and was chosen as the basis for instrument development in this study.

CHAPTER 3

RESEARCH DESIGN

There are two major foci in this chapter. The first focus is on the development of the Saskatchewan School Climate Scale (SSCS) up to the point where it was ready for use in the study. In essence, this was a study within a study in that it involved: preparation of a draft instrument; data gathering in a pilot test of the instrument; and revision of the instrument based on analysis of the data. Since the development of the SSCS was an important goal of the study, the development process is described in detail below.

The second focus is on the research design of the study proper. This section includes the method whereby the sample was selected, the procedures used to gather data, the kinds of data which were gathered, and the methods used to analyse the data. The provisions for safeguarding the anonymity of information sources have also been described.

The School Climate Instrument (SSCS)

The development of the SSCS instrument involved a number of sequential tasks or developmental stages. The sequence of tasks included preparation, testing, and revision of a draft instrument.

The preparation of the draft instrument was a critical exercise since the draft instrument contained all of the items that were later included in the SSCS. When the draft instrument had been prepared, it was administered to a sample similar to the study sample. The data were analysed and the instrument was revised and prepared for use in the study.

The testing and revision of an instrument is a cyclical process which may be repeated until no further revision is deemed necessary. The present study involved two iterations of this cycle; the pilot test of the draft instrument and the use of the revised instrument, the SSCS, in the main study provided two sets of data for instrument refinement. The first of these iterations is described in this chapter; the second is described in Chapter 5.

Preparation of the Draft Instrument

The first task in the preparation of the draft instrument was the creation of a pool of suitable items. Usually, item generation proceeds from a theory base or conceptual framework. The school climate instrument developed and used in this study, the SSCS, was based on the Tagiuri conceptual framework described earlier; this framework provided one set of parameters for item

development. Other criteria, some of them common to all instrument development and some specific to the school climate instrument developed in this study, are described below.

Initially, the researcher, drawing on a long career in education as school teacher and school administrator, generated a pool of items based on criteria described in this section. The pool was added to by other teachers and school administrators who were, at the time, graduate students in the College of Education, University of Saskatchewan. The students were made aware of the criteria by which items would be evaluated and were directed in their efforts by the researcher. In all, over 300 potential items were generated.

The pool of items was then screened by the researcher. Since the students had worked independently, it was not surprising that the pool contained many similar items. Also, some of the items generated did not meet the criteria that had been set. Redundant items and those which failed to meet criteria were eliminated.

The remaining items, approximately 100, were submitted to a panel for scrutiny and adjudication. The panel, a second group of graduate students in the College of Education, evaluated the items against criteria provided by the researcher. As expected, the panel

accepted some items, rejected others, and questioned others. Acting on the panel's advice and on his own judgement, the researcher prepared a list of items for inclusion in the draft instrument.

Economy with respect to the number of items included in the instrument was an important consideration. It may be possible to generate 150 acceptable items, but it would be both unrealistic and unfair to expect respondents to complete such a lengthy instrument. Lengthy instruments are likely to produce low response rates, making representativeness and validity of the data questionable.

The researcher's goal was to produce an instrument which in its final form would take no longer than 15 or 20 minutes to complete. This allotment included time for reading instructions, providing demographic data, and responding to climate items. With these considerations in mind, the researcher believed that the appropriate number of items was between 40 and 60.

Since it was expected that some items would be rejected as a result of the pilot test, the draft instrument was drawn up with this contingency in mind. Sixty-eight (68) items were included in the draft instrument. Each item consisted of a short statement, and respondents were asked how accurately it described their school. A six-point, Likert-type scale was provided for

response. About half of the items consisted of negatively-worded statements which were scored in reverse order. Items were randomly distributed throughout the instrument to avoid the possibility of response set, i.e. a tendency for respondents to give the same score to a block of related items without giving due consideration to the individual items. A copy of the draft instrument can be found in Appendix A.

Criteria for Items

The following criteria were used in the generation, selection, and rejection of items:

Tagiuri framework. The items generated for this study were distributed among the four climate elements suggested by Tagiuri (1968). Tagiuri called these elements **ecology, milieu, social system, and culture.** Coverage of the first two elements, ecology and milieu, have been largely ignored in other school climate instruments. The omission of these elements may have been intentional or unintentional.

Unintentional omission is usually the result of haste and the lack of a systematic approach. Many school climate instruments were drawn up hastily to meet urgent local needs. As such, they may have been useful instruments in that context but had limited value in other

contexts. Where a systematic approach was employed in developing school climate instruments, the omission of the ecology element, in particular, may have been intentional. Instrument developers may have been influenced by studies which reported that objective measures did not significantly affect school outcomes (Coleman et al., 1966). However, objective measures are not the same as perceptions of objects in the environment.

Descriptive Items. Organizational or school climate is a description rather than an evaluation of the workplace. Failure to adhere to this defining quality of climate has led to inappropriate instrument development and use in past research. The misconstruing of climate as satisfaction emerging in another guise can be explained by the inclusion of evaluative items in climate instruments. In evolutionary terms, this situation arose when developers of the newer climate instruments borrowed items from satisfaction instruments.

The researcher recognizes that the distinction between descriptive and evaluative statements is one of degree rather than of kind. All responses that result from psychological processing are likely to contain an affective element. It is, therefore, more realistic to consider statements as being closer either to the

descriptive or to the evaluative end of the spectrum. The task, then, was to generate items that called for a descriptive response, with the realization that pure description was not a practical goal.

School-level focus. Another problem that was evident in many of the organizational or school climate instruments concerned the frame of reference presented to the respondent. In many of the instruments inspected by the researcher, the frame of reference did not remain consistent throughout the instrument; some items called for a response at the organizational level, while others called for a response at the individual level.

Since the instrument being developed in the present study was designed to measure school climate, the appropriate frame of reference was the school, not the individual teacher or classroom. The format for all items included the initial stem, "In this school, ... ". Consistent with the school level focus, teachers, students, and classrooms were referred to in the plural.

Contextual authenticity. Organizational climate instruments designed for one organizational setting may be inappropriate for another. Instruments designed to measure climate in an industrial setting have been adopted, or adapted, for use in an educational setting.

As a result, the items are often inappropriate for studies in education.

The school may be an organization and share certain characteristics with other organizations, but there is a growing awareness of the school's uniqueness (Allison, 1983). In fact, there is growing belief among educators that schools vary dramatically with level of schooling (Firestone, 1982; Herriot & Firestone, 1984).

Accordingly, instruments developed for use at the elementary level may be inappropriate for use at the secondary level.

The researcher's 27 years of experience in schools both as teacher and as principal and the assistance of experienced educators were used to ensure that the items were salient. This meant that the items covered areas important to school educators.

Brevity, clarity, and language. A perusal of school climate instruments revealed items that failed to meet standards of brevity and/or clarity. There is, indeed, a relationship between brevity and clarity in that sentences that are long and complex are less comprehensible than short, simple sentences (Schuman & Presser, 1981; Smith, 1989). In order to meet this criterion, item statements were judged against the following standards:

● **Each item should contain only one idea.**

Statements which contain more than one idea confuse the respondent and render response interpretation problematic (Weisberg & Bowen, 1977). The data generated by multi-idea items are valid only when respondents would have assigned the same score to each of the item's ideas. The researcher does not have access to this information.

● **Each item should be stated as briefly as possible.**

Language should be used economically, and verbiage which is unnecessary should be trimmed from each statement (Belson, 1981; Belson, 1986).

● **The wording of statements should represent the common vocabulary of all educators.** Each specialization develops vocabulary and usage understood by members of the group (insiders) and unfamiliar to nonmembers (outsiders) (Davidson, 1979; Dunham & Smith, 1979). Educators share a common language which sets them apart from the general public. Within education, further divisions may occur depending on the position (e.g. teacher or principal), level taught (e.g. primary or secondary), or the area of specialization (e.g. science or fine arts). The statements should reflect the core vocabulary and usage shared by school educators in the K-12 system.

Pilot Test of the Draft Instrument

The draft instrument was administered to a sample of 100 teachers and school administrators. Some of the respondents were attending the Saskatchewan Teachers' Federation (STF) Council in Saskatoon; the other respondents were enrolled in evening and weekend graduate classes in the College of Education, University of Saskatchewan. Respondents to the draft instrument were considered representative of the study sample in that they were employed at the time, or had recently been employed, as school teachers or school administrators.

When the instrument was administered at the College of Education, University of Saskatchewan, the instructors' permission was received. The purpose of the data gathering and the voluntary nature of their participation was explained to the participants. In responding, participants were asked to consider each item in relation to the school in which they were employed at the time. Respondents who were not employed at the time were asked to use as their frame of reference the school in which they had been employed most recently.

Scoring the Instrument

Each item was scored on a six-point scale with a response range for each statement from VERY ACCURATE to

VERY INACCURATE. The selection of the six-point scale was made for two reasons. First, scales with from five to seven points have been shown to yield more reliable data than scales with fewer than five response points (Miller, 1956; Davidson, 1979). Second, the even number of options on the scale meant that there was no neutral point, forcing respondents to choose either a positive value or a negative value.

The range of values for each statement was from five to zero. Five points were scored when a statement considered a positive description of school climate was selected by the respondent as a VERY ACCURATE description of his or her school, or when a negative description was selected as VERY INACCURATE. At the other extreme, zero was scored for complete agreement with a negative description or complete disagreement with a positive description.

Respondents were assigned a score for each of the four climate dimensions, ecology, milieu, culture, and social system. Mean scores were assigned for each of the four dimensions. For example, a respondent's ecology score was the sum of his scores on ecology items divided by the number of ecology items he had completed. Mean scores were also used for scale or climate.

Analysis of the Pilot Data

Two different kinds of data were gathered in the pilot test of the climate instrument. First, responses to items yielded quantitative data. Second, oral and written comments were provided by some of the respondents. Respondents had been advised that, since the instrument was in the early stages of development, such comment would be appreciated. In keeping with the research orientation described earlier, both kinds of data were used as a basis for instrument revision.

The data from the pilot test were used for a number of purposes, chief of which was establishing the instrument's reliability. A second purpose served by the data was that they provided a basis for item retention or rejection. The pilot test also provided data which supported the length of the instrument. Respondents had been asked to record the amount of time it took to complete the test. Eighty-one (81) of the 100 respondents provided data on time requirements. The average time for completion was 12.3 minutes. The longest time taken by a respondent was 22 minutes. It appeared that a slightly shorter revised instrument, even with the addition of demographic questions, could be completed within the time limits set earlier--15 to 20 minutes. Another positive

outcome of the test was that respondents, by and large, did not appear to have difficulty with either the content of items or the language (vocabulary) in which they were expressed.

The data were analysed using a computer statistical program, The Statistical Package for the Social Sciences (SPSS, 1993). Following the pilot test, the draft instrument forms were hand scored and the data were entered in an SPSS file.

Reliability

The yardsticks by which a measure is judged are its validity and its reliability. The question of validity was, in part, addressed earlier. The development process described earlier in this chapter went some way to ensuring that the instrument was valid. The instrument's validity is treated at greater length in the analysis of study data in Chapter 5. The reliability of the instrument, however, was unknown, and test data were analysed to determine this.

Reliability coefficients can be used for a number of purposes (Pedhazur & Schmelkin, 1991). Among others, they can be used to demonstrate: that two forms of a test are equivalent; that a test has stability; or that a test is internally consistent. In the analysis of pilot data, the

reliability coefficient was used to establish the internal consistency of the draft instrument.

Although reliability estimates have been developed from different theoretical orientations and assumptions, they share common elements. According to the American Psychological Association (1985), reliability "refers to the degree to which test scores are free from errors of measurement" (p. 19). This definition can be elaborated or refined. The error component can be divided into systematic error and random error. Only random error affects reliability, since systematic error can be depended upon to affect scores in the same manner each time the test is administered.

Internal consistency reliability estimates indicate the degree to which items on a test are measuring the same thing. Cronbach's alpha is probably the best known and most widely used estimate of internal consistency (Pedhazur & Schmelkin, 1991). The earlier Spearman-Brown split-half estimate and later derivations from that formula are less precise estimates of reliability. The split-half estimate is based on the correlation between two halves of the test. The major problem with this estimate is that different splits could produce very different reliability coefficients. In his 1951 paper, Cronbach (1951) showed that alpha was equal to the average

of all possible split-half estimates for a test.

Before examining the observed alpha coefficients, a comment about standards is in order. No one would argue with classifying an alpha of .9 as high or an alpha of .3 as low. Few of the authorities have provided guidelines as to what is an acceptable level for alpha. It depends what is being measured and what use is made of the data. One authority, Nunnally (1967, 1978) gave not one but two minimum standards for the early stages of research. In Nunnally (1967), he stated that an alpha of .5 or .6 would suffice. In Nunnally (1978), he revised the estimate upwards to .7. (It should be pointed out that coefficient alpha is positively related to test length. So, if two tests have different numbers of items and if intercorrelation between the items on each test is of the same order, the longer test will have the higher alpha.)

Scale reliability. Cronbach's alpha coefficients were calculated for the draft instrument scale and for each of the four subscales. The alpha value for the 68-item scale was .94. The alpha values for the subscales were between .77 and .85. On the basis of these results, the draft climate scale demonstrated a high degree of internal consistency; alpha values for subscales were also satisfactory. The correlation matrix for subscales is shown in Table 3.1 and internal consistency for scale and

subscales is shown in Table 3.2.

Table 3.1

Correlation Matrix for Climate Subscales (N = 100)

Subscale	Culture	Ecology	Milieu	Social System
Culture	1.00			
Ecology	.64	1.00		
Milieu	.84	.64	1.00	
Social System	.84	.63	.84	1.00

Table 3.2

Internal Consistency of the Tested Draft School Climate Scale and Subscales

Scale or Subscale	Alpha	Items	N
Culture	0.81	15	87
Ecology	0.77	17	75
Milieu	0.85	13	91
Social System	0.84	23	86
Scale	0.94	68	61

The second part of the analysis was the examination of items to eliminate those that did not contribute to the scale or subscales. The statistical criterion for items was that they should have their highest correlation with the subscale in which they were placed. The Pearson product-moment correlation coefficient, r , was used to measure item-subscale correlations.

The decision to reject or retain items, however, was based only partly on statistical analysis. Comments from respondents, written and oral, item nonresponse, and the researcher's assessment of item importance were other influential factors.

Culture subscale. In the culture subscale, 2 of the 15 items were dropped, items 23 and 66. Item 23 failed to meet the statistical criterion. Item 66 (Former students visit with teachers and students, $r = .44$) was dropped because of nonresponse. Two items were retained although they failed to meet the statistical criterion. The researcher felt that Item 46 (Teachers are expected to volunteer for extracurricular duties) and Item 55 (Teachers resist attempts to change) measured important aspects of school culture.

The alpha value for the tested culture subscale (15 items) was .81. For the revised culture subscale (13

items), it was .80. Item-subscale statistics for the culture subscale are shown in Table 3.3.

Table 3.3

Internal Consistency of the Culture Subscale (N = 87)

Item Number	Corrected Item- Subscale Correlation	Alpha if Item Deleted
4	0.38	0.80
8	0.36	0.80
18	0.37	0.80
23	0.27	0.81
26	0.58	0.79
27	0.44	0.80
46	0.23	0.81
55	0.21	0.81
57	0.48	0.79
58	0.69	0.78
59	0.54	0.79
60	0.63	0.79
63	0.47	0.80
66	0.44	0.80
67	0.42	0.80

Alpha = .81

Ecology subscale. Eight (8) of 17 items in the ecology subscale were dropped as a result of the data analysis. Five items, items 3, 10, 19, 28, and 31, were dropped because they did not meet the statistical criterion, and three other items were dropped as a result of either respondent comment or item nonresponse.

The three items dropped due to nonresponse or insufficient response were Item 13 (Teachers cannot access a fund for purchasing supplies), Item 30 (The classrooms are spacious), and Item 62 (Playground equipment is in disrepair). Some respondents felt Item 62 was appropriate for elementary schools, but not for high schools. Many different arrangements for purchasing supplies in school divisions and schools left respondents confused as to how Item 13 should be answered. Item 30 was dropped because of non response.

Coefficient alpha for the tested ecology subscale (17 items) was .77. For the revised subscale (9 items), alpha was .75. The slightly smaller alpha for the revised subscale was due to the reduction in the number of items from 17 to 9. Item-subscale statistics for the ecology subscale are shown in Table 3.4.

Milieu subscale. No items were dropped from the milieu subscale. Only one item, Item 65 (Learning is

supported in the home, $r = .27$) fell below the statistical criterion. The item was retained because the researcher felt it measured an important aspect of school climate. Alpha coefficient for the subscale was .85. Item-total statistics for the milieu subscale are shown in Table 3.5.

Table 3.4

Internal Consistency of the Ecology Subscale (N = 75)

Item Number	Corrected Item- Subscale Correlation	Alpha if Item Deleted
03	0.29	0.76
10	0.05	0.78
13	0.42	0.75
19	0.21	0.78
21	0.44	0.75
25	0.38	0.76
28	0.22	0.77
29	0.42	0.75
30	0.33	0.76
31	0.21	0.77
32	0.50	0.75
35	0.41	0.75
38	0.57	0.75
40	0.36	0.76
41	0.37	0.76
62	0.50	0.75
68	0.60	0.74

Alpha = .75

Table 3.5

Internal Consistency of the Milieu Subscale (N = 91)

Item Number	Corrected Item- Subscale Correlation	Alpha if Item Deleted
2	0.60	0.84
5	0.69	0.83
7	0.33	0.85
11	0.54	0.84
14	0.43	0.85
24	0.34	0.85
33	0.48	0.85
37	0.73	0.83
44	0.68	0.83
45	0.59	0.84
52	0.47	0.85
64	0.57	0.84
65	0.27	0.86
Alpha = .85		

Social system subscale. Three (3) items were dropped from the social system subscale. Items 9 and 47 did not meet the statistical criterion. Item 42 (There are procedures for resolving staff conflict, $r = .37$) was questioned by respondents on a number of occasions. Two items, items 1 and 6 did not initially meet the statistical criterion. However, they had acceptable values after the three items had been dropped and the data reanalysed.

Alpha coefficient for the tested social system subscale (23 items) was .84. For the revised subscale (20 items), alpha was .86. Item-total statistics for the social system subscale are shown in Table 3.6.

Table 3.6

Internal Consistency of the Social System Subscale (N = 86)

Item Number	Corrected Item- Subscale Correlation	Alpha if Item Deleted
1	0.21	0.84
6	0.24	0.84
9	-0.35	0.86
12	0.63	0.83
15	0.38	0.84
16	0.33	0.84

Table 3.6 continued

Internal Consistency of the Social System Subscale (N = 86)

Item Number	Corrected Item- Subscale Correlation	Alpha if Item Deleted
17	0.58	0.83
20	0.40	0.84
22	0.52	0.83
34	0.60	0.83
36	0.57	0.83
39	0.53	0.83
42	0.37	0.84
43	0.31	0.84
47	0.14	0.85
48	0.47	0.83
49	0.58	0.83
50	0.47	0.83
51	0.68	0.83
53	0.57	0.83
54	0.35	0.84
56	0.36	0.84
61	0.33	0.84

Alpha = .84

When the four subscales had been revised, the climate instrument used in the study, the Saskatchewan School Climate Scale (SSCS) was drawn up. The SSCS had 55 items in 4 subscales and had an alpha coefficient of .92, the same alpha as that of the 68-item tested, draft instrument. A number of other changes were made to the survey form prior to its use in the study. Respondents were asked to indicate whether they considered each of the items an important descriptor of climate. Two items were added to the form, a measure of job satisfaction and a measure of school climate stability. On the SSCS, respondents were also asked to supply demographic data on gender, position, qualifications, experience, and teaching level. A copy of the SSCS is included in Appendix B.

The Study Sample

The schools in the sample were drawn from Saskatchewan Education Region Four, one of the seven regions administered by the provincial department of education. Region Four has 11 school divisions, 2 urban and 9 rural. The region includes the City of Saskatoon which has two relatively large school divisions, Saskatoon Public School Division #13 and Saskatoon Catholic School Division #20. The remainder of the

region includes nine rural school divisions.

Region Four was chosen because it met the study's requirements and it permitted the researcher to use his resources economically. Since a new instrument was being developed, it was appropriate that it be tested in a wide variety of schools. Region Four provided such schools; they ranged from large urban schools to small rural schools and from schools where all grades were taught to schools with limited grade enrolment. The region, being centred on Saskatoon, was conveniently located for the researcher and enabled him to make efficient use of his time.

For the purposes of this study, a decision was made to include in the sampling frame only those schools which had a minimum of five professional, school-based staff. The reasoning behind this decision was that in very small schools the climate survey would be meaningless; in a one-teacher school, it would be pointless to inquire about teacher-teacher relationships. Also, with four or fewer educators on staff, the probability of multiple returns from a school was low.

In Region Four, there were 176 schools as defined above, 92 in Saskatoon and 84 in the rest of the region. To ensure that a good cross section of schools was included in the sample, a decision was made to stratify

the sample into urban and rural subsamples, and to further divide these subsamples according to the grades taught in the schools. In all, five distinct classifications emerged: city elementary schools, city high schools, rural elementary schools, rural high schools, and rural K-12 schools.

Sample size was set at 40 schools, 8 schools drawn from each of the 5 categories identified above. Each of the five subsamples was randomly selected from its corresponding category in the sampling frame. The sample was reduced to 36 schools when the researcher did not receive permission to include 4 of the selected schools. The schools withdrawn were 3 city high schools and 1 city elementary school. The reason given by the school division was that the four schools in question had been subjected to too many recent surveys. The division was unwilling to supply replacement schools. Since replacements were unavailable, the data reported on in this study came from the remaining 36 schools. All full-time teachers and school administrators in the 36 schools, and their school division directors of education, were asked to supply data.

The study also included data gathered by the researcher during school visits. The researcher visited four of the sample schools for the following purposes:

to gain a different perspective on school climate; to make possible a comparison between survey data and observation data; and to administer a student school attitude survey to a sample of students.

In selecting schools for visits, all 36 sample schools were included in the sampling frame. The only criterion was that the school should have participated in the SSCS survey. Since all 36 schools participated in the survey, all were eligible for selection. Initially, 8 schools were randomly drawn from the sample of 36. Although only four were required, the researcher believed that some schools might object to a visit. The researcher went down the list of schools and had reached the seventh school before filling the quota of four schools. In other words, three of the schools contacted declined the offer of a visit.

In the case of schools which agreed to the visit, each school was visited for a period of one week. In addition to gathering observation data, the researcher administered a survey to approximately 30 students in each of the four schools. In three of the schools, the student respondents were randomly selected. The fourth school had low enrolment and had no students above Grade 6. It was, therefore, necessary to start with the most senior students, Grade 6, and move down until the

requisite 30 had been selected.

Data Gathering

The study had two components: a mail survey of directors of education and school-based educators in 11 school divisions and 36 schools; observation and other data-gathering processes used by the researcher during visits to a subsample of four schools. The data gathering process described in this chapter is limited to the mail surveys. The data gathering process used in the school visits is described in Chapter 6. (The researcher felt that the school visits should be treated holistically, and processes, data, and interpretation are, therefore, presented together.)

Three mail survey forms were used: school-based educators completed the SSCS; school principals completed the School Demographics (SD) form; and school division directors of education completed the Director's Assessment of School Climate (DASC). Copies of the three surveys have been included in Appendix B. The procedures involved in gathering the data are described below.

The data-gathering plan and instruments were approved by the University of Saskatchewan Ethics Committee prior to the data gathering phase. The first contacts were with the school division directors of

education in the 11 school divisions. A letter was mailed to each director, describing the purposes and scope of the study, indicating the schools that were selected, and requesting the director's permission to contact the selected schools. A copy of the letter has been included in Appendix C.

The mailing was followed by a telephone call to each director to ensure that the mailing had been received and to address concerns, if any, regarding the study. The researcher indicated his willingness to meet with directors to further explain the purposes of the study and to discuss arrangements for the administration of the survey. He also indicated his intention to share the findings of the study with participating schools and school divisions.

Within a period of three weeks, 10 of the 11 school divisions had given permission for the study as proposed. As indicated earlier, one school division approved the study for some of the selected schools, but not for others. Some directors had contacted schools and obtained principals' consent for the study. Other directors merely gave permission for the researcher to contact the schools.

School principals were contacted by mail and permission was sought to conduct the study in their

schools. A number of school principals contacted the researcher and expressed concern about the visit portion of the study. When these principals were advised that the visits would be the subject of a further request and would involve only four of the schools, they had no objection to the school climate survey. A copy of the letter to principals has been included in Appendix C.

Schools were advised of the purpose of the study, the provisions for anonymity of schools and respondents, the plan for sharing the study's findings, and the approximate time required to complete the survey form. All schools contacted participated in the study.

When the principal's permission was received, a package was mailed to each school. The mailing included an SSCS survey form and a cover letter for each full-time educator on staff and a school demographic (SD) form to be completed by the principal. A stamped, addressed envelope was provided for the return of each survey form. The cover letter accompanying the SSCS survey form provided information about the study similar to that sent to directors and principals, and addressed confidentiality and anonymity issues. A copy of the letter to school-based educators has been included in Appendix C.

The deadline given for return of completed survey forms was April 29, 1994. When the deadline was reached, a reminder was sent to schools, extending the deadline for a further two weeks. By the middle of May, 1994, data gathering with respect to the SSCS was complete.

A summary school climate survey form, the Director's Assessment of School Climate (DASC), was mailed to the 11 directors of education on April 28, 1994. One survey form was provided for each sample school in the school division. The deadline for return of surveys was set at May 15, 1994. By about May 22, 1994, all of the completed directors' surveys were returned. A copy of the Director's Assessment of School Climate (DASC) has been included in Appendix B.

To safeguard the anonymity of respondents, the following provisions were made:

- When the study sample of schools had been selected, a School List was drawn up. The School List included the following information about each school: school name, school address, principal's name, and number of full-time educators at the school.
- The School List was then given to an associate at the University of Saskatchewan, for safekeeping.

The associate then assigned an identification number to each school. From that point on, the researcher did not have access to the School List.

● All mail contacts with the schools were routed through the associate.

When survey forms were returned to the university, they were visually inspected to determine data usability. Apart from two SSCS forms which were returned without any data, all of the survey forms were usable. The data were then entered into computer SPSS files for analysis.

Analysis of the Data

The data were analysed for two purposes: to test the psychometric qualities of the SSCS; and, to examine the nature of school climate and its relationship to other variables. SPSS (Base and Professional Statistics) was used exhaustively to examine the research questions stated in Chapter 1. The principal methods used were multiple regression and analysis of variance, with the emphasis on regression.

Pearson product-moment correlations were used to measure the relationship between variables. LSD and Tukey HSD tests were used to test for differences between means. Where tests of significance were conducted, the significance level adopted was $p < .05$. Actual

probabilities associated with the observations have been reported throughout.

In Chapter 6, the survey data and data from observation and other sources are compared. The comparison of the quantitative and qualitative data provided a basis for validation of the SSCS and permitted an assessment of the value of a multimethod approach in a study of school climate.

Summary

In this chapter, the design of the study was described. The instrument development process was described in some detail. This was appropriate, since the development of the SSCS was an important part of the study. Following this, sample selection and data-gathering procedures were described. Included in the data-gathering description were the provisions for safeguarding the anonymity of respondents. Finally, plans for data analysis were described in general terms.

CHAPTER 4

PROFILE OF RESPONDENTS

In this chapter, respondents to the Saskatchewan School Climate Scale (SSCS) are profiled. The school visit subsample is described separately in Chapter 6.

The SSCS survey forms were mailed to 36 schools in 11 school divisions, in sufficient number for all educators employed on a full-time basis at the schools. In addition, school principals were asked to complete the School Demographics (SD) form.

School division directors of education were asked to complete a summary assessment of school climate, the Director's Assessment of School Climate (DASC), for each of the sample schools in their school divisions. The data were supplied by directors of education for the nine rural school divisions and by assistant directors of education for the two city school divisions.

Schools

The data reported in this section were taken from the School Demographics (SD) form completed by school principals. Thirty-four (34) of the 36 schools returned SD forms, a return rate of 94.4 percent. The SD gathered data on the following school characteristics: school location, school community, age of the school building,

grades taught, student enrolment, student mobility, staff stability, and the employment of either full or part-time staff. These variables were considered potential influences on school climate.

School Location

Principals were asked to indicate if their schools were located in the city of Saskatoon (urban) or outside Saskatoon (rural). Of the 34 schools reporting, 12 were in the city, and 22 were in rural areas. The data have been summarized in Table 4.1.

Table 4.1

Schools Classified by Location (N = 36)

Location	No.	%	Valid %	Cum %
Urban	12	33.3	35.3	35.3
Rural	22	61.1	64.7	100.0
Not Stated	2	5.6		
Total	36	100.0	100.0	

School Community

Principals were asked whether the school was located in an affluent, average, or poor community, "by

Saskatchewan standards." These data reflect the principals' opinion or assessment of the school community's economic status. Over three-quarters of those reporting (76.5%) rated their school communities as average by Saskatchewan standards. The remainder were evenly divided between the Affluent and Poor categories (see Table 4.2).

Table 4.2

Schools Classified by Economic Status of the School Community

Status	No.	%	Valid %	Cum %
Affluent	4	11.1	11.8	11.8
Average	26	72.2	76.5	88.2
Poor	4	11.1	11.8	100.0
Not Stated	2	5.6		
Total	36	100.0	100.0	

Age of School Building

School principals were asked to estimate the age of the school building. Four categories were given for response, ranging from under 5 years to over 20 years. None of the sample schools had been built in the previous

5 years, and more than half of the schools had been built over 20 years earlier. A new category was created to accommodate older schools that had been renovated recently (see Table 4.3).

Table 4.3

Schools Classified by Age of School Building

Age (yrs)	No.	%	Valid %	Cum %
6-10	4	11.1	11.8	11.8
11-20	9	25.0	26.5	38.2
Over 20	18	50.0	52.9	91.2
Renovated *	3	8.3	8.8	100.0
Not Stated	2	5.6		
Total	36	100.0	100.0	

* Renovated schools were also over 20 years old.

Grade Levels

Four response categories were provided on the SD form for grade levels taught in the schools, K-8, 9-12, K-12, and Other. Many schools, 38.2 %, fell into the Other category. In all, schools catered to seven different grade level combinations (see Table 4.4).

School Size

Student enrolment in the sample schools varied greatly. The smallest school had fewer than 50 students enrolled and the largest school had more than 1400 students. Half of all schools reporting had between 150 and 299 students. Schools classified by student enrolment are shown in Table 4.5.

Table 4.4

Schools Classified by Grades Enrolled

Grades	No.	%	Valid %	Cum %
K-8	9	25.0	26.5	26.5
9-12	6	16.7	17.6	44.1
K-12	7	19.4	20.6	64.7
7-12	5	13.9	14.7	79.4
8-12	1	2.8	2.9	82.4
K-6	5	13.9	14.7	97.1
K-7	1	2.8	2.9	100.0
Not Stated	2	5.6		
Total	36	100.0	100.0	

Table 4.5

Schools Classified by Student Enrolment

Enrolment	Schools	%	Valid %	Cum %
1-149	4	11.1	11.8	11.8
150-299	17	47.2	50.0	61.8
300-449	8	22.2	23.5	85.3
450-599	1	2.8	2.9	88.2
600-799	0			88.2
799+	4	11.1	11.8	100.0
Not Stated	2	5.6		
Total	36	100.0	100.0	

Student Transfers

A measure of the mobility of school student population was derived from the number of student transfers handled by the schools each year. In counting transfers, principals were asked to exclude fall admissions in the school's entry grade and graduates from the school's terminal grade. The measure of student mobility was calculated by dividing the estimate of annual transfers by the school enrolment. The theoretical range of values was from 0 to 1 or more. A value close to 0

indicated a school with a very stable school population, and a value close to 1 indicated a school with extremely high student turnover.

Almost one-half of all schools reporting had transfer rates of .05 or lower; transfers amounted to less than 5 percent of school enrolment. At the other end of the spectrum, one school had a transfer rate of .99, the number of transfers almost equalling enrolment. The data on student transfers have been summarized in Table 4.6.

Table 4.6

Schools Classified by Student Transfer Rates

Transfers	Schools	%	Valid %	Cum %
.00-.04	15	41.7	46.9	46.9
.05-.09	7	19.4	21.9	68.8
.10-.19	4	11.1	12.5	81.3
.20-.99	6	16.7	18.8	100.0
Not Stated	4	11.1		
Total	36	100.0	100.0	

* Transfers = Average annual school transfers divided by current school enrolment.

Staff Stability

A measure of school staff stability was derived from data supplied by principals. The number of professional staff that had been at the school for at least five years was divided by the school's total professional staff. The theoretical range of values was from 0 to 1; a value near 0 represented a high rate of staff turnover (low stability), and a value near 1 represented a school staff with few newcomers (high stability). The full range of values was observed in the data, with about three-quarters of the schools having a staff stability rate between .5 and 1. The data have been summarized in Table 4.7.

Table 4.7

Schools Classified by Staff Stability

Stability	Schools	%	Valid %	Cum %
.00- .49	8	22.2	24.2	24.2
.50- .74	11	30.6	33.3	57.6
.75-1.00	14	38.9	42.4	100.0
Not Stated	3	8.3		
Total	36	100.0	100.0	

Employment of Full-time Staff

The employment of part-time staff is becoming increasingly prevalent in Saskatchewan schools, and the staff full-time rate was calculated to examine the effects on school climate, if any, associated with this practice. The index was calculated by dividing the number of full-time professional staff based at the school by the school total professional staff. The range of values was theoretically from 0 (All staff were employed part-time) to 1 (All staff were employed full-time). Observed values were between .39 and 1.0, with most schools falling in the .80 to .89 range. The data have been summarized in Table 4.8.

Table 4.8

Full-time Employment Status of Professional Staff

Full-time	Schools	%	Valid %	Cum %
.39- .58	6	16.7	17.6	17.6
.59- .79	7	19.4	20.6	38.2
.80- .89	15	41.7	44.1	82.4
.90-1.00	6	16.7	17.6	100.0
Not Stated	2	5.6		
Total	36	100.0	100.0	

School-based Educators

The Saskatchewan School Climate Scale (SSCS) was mailed to 621 full-time educators in 36 schools. Four hundred twenty-six (426) usable surveys were returned. The rate of return for school principals was 94.44 percent. For other school-based educators, the rate of return was 67.01 percent. The latter group was composed mainly of teachers, but it also included department heads and vice principals. A majority of those returning the SSCS were female, and over 80 percent of respondents were teachers. Data on returns, gender, and position have been summarized in Tables 4.9 through 4.11.

Table 4.9

Saskatchewan School Climate Scale (SSCS) Surveys Returned

Group	Mailed	Returned	%
Principals	36	34	94.44
Others*	585	392	67.01
Total	621	426	68.60

* The Others includes teachers, department heads and vice principals.

Table 4.10

SSCS Returns Classified by Respondents' Gender

Gender	Returned	%	Valid %	Cum %
Female	227	53.3	53.7	53.7
Male	196	46.3	46.3	100.0
Not Stated	3	0.7		
Total	426	100.0	100.0	

Table 4.11

SSCS Returns Classified by Respondents' School Position

Position	Returned	%	Valid %	Cum %
Teacher	343	80.5	80.9	80.9
Dept Head	21	4.9	5.0	85.8
VP	6	6.1	6.1	92.0
Principal	34	8.0	7.8	100.0
Not Stated	2	0.5		
Total	426	100.0	100.0	

Location and Size of Respondents' Schools

Almost 53 percent of respondents were employed in rural schools. As reported earlier, two-thirds of the schools were rural, and the fact that only a little more than half of the respondents were employed in rural schools reflects the disparity in the size of urban and rural schools. About two-thirds of the respondents were employed in schools with enrolment of less than 450 students, and schools with 150 to 299 students employed more of the respondents than schools in any other category. Data on the location and size of respondents' schools have been summarized in Tables 4.12 and 4.13.

Table 4.12

Respondents Classified by School Location

Location	Returned	%	Valid %	Cum %
Urban	194	45.5	47.1	47.1
Rural	218	51.2	52.9	100.0
Not Stated	14	3.3		
Total	426	100.0	100.0	

Table 4.13

Respondents Classified by School Enrolment

Enrolment	Returned	%	Valid %	Cum %
001-149	25	5.9	6.1	6.1
150-299	150	35.2	36.4	42.5
300-449	99	23.2	24.0	66.5
450-599	22	5.2	5.3	71.8
600-799	0			71.8
799+	116	27.2	28.2	100.0
Not Stated	14	3.3		
Total	426	100.0	100.0	

Qualifications, Experience, and Teaching Assignments ofRespondents

The highest level of education attained by over 60 percent of the respondents was a primary (bachelor) degree. Almost 30 percent had postgraduate degrees or diplomas. Several respondents had two bachelor degrees (see Table 4.14).

Table 4.14

Highest Academic Qualification of Respondents

Highest Qualification	Returned	%	Valid %	Cum %
BA, BEd, BSc	266	62.4	62.7	62.7
PGD (Diploma)	64	15.0	15.1	78.0
MA, MEd, MSc	55	12.9	13.0	91.0
PhD	3	.7	.7	91.7
Teaching Cert	8	1.9	1.9	93.6
Two Degrees	27	6.3	6.4	100.0
Not Stated	3	.7		
Total	426	100.0	100.0	

Saskatchewan's teaching force is aging and this is reflected in the data. Over half of the school educators, excluding school principals, had 15 or more years of teaching experience. Almost two-thirds had spent 10 or more years in the school division, and over one third were 10 years or longer in the same school (see Table 4.15).

Table 4.15

Respondents' Teaching Experience (in years)

Experience	School		Division		Total	
	N	%	N	%	N	%
0-2	82	21.0	22	5.6	11	2.8
3-4	45	11.5	23	5.9	16	4.1
5-9	86	22.1	76	19.5	56	14.4
10-14	62	15.9	88	22.6	73	18.7
15-19	38	9.7	67	17.2	79	20.3
20 or more	31	7.9	66	16.9	106	27.2
Not Stated	46	11.8	48	12.3	49	12.6
Total	390	100.0	390	100.0	390	100.0

Principals provided data on their experience in school administration. Here the trend, noted above, was even more pronounced; almost 60 percent of the principals had served as principals for 10 or more years, and more than one quarter had been principal for more than 20 years. Principals also had strong ties to the school division; of the 20 principals with 10 or more years experience in the position, 18 of them had gained all that experience in the school division in which they were

currently employed (see Table 16). The data on teacher grade level assignment have been summarized in Table 4.17.

Table 4.16

School Principals as Experience as Principals (in years)

Experience	School		Division		Total	
	N	%	N	%	N	%
0-2	11	32.4	4	11.8	3	8.8
3-4	3	8.8	1	2.9	1	2.9
5-9	11	32.4	11	32.4	10	29.4
10-14	4	11.8	5	14.7	5	14.7
15-19	3	8.8	5	14.7	6	17.6
20 or more	2	5.9	8	23.5	9	26.5
Total	34	100.0	34	100.0	34	100.0

Table 4.17

Teaching Assignments of Respondents

Grades	N	%	Valid %	Cum %
K-3	52	13.3	14.9	14.9
4-6	38	9.7	10.9	25.7
7-9	44	11.3	12.6	38.3
10-12	86	22.1	24.6	62.9
K-6	14	3.6	4.0	66.9
4-9	9	2.3	2.6	69.4
7-12	85	21.8	24.3	93.7
K-12	22	5.6	6.3	100.0
Not Stated	40	10.3		
Total	390	100.0	100.0	

Summary

In this chapter, the study sample was described. The sample data was presented under two classifications, schools and educators. The description included demographic characteristics of schools in the sample and of school-based educators who responded to the Saskatchewan School Climate Scale (SSCS). The data were presented as text and tables.

Thirty-six (36) schools participated in the study.

Most of the schools, about two-thirds, were located in rural areas. The majority of schools were located in communities rated average in economic well-being. Most of the schools were housed in buildings that were at least 20 years old. Within high school and elementary school classifications, there were several grade enrolment patterns. Schools ranged from small schools with fewer than 150 students to large schools with over 1400 students. The schools, generally, had stable student populations and teaching staffs, and most staff members were employed at the schools on a full-time basis.

About 70% (426) of educators in the sample completed the SSCS survey. Gender distribution was approximately equal. Most respondents stated that their highest qualification was an undergraduate degree. Over half of the teachers had been teaching for at least 15 years, and over 60% of the principals had been in that position for more than 10 years.

CHAPTER 5

RESULTS OF THE SCHOOL CLIMATE SURVEY

In this chapter, results of analyses of school climate data gathered on the mail surveys are presented. Data were examined from two perspectives. The purpose of the first analysis was to answer questions about the validity of the Saskatchewan School Climate Scale (SSCS). The purpose of the second analysis was to examine the nature of school climate and its relationship to other variables. Results of these analyses are presented below.

The Saskatchewan School Climate Scale (SSCS)

As described in Chapter 3, the SSCS was developed and pilot tested before being used in the study. The version of the SSCS used in the pilot test had 68 items, and the final version used in the study had 55 items. The SSCS is a self-report, mail survey, intended for use with school-based educators. SSCS items included positive and negative descriptions of school climate; items measured the four dimensions of climate, ecology, milieu, culture, and social system; and items were randomly distributed throughout the survey form. Each item had a 6-point response scale. In calculating dimension scores, mean scores were used, e.g. an individual's ecology score was

arrived at by summing his ecology item scores and dividing by the number of ecology items he completed.

In the examination of SSCS validity, data from the pilot test of the draft instrument and data from the SSCS in the school climate study were used. Where reference is made below to pilot test data, these were data for the 55 pilot test items retained on the final or study version of the SSCS.

The first step in establishing SSCS validity was to determine the instrument's reliability. More specifically, the aspect of reliability that was of interest was the internal consistency of the SSCS's four subscales. Since the development of the subscales was guided by definitions based on Tagiuri's (1968) conceptual framework, there was a basis for believing that the group of items in each subscale was homogeneous. That belief was tested using Cronbach's alpha as the estimate of internal consistency. Pedhazur and Schmelkin (1991) have pointed out that, while a low alpha is an indication of heterogeneity, a high alpha does not necessarily indicate homogeneity. However, when the SSCS development process combined with a high alpha, the reasonable conclusion was that homogeneity had been achieved.

In examining subscales, it was apparent that all items did not contribute equally to subscale internal

consistency. By eliminating those items that had low correlations with subscale, alpha was increased. The exercise, item rejection, was justified on the grounds of parsimony and increased homogeneity. The focus throughout the internal consistency analysis was on subscales rather than on individual items or scale. Following the test for internal consistency, the data were factor analysed. The purpose of the factor analysis was to determine whether the subscales were independent of each other or whether the data could be reduced to a smaller number of factors.

Internal Consistency

The coefficient used to estimate internal consistency of the SSCS was Cronbach's alpha. All alpha values for the instrument in the two administrations were at a generally acceptable level (Nunnally, 1967; Nunnally, 1978). Alpha estimates for study data were slightly lower than alphas for pilot data. Alpha for the climate scale in the study was .92 compared to .94 in the pilot test; alphas for the climate subscales ranged from .72 to .81 in the study and from .75 to .86 in the pilot test. Since the study sample was considerably larger than the pilot sample, 426 compared to 100, the lower study estimates are probably more accurate.

When comparing subscale alphas, it should be recalled

that alpha increases as the number of items increases and that the subscales in the SSCS did not have equal numbers of items. It is, perhaps, not surprising that the subscale with the greatest number of items had the highest alpha and the subscale with fewest items had the lowest alpha. Alpha estimates for the SSCS scale and its subscales are presented in Table 5.1. Statistics for the SSCS scale and items have been included in Appendix E.

Table 5.1

Internal Consistency of the Saskatchewan School Climate Scale (SSCS) and Subscales (N = 426)

Subscale	Alpha Coefficient	Number of Items
Culture	.75 (.80)	13 (15)
Ecology	.72 (.75)	09 (17)
Milieu	.77 (.85)	13 (13)
Social System	.81 (.86)	20 (23)
Scale (Total)	.92 (.94)	55 (68)

Note. Numbers in parentheses are for pilot test data.

Pearson product-moment correlation coefficients were calculated for the four climate subscales. Correlations between subscales ranged from .43 to .83. The correlation coefficients appeared sufficiently high to suggest that

only one construct was measured. Factor analysis was later used to determine if this was so. The correlation matrix for the subscales is presented in Table 5.2.

As expected, the subscales measuring human and social elements (culture, milieu, and social system) correlated higher with each other than they did with the nonhuman, physical element (ecology). The data supported a scale with reasonably high internal consistency, composed of four related subscales.

Table 5.2

Correlation Matrix for the Revised* Subscales (N = 426)

Subscale	Culture	Ecology	Milieu	Soc System
Culture	1.00			
Ecology	0.46	1.00		
Milieu	0.70	0.43	1.00	
Soc. System	0.83	0.53	0.75	1.00

* SSCS subscales were revised following the item-subscale analysis reported below.

Item-Subscale Analysis

Item-subscale correlations were calculated for items

with each of the four subscales. Correlations were examined for two purposes: to determine the contribution of items to their subscales; and, to compare how well items correlated with their own subscales as opposed to their correlations with the other three subscales. The expectation was that items would correlate with their own subscale at $r = .30$ or higher, and that items would correlate higher with their own subscales than they would with other subscales.

Culture subscale. The culture subscale, as tested, consisted of 13 items. Twelve (12) of the items had their highest correlation with the culture subscale. Item 46, had high correlations with three subscales; its correlation with the milieu subscale ($r = .55$) was marginally higher than its correlation with the culture subscale ($r = .52$). Item 36 ($r = .22$) failed to meet the statistical standard. Alpha for the culture subscale was maximized when items 36 and 7 were dropped; alpha for the revised 11-item subscale was .78, compared to an alpha of .75 for the tested 13-item subscale.

Four items on the culture subscale, items 20, 46, 47, and 49, had high correlations with scale (SSCS), $r > .50$, showing that they were also general measures of school climate. Correlations for items on the culture subscale

are shown in Table 5.3.

Ecology subscale. There were nine items on the tested ecology subscale. All the items had correlations with the ecology subscale that exceeded the standard of $r = .30$. Item 19 was the only item that did not have its highest correlation with the ecology subscale; it had high correlations with all four subscales, .52 to .56, and appeared to be a general measure of school climate. It was the only item on the ecology subscale that had an item-scale correlation that exceeded $r = .50$.

Alpha for the ecology subscale (.72) was maximized by retaining all of the tested items. Correlations for items in the ecology subscale are shown in Table 5.4.

Table 5.3

Item-Subscale Correlations for Culture (N = 409 to N = 425)

Item No.	Subscale			
	Culture	Ecology	Milieu	Soc System
3	.55	.31	.37	.47
14	.58	.22	.33	.46
20	.68	.35	.54	.63
21	.47	.11	.16	.28
44	.54	.22	.20	.38
46	.52	.27	.55	.49
47	.64	.29	.53	.54
48	.55	.22	.35	.48
49	.59	.34	.45	.55
51	.52	.20	.47	.40
54	.60	.34	.36	.43

Table 5.4

Item-Subscale Correlations for Ecology (N = 408 to N = 424)

Item No.	Subscale			
	Culture	Ecology	Milieu	Soc System
16	.25	.47	.29	.36
19	.53	.52	.56	.54
22	.13	.54	.20	.21
23	.36	.50	.27	.33
26	.30	.50	.22	.29
29	.23	.47	.35	.30
31	.30	.50	.21	.31
32	.29	.66	.19	.33
55	.22	.61	.26	.28

Milieu subscale. The tested milieu subscale had 13 items. Two items, Item 6 ($r = .26$) and Item 10 ($r = .29$), had correlations with the milieu subscale that were below the statistical standard. Alpha for the milieu subscale was maximized when these two items were dropped; alpha for the revised 11-item subscale was .79, compared to .77 for the tested 13-item subscale.

Item 8 had marginally higher correlations with other

subscales (.55 and .51) than it had with the milieu subscale (.48). The milieu subscale had six items with item-scale correlations greater than $r = .50$. Item-subscale correlations for the revised milieu subscale are presented in Table 5.5.

Table 5.5

Item-Subscale Correlations for Milieu (N = 405 to N = 423)

Item No.	Subscale			
	Culture	Ecology	Milieu	Soc System
2	.26	.14	.58	.32
4	.36	.24	.64	.49
8	.55	.27	.48	.51
18	.26	.10	.46	.21
24	.47	.26	.51	.51
28	.39	.20	.53	.37
34	.45	.35	.68	.54
35	.28	.38	.49	.36
41	.53	.33	.61	.53
52	.34	.24	.67	.43
53	.54	.24	.60	.49

Social system subscale. There were 20 items on the tested social system subscale. Nineteen (19) of the 20 items had acceptable correlations with the social system subscale. To maximize alpha, Item 11 ($r = .25$) and two other items were dropped from the subscale. Alpha for the revised 17-item subscale was .83, compared to .81 for the tested 20-item subscale.

Item 9 had its highest correlation with the milieu subscale (.64), compared to a correlation of $r = .58$ with the social system subscale. Eight of the items had item-scale correlations that exceeded $r = .50$. Correlations for the revised social system subscale are presented in Table 5.6.

Results of the internal consistency analysis showed that each of the four subscales had satisfactory alpha coefficients. The correlation matrix for the subscales indicated that the four subscales were highly intercorrelated. Intercorrelations among culture, milieu, and social system subscales were higher than any correlation involving the ecology subscale. The next step in the analysis was to determine the number of factors that could account for SSCS data.

Table 5.6

Item-Subscale Correlations for Social System (N = 409 to N = 425)

Item No.	Subscale			
	Culture	Ecology	Milieu	Soc System
1	.44	.34	.35	.54
5	.39	.32	.37	.48
9	.43	.32	.64	.58
12	.46	.30	.38	.51
13	.49	.32	.47	.55
15	.38	.17	.27	.47
17	.52	.36	.34	.57
25	.49	.38	.27	.55
27	.51	.32	.62	.65
30	.40	.15	.22	.40
33	.42	.26	.38	.53
38	.40	.29	.33	.52
39	.56	.31	.56	.63
40	.45	.39	.53	.59
42	.37	.23	.44	.51
43	.39	.16	.25	.43
50	.42	.29	.38	.53

Factor Analysis

Factor analysis (FA) has been widely used in the physical and sociobehavioural sciences since its development early in this century by Pearson, Spearman, Burt, Thurstone, and others. The basic idea in FA is very simple and appealing and has been stated succinctly by Child (1970):

When a group of variables has, for some reason, a great deal in common, a factor may be said to exist. These related variables are discovered using the technique of correlation. (p. 2)

Although the basic idea of FA is simple, the assumptions on which it is based are rarely, if ever, met in the real world. Even if all other assumptions were met, real data would only approximate a hypothetical, latent factor. Ideal data requirements for FA are rarely met in the physical sciences, and never in the sociobehavioural sciences.

The failure to meet FA data requirements stems from two sources, measurement and sample selection. By comparison with measures in the physical sciences, measures in the social sciences are unreliable, with large error margins. This is due to the complex and intangible nature of variables measured in the social sciences. For example, it is much easier to measure a person's height

than her motivation to achieve.

The second source of data distortion or bias is related to sample selection. Since data are usually gathered from samples rather than from populations, researcher bias affects sample selection. For example, in this study, Region 4 schools were selected for pragmatic reasons. Researcher bias also affects item selection; faced with the same universe of items, it is improbable that two researchers would select the same items. Stated simply, someone must decide which questions will be asked and from whom answers will be requested; some bias is, therefore, inevitable. For reasons of measurement unreliability and bias in sampling, one should exercise caution in the use and interpretation of FA.

The most common use of FA is in searching for a smaller number of factors that can account for all the variables (test items) on an instrument (scale). The difficulty in determining the appropriate number of factors and in naming or interpreting the factors is well known (McNemar, 1951). Criteria for selecting the number of factors rarely agree on a solution, and all the criteria seem to generate too many factors. McNemar (1951) claimed that all factor analysts suffered from the struggle syndrome, since they struggled in naming factors that always seemed to include some mismatched items.

The use of item data in FA analysis is not appropriate, since item data are not sufficiently reliable. FA is more appropriate for analysing scale and subscale data, provided the scales and subscales have sufficient reliability. This view is supported by Randhawa and Beamer (1994). In replying to a criticism by Marsh and others (1994) of an earlier paper (Randhawa, Beamer, & Lundberg, 1993), Randhawa and Beamer (1994) stated:

Marsh et al. were concerned that we did not engage in confirmatory factor analysis at the item level to provide further evidence that our clusters of items composing the two attitude measures (or for that matter other measures as well) were unidimensional. It is not uncommon to see the item level analyses such as proposed by our critics. It must be kept in mind that *when single items are used as input variables in factor analyses, confirmatory or exploratory, one is dealing with extremely unreliable, hence fallible data sets* [italics added]. (p. 464)

In the factor analysis of SSCS, the input data were subscale scores rather than item scores. The alphas reported earlier were sufficient, in the researcher's view, to conclude that the subscales were unidimensional. Confirmatory factor analysis with the maximum likelihood solution was used to determine if a single latent factor could explain the relations among the subscales. The results are reported below.

Results

FA showed that there was a single latent factor underlying the four subscales. The first factor was the only factor that had an eigenvalue greater than 1. Therefore, according to the Kaiser criterion for determining the number of factors, there was only one factor.

A second criterion, the Chi-square goodness-of-fit, confirmed this result. The value of Chi-square for the 1-factor model was not significant (Chi-square = 1.60, $p = .45$). This indicated that the data did not deviate significantly from the theoretical 1-factor model. The first factor accounted for 65% of the variance in subscale scores.

Inspection of the factor score coefficient matrix showed that the social system subscale contributed most to the factor and the ecology subscale contributed least. Using the SPSS program, factor scores were derived from the factor score coefficients. Descriptive statistics and the correlation matrix for the subscales are shown in Table 5.7. The results of the factor analysis are shown in Table 5.8.

Table 5.7

Correlation Matrix, Means, and Standard Deviations for
Subscales (N = 426)

	Subscale			
	Culture	Ecology	Milieu	Soc System
Culture	1.00			
Ecology	.46	1.00		
Milieu	.70	.43	1.00	
Soc Sys	.83	.53	.75	1.00
Mean	3.29	3.36	3.37	3.30
Stan Dev	.60	.68	.61	.57

Table 5.8

Factor Analysis of the SSCS: Communalities, Factor
Loadings, and Factor Score Coefficients for the Maximum
Likelihood Solution

	Factor 1		
	Communality	Loading	Score Coefficient
Culture	.76	.87	.22
Ecology	.30	.55	.05
Milieu	.63	.79	.13
Soc Sys	.91	.95	.65

Validity

Over the past 40 years or so, the concept of validity has undergone many changes; according to Angoff (1985), the only constant has been the preeminence of validity in psychometrics. Changing views of validity could be classified in two categories. The first is concerned with where validity resides, and the second is concerned with the nature of validity.

Early conceptions of validity viewed the concept as belonging solely to the test (Garrett, 1937). If a test measured what it purported to measure, it was a valid test. This view of validity was later modified to consider the use of the test (Guilford, 1946). A test could be valid for one purpose, but not for another. The modern conception of validity is that it is not a characteristic of a test but relates to the inferences made from test scores (Cronbach, 1971; Messick, 1980; APA, AERA, NCME, 1985). The validator's task, then, is to accumulate evidence to support inferences made from test scores.

Initially, it was thought that there were many different kinds of validity. (This was probably another instance of positivist principles at work, breaking down complex concepts into smaller, more manageable, discrete

parts.) The 1954 Standards identified four kinds of validity: content validity, predictive validity, concurrent validity, and construct validity. In later editions of Standards (1966 and 1974), concurrent and predictive validity were combined as criterion-related validity. It was said, humorously, that if a test failed one validity test, the validator still had two chances left. Guion (1980) referred to the three kinds of validity as "a holy trinity representing three separate roads to psychometric salvation" (p. 386).

Construct validity, introduced as a kind of junior partner in 1954 has grown to the point where it is now considered the whole of validity. The modern conception of validity is that it is a unitary concept (Angoff, 1988; Cronbach, 1971; Messick, 1988; Pedhazur & Schmelkin, 1991). Cronbach (1988) stated some widely-held, current views of validity:

The 30-year-old idea of three types of validity, separate but maybe equal, is an idea whose time has gone. Most validity theorists have been saying that content and criterion validities are no more than strands within a cable of validity argument (Dunnette & Borman, 1979; Guion, 1980; Messick, 1980). ... Coming to understand what generates

test scores and why they relate to antecedents and consequents, and to understand also the context of test use, is what enables the profession to defend against unwarranted criticism or to decide what change is warranted. (p. 4)

Two more of Cronbach's (1988) statements seemed worthy of mention in the present context. First, he stated that validation was never final. The SSCS validity evidence presented in this research report is, therefore, only the beginning of the validity argument. Second, Cronbach stated that the validator's task was to "clarify for a relevant community what a measurement means, and the limitations of each interpretation" (p. 3).

The sources drawn from in the preliminary validation of the SSCS were the evidential base, and logical argument. The purpose of logical argument is to link the interpretation of test scores with the construct. More specifically, the task was to link the interpretation of scores on the SSCS with the school climate construct. Evidence and argument for SSCS validity are presented in the following pages.

Validity of the SSCS

The Saskatchewan School Climate Scale (SSCS) was based on Tagiuri's (1968) framework for organizational climate. Anderson (1983), in a comprehensive review of research on school climate, found that all school climate research could be classified within the Tagiuri framework. While many school climate instruments measured only one or two of the four elements of climate identified by Tagiuri, the SSCS measured all four. Although the concept of (school) climate is nebulous and has been variously defined and operationalized (see Chapter 2), the comprehensive Tagiuri framework seemed like a good starting point for development of the SSCS.

The next strand in the cable of validity was a consideration of whether items in the SSCS remained true to their conceptual roots. Tagiuri's definitions of the four climate elements were adapted by the researcher for the school setting. These definitions were among the guidelines followed by the researcher and others in writing potential items for the SSCS. A panel of graduate students was later given the task of evaluating items against the definition criterion. The researcher had the final say in item selection and believes the SSCS items reflect the conceptual framework. One essential

feature of validity is the appropriateness of the test. Tests that are valid for one purpose may not be for another. Considerable effort was made to ensure that the SSCS would be appropriate. The test items were written and adjudicated by educators whose academic preparation and professional experience matched those of the study sample. Item writers and adjudicators had taught in the province's K-12 system and several had also been, or were, school administrators. Consequently, items were written in language familiar to respondents and measured variables assumed to be important to them. Also, revisions were made to the instrument based on comment from participants in the pilot test; items that did not appear to be appropriate for all grade levels from K to 12 were rejected.

The instrument development process, described in Chapter 3, gave some assurance that items on the SSCS were appropriate, relevant, and important to respondents. This belief was tested in the study. Since respondents should know best whether SSCS items tapped areas of interest and importance to them, they were asked to evaluate each item as a descriptor of school climate. The results, described below, suggested that SSCS items measured important aspects of school climate.

About 72% of respondents evaluated the importance of SSCS items. Of the 55 items on the SSCS, 39 items were considered important school climate descriptors by over 90% of those responding; 49 items were considered important by more than 80%. None of the items received less than 50% approval. Based on the results, only 2 items appeared questionable. Item 37, (Staff members do not socialize with each other outside school), was rated important by 52.8%, and Item 18, (Parents are highly educated) was rated important by 57.4%. No other item received less than 70% approval. Results of the item importance survey are summarized in Table 5.9.

Table 5.9

Respondents' Evaluation of the Importance of SSCS Items

(N = 307)

Items	Importance Index*	n
1, 2, 4, 5-9, 12-14, 17, 20, 21, 23, 24, 27-31, 33-36, 38, 39, 41, 43, 44, 46-49, 51-55	90-100	39
3, 10, 11, 15, 16, 19, 26, 40, 42, 50	80- 90	10
22, 25, 32, 45	70- 80	4
18, 37	50- 60	2
Total		55

* Importance Index is the % of respondents who indicated the item was an important descriptor of school climate.

Evidence offered to support validation is sometimes as correlation(s) between the measure under examination and other criterion variables. At times, the goal is to show that the test correlates negatively with a criterion commonly held to inhabit the opposite end of the spectrum; more often, the aim is to demonstrate similarity (positive correlation) with some widely-accepted criterion measure of the same construct. Another approach is to use multiple methods to examine the same phenomenon, in which case, high positive correlations among the measures are expected.

Additional data gathered in the study provided further evidence to support SSCS validity. These included other measures of the same construct (school climate) and measures of constructs related to school climate. School division directors of education provided school climate data for the sample schools on a mail survey, the Director's Assessment of School Climate (DASC). The researcher gathered school climate data during visits to a subsample of the schools.

Data were also gathered on related constructs: students in the subsample schools provided data on their attitude towards school on the SATS survey. SSCS respondents provided data on job satisfaction. Pearson

product-moment correlations were used to compare SSCS school climate scores with other measures of school climate and with measures of related constructs. Expectations and results with respect to relationships between the variables are presented below.

School climate scores obtained from multiple sources (school division directors of education, school-based educators, and the researcher) gathered by various methods (self-report survey, observation, interview, and document analysis) were expected to have high, positive correlations. Student attitude towards school scores were expected to have high positive correlation with school-based educator scores on the SSCS. Job satisfaction scores of respondents were expected, for reasons described in the next paragraph, to have a moderately high, positive correlation with their SSCS scores.

In early studies examining the relationship between school climate and job satisfaction, correlations were high enough for some researchers to conclude that school climate was merely satisfaction in another guise. In the review of research in Chapter 2, it was shown that this effect was due, in large part, to the nature of the items used to measure school climate. Some items were borrowed

from satisfaction measures and measured affect rather than description. In view of the efforts made in the development process to ensure that SSCS items were closer to the descriptive than to the affective end of the spectrum, a very high correlation would have been contrary to expectation.

The correlation between SSCS and DASC scores was based on school scores: the DASC provided a school climate score for each school; and, school mean scores were calculated for each school based on SSCS returns. Three (3) of the 36 schools were excluded from the correlation; school means based on 2 SSCS forms returned were considered unreliable. The observed value, $r = .70$, was significant ($p = .000$, $N = 33$). The correlation was as expected.

Four schools were visited by the researcher who assessed their school climates based on interview, observation, and other data. Besides writing descriptions of school climate, the researcher assigned a summary school climate score to each school. SSCS school mean scores were correlated with the researcher's school scores. The observed value of the Pearson correlation, $r = .98$, was significant ($p = .021$, $N = 4$). The observed correlation met expectations.

Data on student attitude towards school (SATS) were gathered in conjunction with the school visits. School mean SATS scores were correlated with school mean SSCS scores. The observed value of the Pearson correlation, $r = .996$, was statistically significant ($p = .004$, $N = 4$). Again, the observed correlation was as expected.

In the last of the four comparisons, respondents' SSCS scores were correlated with their job satisfaction scores. The observed Pearson correlation, $r = .46$, was significant ($p = .000$, $N = 416$). This correlation was within the expected range. (Job satisfaction had been measured by a single item on the SSCS form.)

A further test of an instrument's validity is its discriminatory power. A school climate instrument should be able to detect differences in school climate between schools, if such differences exist. Since we cannot be sure that the differences exist, this weakens this part of the validity argument. However, by examining variability in climate scores within and between schools, it is possible to tell if differences in school climate were greater than differences in teacher (school-based educator) perceptions. This was tested by means of a one-way analysis of variance, with school identification as the independent variable and SSCS scores as the

dependent variable. The resulting F ratio, $F(35, 390) = 6.08$, was significant ($p = .0000$). From the table, it can be seen that differences between schools accounted for a substantial portion of the variance, about 35%. Summary data for the analysis of variance are presented in Table 5.10.

Table 5.10

ANOVA of School Identification by SSCS Scores

Source	D.F.	Mean Squares	F-ratio
Between Groups	35	1.02	6.08*
Within Groups	390	.17	

* $p < .05$

The reliability data presented earlier in this chapter and in Chapter 3 should also be considered in relation to the validity of the SSCS. Reliability is almost universally accepted as evidence of validity. It is as Pedhazur and Schmelkin (1991) point out "a necessary but not a sufficient condition for validity" (p. 81). The reliance of some researchers on reliability as the sole evidence of validity led Rozeboom (1966) to conclude that it was "the poor man's validity coefficient" (p. 375).

Reliability evidence is offered in this report as one of a number of pieces of evidence of SSCS validity.

The validity evidence presented here is the first step in establishing the instrument's psychometric properties. Further research and argument may strengthen or weaken the evidence presented in this report. Based on the evidence in this study, the researcher believes: that the SSCS is a comprehensive measure of school climate; that the climate subscales are composed of homogeneous, related item clusters; that school climate is unidimensional; that the SSCS measures school climate reliably; and that the SSCS is appropriate for use in Saskatchewan K-12 schools. This concludes the analysis of data to determine validity of the SSCS.

Analysis of Study Data

In the following section, the data have been analysed to examine the phenomenon of school climate and the relationship between school climate and other variables. The section begins with an examination of the relationship between school climate and demographic variables. This is followed by an examination of the variability of climate scores within schools. Finally, respondents' assessments of the stability of climate in their schools are presented.

School Climate and Demographics

In the study, two kinds of demographic data were gathered, data on school demographics and data on personal demographics. In the first analysis, the effects of school factors on school climate were analysed. In terms of the literature review presented in Chapter 2, this was an examination of the extent to which school climate was influenced by environmental factors or setting. In the second analysis, the effects of personal factors on school climate were analysed.

As a result of the factor analysis of SSCS data, it was determined that only one factor was present. Therefore, a single factor score was derived for each individual. The factor score was composed of unequal contributions from each of the four climate dimensions in the SSCS, ecology, milieu, culture, and social system. In all of the subsequent analyses, SSCS factor scores, or school climate scores, were used.

In the analysis of the effects of school variables on school climate, the focus was at the school level rather than the individual level. Therefore, school climate data used in the analysis were aggregated to the school level. The school climate score for each school was the mean school climate (factor) score of all respondents from that

school. The school variables existed already at the school level, e.g. age of the school building (BUILDING), or they were aggregated from individual data, e.g. average qualifications of staff (QUALIFICATIONS).

In the school-level analysis, data from 31 of the 36 schools were used. Data from five schools were excluded, either because of insufficient response on the SSCS (Three schools did not return a sufficient number of SSCS forms), or because of missing SD (School Demographics) data (Two school principals did not return the SD forms).

School Climate and School Variables

In total, 11 school demographic variables were examined. Eight of the variables were true school-level variables in that they existed only at the school level; the other three school-level variables were aggregations of individual-level data. The 11 school-level variables examined were:

COMMUNITY: Economic status of the community in which the school was located;

LOCATION: Location of the school, urban or rural;

BUILDING: Age of the school building;

GRADES: Grade levels enrolled;

ENROLMENT: Student enrolment;

STABILITY: Staff stability, based on how long

present staff were at the school;

TRANSFERS: Annual student transfers as a percentage of enrolment;

EMPLOYMENT: Employment status of professional staff on full-time or part-time basis;

QUALIFICATIONS: Average qualifications of staff;

EXPERIENCE: Average experience (in education) of staff; and,

GENDER: Staff gender composition (number of females/total staff).

A decision was made to analyse the data using multiple regression techniques. Pedhazur and Schmelkin (1991) have stated reasons for preferring regression to analysis of variance (ANOVA), especially in nonexperimental social research. Some problems associated with using ANOVA in nonexperimental designs are: data requirements are not met (empty cells or too few observations per cell); continuous variables are misrepresented when treated as categorical variables; and ANOVA results may be uninterpretable when the number of factors is large.

Stepwise regression was used in the analysis of the effects of school-level and individual-level variables on school climate. This method of regression is appropriate in exploratory research and may be useful in predictive

research; it is not appropriate for explanatory research or theory-building (Pedhazur & Schmelkin, 1991). Since the study was exploratory, stepwise was deemed appropriate in this instance.

In stepwise regression, the most significant independent or predictor variable (the variable with the greatest effect on the dependent variable) is entered first in the regression equation. Other variables follow based on their magnitude of effect (lowest probability) on the dependent variable. The criterion for entering variables was set at $p < .05$. As variables are added, the probability of variables already in the equation can change, depending on the matrix of correlations between the variables. When the probability of variables already in the equation increases above a certain level, they are removed from the equation. The criterion for removing variables was set at $p > .10$.

Results. In the analysis of school-level variables, the stepwise criteria limits were reached when only one variable was entered in the regression equation. GRADES was the only variable that had a significant effect on climate.

In interpreting the results, it should not be concluded that the other 10 school-level variables did not

significantly affect school climate. The results indicated that after GRADES was selected as the most significant variable, none of the remaining variables could **add** sufficient, unique contribution to be considered significant.

When GRADES was omitted from the block of variables, GENDER was significant at almost the same probability level as GRADES had been. When both GRADES and GENDER were omitted from the block, none of the other nine variables had a probability low enough to be entered in the regression equation. The conclusions to be drawn are, first, that GRADES and GENDER, as school-level variables, are powerful predictors of school climate and, second, that there is substantial overlap between GRADES and GENDER. Either one of them can account for a large portion, over 25%, of the variance in school climate. Adjusted R Square values for GRADES and GENDER were .253 and .251 respectively (N = 31).

Since the correlation between GRADES and school climate was negative, the finding for GRADES meant that schools with lower or junior grades enrolled had higher school climate scores than schools that enrolled upper or senior grades. The sign of the correlation between GENDER and school climate was positive. GENDER, it will be recalled, was based on the number of female educators on

staff relative to staff total. The GENDER finding meant that school climate scores varied in the same direction as the proportion of female educators on staff. Conversely, climate scores were inversely related to the proportion of male educators on staff.

How reliable and how important are these findings with respect to GENDER and GRADES? To answer the first question, a study would need to be designed with a sufficiently large number of schools, say 100. This sample should include equal numbers of elementary and high schools. Within each school classification, there should be approximately equal distribution of staffs with a majority of females, a majority of males, and equal numbers of males and females. With such a study, it would be possible to determine if educator gender or student grades had significant effects on school climate. In Saskatchewan, at present, it would probably be impossible to design such a study, the reason being that high schools with a majority of female teachers and elementary schools with a majority of male teachers are few. The size and composition of the sample used in the study does not warrant great confidence in the finding, although it does raise interesting questions: Do elementary schools have better (more positive) climates than high schools?; Can

the school climate be improved by manipulating the staff gender ratio?

With respect to question one, the answer is likely "yes." The conventional wisdom among teachers is that elementary schools are happier, more agreeable places to work. Reasons cited for this state of affairs include greater student respect for teachers and greater parent involvement. Observation data in the study would support this thesis. In the research community, the case is being made for separate treatment of high schools and elementary schools, recognition that differences exist.

With respect to question two, it is unlikely that consensus exists. In fact, the only reference about the effect of school staff gender on school climate was contrary to that reported here. MacIntosh (1988) found that school climate was negatively correlated to the proportion of females on staff. However, MacIntosh noted that this was a weak finding, and possibly an artifact of the research design. Also, it should be noted that MacIntosh was referring to students', rather than teachers', perceptions of school climate.

School Climate and Personal Variables

In the analysis of school climate and personal variables, the focus was on individual effects. How, for

example, do the teacher's academic qualifications affect the school climate she perceives or reports? The school climate data used in the analysis were the individual school climate (factor) scores. Stepwise regression was used again in this analysis.

Seven personal or educator variables were measured in the study: GENDER (P), POSITION, QUALIFICATIONS (P), LEVEL (grade assignment), SCHOOL (experience in the school), DIVISION (experience in the school division), and TOTAL (total experience). (The (P) after the variable name was used to distinguish the personal variable from the aggregated, school-level variable of the same name.)

Results. Three of the seven personal variables, LEVEL, DIVISION, and POSITION, had significant effects on school climate. In other words, the grade level at which the respondent taught, the number of years he had been employed in the school division, and her position in the school as teacher or administrator affected the school climate she perceived or reported. Of the three significant independent variables, LEVEL was the most significant. Together, the three variables accounted for about 12% of the variance in school climate.

The correlation between LEVEL and school climate was negative. This meant that teachers assigned to lower

grades had more positive perceptions of school climate than teachers assigned to upper grades. This finding was consistent with the finding reported earlier that schools that enrolled students in lower grades had more positive climates.

The correlations between the other two variables, DIVISION and POSITION, and school climate were positive. The finding for DIVISION meant that more positive (higher) school climate scores were associated with greater (more years of) experience in the school division. The finding for POSITION meant that school administrators reported a more positive school climate than did teachers. Results of the regression analysis have been summarized in Table 5.11.

Table 5.11

Stepwise Regression of Individual-Level Variables on School Climate

Variables in the Equation:	1. LEVEL		
	2. DIVISION		
	3. POSITION		
<hr/>			
Multiple R	.36		
R Square	.13		
Adjusted R Square	.25	F-ratio	10.51

Table 5.11 continued

Variable	Step	Mult R	R Sq	R Sq Change	T
LEVEL	1	.31	.10	.10	-5.85**
DIVISION	2	.34	.12	.02	2.33*
POSITION	3	.36	.13	.01	2.29*

* $p < .05$ ** $p < .001$

The finding for DIVISION was consistent with that suggested by the literature. Teacher stability is generally believed to be positively related to school climate (Klitgaard & Hall, 1975; Wynne, 1981). MacIntosh (1988) found that school climate was negatively correlated to teacher stability. The researcher's own view, drawing on his experiences in schools, is that often the relationship between the two variables is positive. However, sometimes, the relationship may be curvilinear. For example, a new teacher arrives at the school, and her perceptions of school climate improve as she becomes more familiar with students, teachers, administrators, and parents. The discovery of problems that were not apparent at first or disappointed hopes, e.g. for promotion, may lead to more negative perceptions of school climate.

The finding for POSITION, that school principals perceive a more positive school climate than do their teachers, is not surprising. There are many possible explanations, of which the following are a few. The principal, in the opinion of most teachers, is removed from the battle zone and his perceptions should be rosier. The principal shoulders most of the responsibility for the school and may delude himself into believing that the climate is better than it really is. Finally, particularly where the school climate is negative, the principal may be aware of the situation, but she may be unwilling to report it.

Variability of Climate Perceptions

The results of the ANOVA reported earlier in the chapter indicated that there were significant differences between school mean climate scores. This result was not surprising; almost all climate studies have found differences in school means. In fact, when schools are reported as having different climates, it is the mean scores that have been different.

The mean score is a very important measure of school climate, probably the most important measure. However, measures of variability may be importance also. Schools in which staff members agree in their perceptions of climate may be different from schools in which there is

wide disagreement in perception, even if the schools have the same mean score.

In this analysis, the variability of perceptions was examined using the standard deviation as the variability measure. School mean climate scores were correlated with their standard deviations. Data from 33 of the 36 schools were used; three of the schools were excluded from the analysis because of insufficient response.

The Pearson correlation coefficient was statistically significant, $r = -.42$, $n = 33$, $p < .05$. The negative correlation indicated that school mean scores and standard deviations were inversely related; there was a tendency for high mean scores to be associated with low standard deviations and *vice versa*.

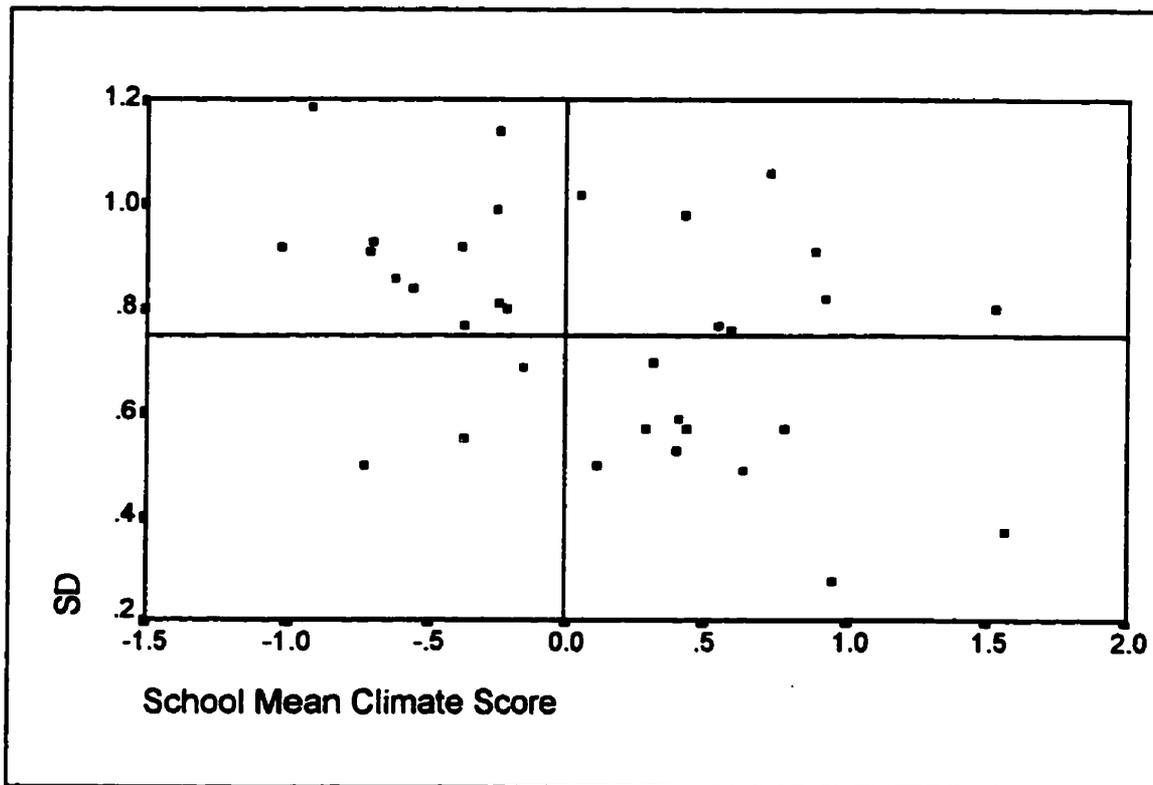
The results may not be surprising. In schools with positive climates, one would expect a high degree of communication and collaboration among staff members. This exchange would probably lead to greater agreement in perceptions of school climate. On the other hand, in schools with negative climates, one would expect less exchange between staff members and greater divergence in climate perceptions. This, at least, would be one explanation for the observed correlation.

However, while the correlation was statistically significant, it was not a perfect correlation. Inspection

of the data showed that some schools did not conform to this pattern. Some schools with positive school climates had considerable variability in perceptions, while some schools with negative climates had low variability. It appears that four school climate types exist: schools with positive climates and low variability (PCLV); schools with positive climates and high variability (PCHV); schools with negative climates and low variability (NCLV); and, schools with negative climates and high variability (NCHV). Based on the results, one would expect to find more PCLV and NCHV schools than PCHV and NCLV schools. Figure 5.1 shows the distribution of schools based on mean scores and standard deviations.

Figure 5.1

Distribution of Schools by Climate Type based on School Mean Scores and Standard Deviations (N = 33)



Stability of School Climate Perceptions

Does school climate remain stable over time? In the study, a crude attempt was made to answer this question. Respondents were asked whether the school climate they had described on the SSCS survey was present earlier. Specifically, they were asked how they would have described the school's climate if the survey had been conducted one month earlier, three months earlier, a year earlier, or two years earlier.

A 6-point scale was used, with values ranging from 5 (school climate was exactly the same) to 0 (school climate was completely different). Mean scores (M) for each of the four time periods were calculated. The results were as follows: one month earlier, $M = 4.82$; three months earlier, $M = 4.73$; one year earlier, $M = 4.07$; and two years earlier, $M = 3.42$. The variance of scores increased as the time was more removed from the present.

It appears that school climate, as recalled by respondents, changed with time. However, school climate seems to be relatively stable, at least within the same school year.

Summary

The results of the school climate mail survey were presented in this chapter. The results provided information about the validity of the SSCS and about school climate.

Based on survey results and other evidence cited in the chapter, the early indications were that the SSCS was a valid and reliable measure of school climate in Saskatchewan K-12 schools. Cronbach alphas from both the pilot test and the study demonstrated that the four subscales of the SSCS consisted of clusters of homogeneous items. Factor analysis of study data showed that

relations among the four subscales of the SSCS could be explained by a single latent factor.

Study data provided support for the importance of the SSCS items as school climate descriptors. Almost all the items were considered important by respondents. Correlations between school climate and related concepts were further evidence of SSCS validity. The Pearson correlation between school-based educators' perceptions of school climate and their job satisfaction was statistically significant, $r = .46$, $N = 416$; it was not so high that one could claim that they were two measures of the same construct, as was claimed at once (see Chapter 2). In schools for which data were available, there was remarkable agreement between SSCS school mean scores and student attitude school mean scores on the SATS (Student Attitude Towards School); the Pearson correlation was $r = .996$, $N = 4$.

There was agreement also between SSCS and other measures of school climate. Pearson correlation between SSCS school mean scores and school division directors of education DASC (Director's Assessment of School Climate) scores was statistically significant, $r = .70$, $N = 33$. The Pearson correlation between SSCS school mean scores and the researcher's observation scores was also

statistically significant, $r = .98$, $N = 4$.

The survey results showed that sample schools were significantly different with respect to school climate. The best school-level variables for explaining or predicting school climate were the gender composition of school professional staff, and the grade levels enrolled. More positive climates were much more likely to be found in schools that employed a large proportion of women educators, and in schools that enrolled only elementary students. In Saskatchewan, female teachers outnumber male teachers in elementary schools by a substantial margin.

Variability of climate perceptions within schools was examined. There was greater agreement among school-based educators in their perceptions of school climate in schools with positive climates. The Pearson correlation between school mean climate scores and their standard deviations was $r = -.42$, $p < .05$. It appears that school climates could be classified on two dimensions, positive-negative and agreement-disagreement.

CHAPTER 6

SCHOOL VISITS

The researcher visited 4 of the 36 study sample schools in the on-site observation component of the study. In this chapter, the data gathered during the visits and interpretations based on the data are described. The chapter concludes with a comparison of results from both research approaches used in the study, on-site visits and mail survey.

The Visit Subsample

The method of school selection for this portion of the study was described in Chapter 3, but has been included here to maintain the integrity of the chapter. Eight (8) of 36 schools were randomly selected from the study sample. The schools were contacted in the order in which they were selected until four schools had agreed to the visits.

In total, seven schools were contacted. Three of the schools contacted declined the visits. Some refusals had been anticipated; the researcher was aware, from contacts with school principals regarding the survey, that the presence of an observer in the school for a week was a concern for many principals. Despite assurances, some principals remained adamant in their opposition to the

visits.

Initial contact with the selected schools regarding the visits was by letter to school principals (see Appendix D). Following the mail contact, principals were contacted by telephone. There was considerable apprehension on the part of the school principals. It will be recalled from Chapter 3 that even before schools were selected for visits, principals had contacted the researcher and expressed concern in that regard. Three of the principals contacted could not be persuaded to allow the visits, and the four who eventually agreed had varying degrees of enthusiasm. It was a great relief to the researcher when four schools had given consent.

All four of the schools were located in what has been termed "rural" areas in the mail survey; they were outside the city of Saskatoon. Two were located in towns, one in a village, and the fourth did not have any near neighbours. Two of the schools were high schools, one was elementary, and one had K-12 students. As is typical in rural Saskatchewan, many students in the four schools were transported to and from school by bus.

Scope of the Visits

The purpose of the visit and the nature of the data gathering process were discussed with principals before

the visits. It was agreed that observations would be restricted to common areas of the school, unless special permission was received. Classrooms were out of bounds, unless the researcher was invited there by the classroom teachers. The researcher entered school administrators' offices only with permission of the administrators.

Data Gathering

On-site data can be gathered by various methods. At one end of the spectrum, the researcher visits the site without questions and without a plan for recording data. Here, questions and method are emergent; they are suggested by the setting and phenomena. Proponents of this approach believe that it leads to a more accurate and authentic description of on-site phenomena, since the researcher does not impose external criteria and methods.

At the opposite end of the spectrum, the researcher visits the site with very specific questions and a very detailed plan for recording the data. The researcher focuses on and records certain events, while ignoring others. Checklists of all the behaviours of interest characterize this approach. Proponents of this approach believe that the on-site phenomena are too complex to be captured completely in description. They, therefore, believe that the focus must be narrowed, if anything

worthwhile is to be accomplished.

From what was stated in Chapter 2, it should not be surprising that the researcher, while leaning towards the first approach, favoured an approach that was somewhere between these extremes. The selection of method was a pragmatic decision; the method had to address the study questions. On-site visits had two objectives: to gather data that would allow comparison between on-site observation and mail survey of the same phenomenon, school climate; and, to gain more intimate knowledge of school climate from firsthand experience. The first objective suggested the template approach in which the researcher comes prepared to observe and record those aspects of school climate covered by the mail survey form. The second objective suggested the emergent or empty-handed approach. The hybrid method selected by the researcher is described below.

The researcher visited schools with specific questions and adopted some standard forms and procedures for recording data. At the same time, the plan was flexible; the researcher was willing to adapt to the circumstances that presented themselves. The data-gathering plan included a set of 10 questions that covered more-or-less the same content as that covered by the mail

survey. Descriptions written in response to those questions formed the basis for assessing the schools' climates and making comparisons between them.

To facilitate comparison between on-site data and survey data, descriptions or responses to each question were assigned a summary score of from 1 to 10 points. The total school climate score possible for each school, then, was 100 points (10 x 10). The questions and the areas they covered have been included in Appendix D. The data used to answer the questions were gathered in the manner described below.

Data were gathered using a number of methods. Researcher observations were either recorded on cassette audio tape, written in a notebook, or committed to memory and recorded later the same day. Formal interviews with school administrators were tape recorded with consent of the administrators. (A copy of the interview guide has been included in Appendix D.) Informal conversations with teachers, students, and visitors were committed to memory and salient points recorded later. School documents were examined during, or after, the visits. A student survey was administered to about 30 students in each of the four schools.

Reporting the Data

Participants in the study had been assured that individuals, schools, and school divisions would not be identified in the research report. To preserve the anonymity of schools, the following fictitious school names have been used in the report: Valley School, Breaffy School, Lily School, and Prairie School. In the following section, the climate of each school is described separately. The uniqueness of each school is to some extent reflected in the written reports. To provide some uniformity, each school description concludes with a summary which addresses the 10 questions referred to earlier.

Valley School

Valley School had students enrolled in grades 7-12. About half of the students lived in the town in which Valley School was located; the others arrived every morning on school buses. With over 20 teachers, Valley School could be classed in Saskatchewan as a large rural high school.

First impressions of the school were very positive. The school building was most impressive. It had been built some years earlier at a cost that suggested that this was not a "have-not" community. The building itself,

driveways, paved parking lot, and landscaping were indications that money had not been spared in the school's construction. The interior of the school reinforced that impression.

On arrival at the school, the researcher observed as students arrived at the school by bus, truck, car, bicycle, and on foot. Judging by the cars they drove, the bicycles they rode, and the clothes they wore, many students came from affluent homes.

The first negative impression of Valley School was from the way some students parked, or did not park, their bicycles. Several bicycles, some of them expensive, were left unlocked and strewn on the lawn. Nearby, there were empty parking stands. The following speculations were briefly entertained: school administration did not require students to use the parking stands; students were not worried about theft (or school rules?); people in the community were honest.

The vice-principal welcomed the researcher to the school. After a brief tour of the administrative wing and staff areas, the vice-principal excused himself to attend to pressing matters. The researcher went to the staffroom, which became the base of operations for the week. When teachers came into the staffroom at recess

time, many afforded the researcher no more than a casual glance. They were either engrossed in conversations with colleagues or preparing for the next lesson. A number of staff members introduced themselves to the researcher and struck up a conversation. In these conversations either with small groups of staff or with individual staff members, the researcher learned a good deal about the school's climate.

It soon became obvious that the climate at Valley School was not very positive. There were many problems. Yet, despite the problems, the school seemed to operate with a high degree of efficiency. There were many committed teachers and students who took their job very seriously. As for administration, both administrators were run off their feet; they were under a great deal of stress as they tried to cope with school problems. For example, the first opportunity to interview the principal did not come until about 4:30 p.m., on Friday afternoon.

The unresolved problems that contributed to the poor school climate could be traced to events that predated and postdated the establishment of the Valley School. Valley School had replaced two schools and was still suffering from growing pains at the time of the study. Two schools were amalgamated, and the marriage was not entirely happy.

The two staffs did not blend and still maintained their old allegiances.

Some old high school staff felt that they had been better off in the old high school; they were not keen on the inclusion of students as low as Grade 7. They saw the younger students as "babies," and lacking in responsibility. In addition, they felt that the school had been built to accommodate the junior high school, since it was the old junior high building which was in dire need of replacement; apparently, the old senior high school building was sound.

There were other divisions between the teachers at Valley also. Almost parallel to the division between senior high and junior high levels was the split along gender lines. For the most part, the two genders kept to themselves. The school division had taken steps to promote gender equity issues, and these had not been entirely welcome at Valley School. An incident was related to the researcher that illustrated this point. A decision regarding Valley School was made by school division administration in the recent past. The decision was seen by some males on staff as the result of senior administration's desire to appease the school's female staff and to appear politically correct.

Two other divisions among teachers brought teachers and school administration into conflict. One of these issues was the major reason for negativism and tension in the school's climate. The first was concerned with philosophical differences over what and how students should be taught; the second related to student discipline. There was apparent consensus among staff that student discipline was the major unresolved issue at Valley School.

Two provincial initiatives, mainstreaming and program modification, provided the backdrop for one of the problems referenced above. There were differences of opinion at Valley School regarding the inclusion of students with special needs in regular classrooms. Teachers who opposed mainstreaming saw the role of special education teachers differently to that held by the special education teachers and school administration. They believed the students should be in a classroom instructed by special education teachers. Special education teachers, and school administration, saw their role as assisting regular classroom teachers with program modifications to accommodate special-needs students. Teachers with a strong academic orientation resented and resisted what they considered the dilution of academic

courses.

One problem at Valley School that was impossible to miss concerned student discipline. Some staff members felt that student behaviour at the school was on a downward spiral. The reason, according to those staff members, was the inability or unwillingness of administration to deal strictly with repeat offenders. They saw the administration as "too soft" and "too easy", and using approaches to student discipline that were inappropriate for Valley School. Administrators, on the other hand, acknowledged that serious offenders should be, and had been, punished. The administrators, however, did not agree that all students referred to them as serious problems were that. They felt that they were trying to be more circumspect in viewing the problem from both teachers' and students' perspectives. The administrators felt that the actions of some teachers were motivated more by self-interest than by a desire to find the solution that was best for the student.

Most of what has been described above came from conversations and interviews with staff and administration. Student behaviour, as observed by the researcher in the common areas of the school during recesses and noon hour, did not appear to be a problem.

When the researcher remarked on this to a staff member, he was advised to observe behaviour in a certain part of the school at recess. The problem, it was reported, was that students in the junior grades were afraid of and intimidated by students in senior grades. Consequently, the junior students tended to congregate in one area, and this led to overcrowding; in the overcrowded corridor, pushing, tripping and similar unruly behaviour made the corridor virtually impassable. On visiting the area, the researcher found the staff member's account to be quite accurate.

While at the school, the researcher taught in three classrooms. Generally, the students were well behaved. The teacher of one classroom was very relieved that the students had behaved, and described them as, at times, very "rambunctious." The researcher noted considerable variability in the motivation and interest shown by the three groups; while one group was alert and asked thoughtful questions, another group was quiet and impassive.

One aspect of student behaviour that became apparent during the visits was the difference in older and younger students attitude towards going outside at recesses. Elementary school students were happy to leave the

building to play in the outdoors; high school students preferred to stay indoors. The difference may be partly explained as to the attractiveness of the grounds; elementary school grounds were generally attractive, while high school grounds tended to be barren wastes.

Although there was no opportunity to observe parents or parent-staff interaction, the picture painted by administration was of relatively affluent and generally supportive parents. It was acknowledged that, similar to the small number of students who were at the heart of most of the school's discipline problems, a small number of parents had negative attitudes towards the school. This minority did not support school initiatives or school decisions.

To be fair to administration, both school administrators at Valley School were recent arrivals. Some, if not all, of the problems described predated their appointments. At the time of the study, they were aware of the problems and were taking steps to address them. It seemed to the researcher that positions were very polarized and that the quest for solutions would not be easy.

Valley School Summary

The setting of Valley School was not very desirable

and was characterized as Poor by the researcher. The rating was based on the school's proximity to a very busy street. The grounds of the school also received a Poor rating. While the grounds in front of the school were attractive, the much larger grounds to the rear of the school were unattractive and barren. The researcher never observed students in the area behind the school. The school building, on the other hand, was Outstanding. It was a newer building and money had not been spared in its construction. The rating for the school plan or layout of the interior space was slightly lower due to negative comments made by teachers regarding classroom size; several teachers felt classroom size was inadequate.

Administrators at the school were well-qualified, highly motivated, and under great stress. However, they were not in good control of the situation at the time of the visit. For this reason, they rated no better than an Average score. The teachers as a group were rated from Average to Good on professional characteristics; this rating reflects a range of attitudes and motivation from Poor to Very Good. While some teachers were very involved in the life of the school, others seemed to be in survival mode. Although the researcher heard reports about outstanding students as well as problem students, most

students appeared to be Average. According to teacher comment, some classrooms or even grades were well below average in motivation.

In examining interactions within and between groups, Valley School was rated Poor on both counts. The teacher group was not cohesive or unified; there were several factions within the teaching staff, each faction pursuing its own objectives. Among students, relationships may have been slightly better, but the incident described earlier was evidence of conflict between senior and junior students. Between groups, the situation was even worse. Teacher-administration relationships were strained due to a lack of agreement on the issue of student discipline. Between teachers and students, there was a range of relationships. Some teachers had a very high opinion of the students, while others held negative views. In the latter case, the views expressed included individual students and classroom groups.

The final rated category was the relationship between the school and parents. The researcher had nothing other than hearsay on which to base the rating. Some parents may have visited the school during the week, but the researcher observed none. According to administration, the meetings with parents, other than at report card time,

were usually concerning student discipline. Many of these parents did not support the school action, and the meetings tended to be confrontational. Based on limited evidence, the relationship appeared at best Average and at worst Poor. The general assessment of Valley School's climate was that it was Poor.

Breaffy School

There were several similarities between Breaffy School and Valley School. Both schools catered to the same grades, 7-12, and both were located in towns of approximately the same size. In each case, about half of the students were from the town and half were bussed in from the hinterlands.

There were also many differences between the two schools. Breaffy School, which was somewhat smaller than Valley, had been in existence for almost 30 years. The school building was modest by comparison with Valley School and, due to the ravages of time, was overdue for upgrading. The combined experience of the administrators at Breaffy was 25 years compared to less than 3 for the Valley administrators.

Breaffy did not impress on first view. The gravel parking lot needed grading, and the many potholes were rain-filled. Overgrown weeds in the parking lot reflected

a lack of maintenance. The building itself, while adequate, had no entrance that suggested it was the main one. On entry into the school, the location of the offices and administrative areas was not obvious. The interior, while neat and clean with shining floors and sparkling staff washroom, was well worn and outdated. The gymnasium looked especially worn and shabby.

Again, it fell to the vice principal to welcome the researcher and provide a brief orientation to the school. Soon, the researcher was alone in the staffroom, familiarizing himself with his new surroundings. Over the course of the week, observations, conversation with staff and students, and interviews with administrators revealed a great deal about Breaffy School.

It is probably fair to say that this year was like no other in the history of the school. This was due to a number of school and school division factors that, to some extent, were reflections of what was happening beyond their boundaries. Since some external factors were common to all schools visited and probably affected school climate, they have been described below. Following this, the particular local factors which affected Breaffy have been described.

For the past decade, many countries in the developed

world have been experiencing economic recession. Canada has not been an exception. One strategy used in this country and province to combat unemployment was massive government spending, financed largely by borrowing. The time of reckoning has now arrived, and both federal and provincial governments have embarked on a voyage of deficit reduction. Reduced governmental spending has resulted in a diminution of educational funding. This has left educational authorities scrambling to find cost-cutting measures. The measures most in evidence to the researcher as he made his round of visits were school amalgamations, school closures, and staff reduction.

At Breaffy, it was accepted by staff that the school division was going through tough economic times. If times had been better, administration believed that the school building would have received earlier attention. Far more worrisome to staff was the matter of staff reduction. One teaching position at Breaffy had been declared redundant; the teacher whose position had been declared redundant would not be returning in the fall. Two teachers from other schools in the division, whose positions had been declared redundant, would be at Breaffy in the fall. The vice principal position at Breaffy was also being cut, but the vice principal was staying on at the school as a

teacher. The teacher redundancy and the change in the status of the vice principal created an atmosphere of apprehension and uncertainty about the future at Breaffy.

The school climate at Breaffy, however, was affected more by another imminent change. The school division board had made a decision to transfer school principals within the division. The principal of Breaffy was being transferred, and he was very unhappy with the decision. For him, it meant a move from a well-established school with a stable student population where he had been principal for 10 years to a school half that size with declining enrolment and located about 100 kilometres away. Whether the transfers were beneficial to the school or school division, the Breaffy principal, and others, viewed the transfer as a retrograde step.

The transfer, alone, was only part of the story. No one at the school was aware of all the circumstances surrounding the transfers. There were conflicting reports about the number of principals involved; some believed that all principals in the division were being moved, and others believed that only some were being moved. Reasons, accurate or otherwise, were given by certain staff members for the transfer of the Breaffy School principal. The transfer was thought to be the consequence of a division

survey of school staff. According to sources, the survey had led to a call for changes. The changes had not been successfully implemented.

In view of the above, it was not surprising that there was a certain amount of tension in the air at Breaffy. Yet, despite these circumstances, it was business as usual for staff and students. Staff were incredibly busy, some of them spending most recesses and noon hours in meetings. Within seconds of the buzzer sounding, teachers had left the staffroom and were on their way to classrooms.

Student behaviour, as observed in common areas of the school, was good. Lacking a lunchroom, the students ate in classrooms or in the corridor. Although the halls were congested, the students were well behaved. In administering the student survey, the researcher found the students cooperative.

In teaching in two of the classes, the researcher found a mixed response. In one classroom, several students were not particularly well behaved; in the second, all students were well behaved. From the questions they asked, there was no indication that the students were exceptionally intelligent or highly motivated. Administration spoke very highly of students

and staff, although both administrators felt that students entering the school in the past few years were not as well behaved as, and had less school spirit than, their predecessors. (The principal, during interview, described a recent orientation visit given by the school for students who would enrol at Breaffy in the fall. He found the behaviour of the elementary graduands disappointing and discouraging.) They also acknowledged that a minority of students brought drug and alcohol problems to school and that this was a problem that the school must address but could not solve without community support.

According to the school administration, the school had received good support from both the school division and the community. Division board and administration had in the past been generally supportive of school initiatives. Several businesses in the community had a long relationship with the school and had consistently supported the school. A small number of parents regularly volunteered to help with school projects.

The researcher had an opportunity to observe one parent volunteer. She was a retired woman who still helped although all her children had graduated from the school. She organized and operated with student help a very successful lunch program. Funds were raised through

the program for different groups in the school, such as school band. Although only one parent was observed, the lunch concession was very impressive--a good example of the difference one person can make. It provided a service to many students and teachers, and it involved many students as organizers and operators.

Breaffy School Summary

The setting or proximate environment of the school was better than that of the Valley School. Although both schools were located in towns of fairly similar size, Breaffy was situated on a closed street; consequently, the only traffic was either school-bound or for homes in that neighbourhood. It was noticeably quieter at Breaffy. The rating for setting was Good.

The grounds at Breaffy were rather Poor, probably on a par with, or marginally better than, Valley. In both cases, the grounds behind the school were not maintained and overgrown with weeds. Although parking lot and landscaping were superior at Valley, the area in front of the school at Breaffy was more spacious with a green lawn and some mature trees. Students were observed at work and at play on the front lawn.

The school building at Breaffy would rate at best an Average rating. It would have been rated Poor, if

maintenance of the interior had not been of a high standard. The building was old and badly needed a face lift; it also needed some major structural changes with respect to entrances and administration offices.

The administration had been in place for a long time at Breaffy. Despite the uncertainties noted earlier, this seemed to have had a good effect on the school. Both administrators were well organized, and the school's operation reflected this. Administration was rated Good. Teachers at Breaffy seemed very professional and very time conscious. There was a high level of commitment shown in their membership of committees and attendance at meetings. Teachers were rated Good. Students at Breaffy did not appear to be exceptional. Although staff at Valley and Breaffy would probably have rated their students higher, the researcher rated them as Average.

Interaction between and within groups were rated higher at Breaffy than at Valley. Students appeared to get along well together, and the researcher observed no incidents of bullying or intimidation. Despite crowded hallways, there was no evidence of unruly behaviour. Teachers, too, appeared much more cohesive as a group. Between students and teachers and between administration and students, there were harmonious relationships.

Teachers made no negative comments about students. The only negative concerned administration-teacher relationships, for reasons already described. The within-groups relationships were rated as Good and the between-groups relationships were Poor to Average.

The final category home-school relationships were rated Average at Breaffy. Again, there were few parents in evidence, but the one parent described earlier made a solid contribution. According to administration, parents were supportive, although not too visible. The general rating for Breaffy was Average.

Lily School

Lily School was different from Valley and Breaffy in some respects. Lily was considerably smaller than the other two and had no vice principal. The age span of students was greater at Lily, where students from kindergarten to Grade 12 attended. Lily was located on the outskirts of a small village, while the other two schools were located in towns.

There were similarities also. Buses were used to transport students to and from the three schools; in all cases, at least half of the students travelled by bus. The staffing situation at Lily was closer to Breaffy than it was to Valley. Administration at both schools had long

tenure in the position; the Lily principal had been in the school for more than 20 years. Many teachers at Lily and Breaffy had been at their schools for many years. Lily and Valley were similar in that they were the result of an amalgamation. In Lily, however, the merger involved a high school and an elementary school.

The appearance and setting of Lily were in marked contrast to the other two schools. Both of the other schools stood out from their surroundings and could be identified as schools from several blocks away. Lily was partly hidden from the road by tall trees and was almost missed by the researcher on his arrival. The building's appearance was also very different. While Valley and Breaffy could be described as typical Saskatchewan school structures, with brick walls, flat roof, and rectangular shape, Lily was unique. The stucco walls were irregular--some flat and some curved--and brightly coloured, and the windows came in all shapes and sizes, some almost at ground level.

By comparison with the other schools, the setting of Lily was very peaceful and tranquil. The road that ran alongside the school had very little traffic, and tall trees acted as a buffer between the road and the school. The school grounds were cut off from the surrounding

fields by mature trees along the perimeter. The grounds were also more attractive than those at the other two schools. The fields were lush and there was play equipment.

On arrival, the researcher was directed to the staffroom that was nicely furnished and comfortable. There were two full coffee pots, above which was a sign inviting visitors to help themselves. The school was also quiet inside; there was absolutely no noise. The principal took the researcher on a tour of the school, going into many classrooms introducing him to teachers. Later in the week, the principal described his staff during an interview.

He described the staff as first rate, while acknowledging that this had not always been the case at the school. Almost all staff members were willing to share the work in school projects, even when the project did not relate to their teaching level. Several teachers, like the principal, had been in the school for over 20 years. When the researcher mentioned school appearance, the principal described how the school building had been renovated six years earlier.

The principal credited the local board with finding funds for the project at a time when money for such

projects was scarce. A teaching team worked with the architects in planning the building, and contributed ideas for the colour schemes, the lighting, window placement, and so on.

The researcher, generally, found the staff very friendly. A few were more reserved, but the majority were outgoing and welcoming. Among themselves, the staff seemed to get along well, and there were no obvious dissensions. The atmosphere was relaxed, lacking the tension experienced in the other schools.

Students at the school were very respectful and well behaved. The principal claimed that motivation was strong and that many students went on to university and other tertiary education. Also, he said that the school catered to academically weak students as well. In visiting four classrooms, the researcher observed student behaviour that ranged from acceptable to excellent. The questions raised by students did not, in the researcher's opinion, mark them as in any way extraordinary.

The researcher had mixed reaction to the principal at Lily. While he ran a very good school and was cooperative, he was anxious to influence the outcome of the visit. He did this by telling the researcher what to look for as indicators of positive climate, and by

"suggesting" replacement candidates for the student survey. Although these actions did not substantially bias the results, they showed a principal who liked to control the situation. The researcher interpreted these actions as attempts by the principal to portray in a positive light a school of which he was understandably proud. The researcher would have preferred to draw his own, unassisted, conclusions. Comment from a student confirmed the researcher's assessment of the principal.

Lily School Summary

At the end of the week, the researcher came away from Lily with many positive impressions. These positive impressions began with the school's serene setting. The researcher could not imagine a school environment more tranquil or conducive to learning. The setting was given the top rating, Outstanding.

The grounds of the school were attractive for several reasons. They isolated the school from outside distractions, and they provided a pleasant, spacious, and well-equipped area for recreation and curricular activities. The gravel driveway and parking lot were the only considerations in rating the grounds as less than outstanding. The school grounds were rated Very Good.

Although the school building was old, the recent

renovation earned the building exterior a Good rating. The interior of the building had unique features referred to earlier. Although much had been done to put a new face on the building, it was obviously an old building. Lighting was dim in places, and some classrooms were on the small side. Maintenance of the school's interior was good. The rating for the interior was Good.

Administration, teaching staff, and students were all rated Good. In conversing with students in a variety of situations, the researcher found them relaxed, pleasant, friendly, and helpful. Teachers could be seen preparing lessons, correcting student work, and discussing student progress; they were, with one or two exceptions, committed professionals. The principal, although paternalistic, was a good administrator, obviously devoted to the school, and school operation was smooth.

Interactions between groups and within groups were Good. All groups appeared to get along well together; the researcher observed no negativism in the relationships. On that basis, he awarded the rating. However, he had a suspicion that further probing might reveal some teacher and student discontent with administrative decision.

The researcher witnessed no parental involvement in the life of the school. The rating assigned was based on

report from school administration, and conversation with a parent outside the school setting. On this evidence, the parents had a high opinion of their school and generally supported school decisions. Home-school relations were rated Good.

Although school enrolment was declining and school closures in the division were looming, Lily's immediate future appeared secure. Whereas the climate in Valley and Breaffy appeared to be volatile, the researcher had the impression that the climate at Lily was very stable. In the researcher's opinion, the climate at Lily was more positive than it was at either Valley or Breaffy.

Prairie School

Prairie was the last of the four schools visited. There were similarities and differences between Prairie School and the three schools already described. The differences, however, were predominant.

Prairie was considerably smaller than any of the other schools, and it was an elementary school. The absence of older students and the small staff size appeared to significantly affect school climate. The setting was truly rustic, in that there were no other buildings in sight; there was no village or town close by. The access roads were unpaved grid roads, and traffic was

minimal. Again, many students came to school by bus. In fact, all students who were not driven to school by parents or who did not ride bicycles to school came by school bus.

The solid, brick, school building was typical of rural schools in Saskatchewan, not remarkable in any way. Near the school were two buildings owned by the community association; one of these buildings was regularly used by students for play activities. The school grounds were well supplied with play equipment. (The researcher was later surprised to learn that a major fund-raising effort for a new creative playground was in progress.) The condition of the grounds could be described as natural as opposed to manicured.

At Prairie, more parents were observed at the school than had been observed at the other three schools combined. This was due, in part at least, to school level. It is no secret that parents of elementary school children visit the school more frequently. It may also have been due, in part, to economic status of the community; the community was relatively affluent. The principal remarked that parents never seemed to have difficulty attending school meetings; those who worked seemed able to take time off when necessary. The

principal suggested that their higher status in the workplace was a factor.

The relationship between Prairie staff and parents was excellent. This conclusion was based on conversation with the principal, document analysis, and observation. The principal had high praise for the parent group; according to the principal, most parents were cooperative and acted on school suggestions, many were willing to volunteer their time to improve the school, and few complained. The parents demanded much from the school and from their children. They were well read and knowledgeable about developments in education. The principal felt that the parents were keenly interested in their children's progress. Although the majority were interested in a balance between academic and social goals, a minority were too concerned with academic development and held unrealistic academic goals for their children.

School documents depicted the parents in a positive light. The school had documented funds raised and time volunteered by parents. Considering school size, the number of parents involved in school projects, the hours they worked, and the money they raised was impressive. Recent efforts were being directed at beautification of the grounds and enhancement of the play equipment. One

document gave two reasons for the emphasis on grounds improvement at Prairie. Since students did not leave the school at lunch time, play facilities assumed added importance. The second reason hinted at the school's espousal of a market orientation in certain areas. It was argued, in the document, that a more attractive school would be more likely to attract new students. In an era of declining school enrolments and accelerating school closures, attracting new students was considered an important goal.

Observation of parents who visited the school offered further evidence of positive home-school relationships. Visits were characterized by their informality. Parents made themselves at home. The staffroom did not appear to be out of bounds. There was no stiffness or tension in the exchanges between parents and staff.

Staff and administration at Prairie seemed to have a closer relationship than was observed elsewhere. In fact, the staff seemed closer to a family group than to a work group. On most occasions, the principal was just another staff member; such was the level of informality. The researcher also observed more collegial sharing at Prairie than he had seen elsewhere.

The school was built in the 1980s, and the principal

felt it had a good reputation. The Prairie principal felt most of the credit was due to the school's first principal who had spent a long time at the school. As the school's third principal, she was in her second year at the school. She had come to the school with a change mandate, as there had been some dissatisfaction with school operation. Despite the short tenure of the principal and of a number of teachers, the situation appeared to be close to ideal. Administration, staff, and students seemed happy to be there.

Students at Prairie were well behaved and friendly. On the playground, there was no bullying or domineering behaviour by bigger or older students. Boys and girls seemed to play well together, although the researcher noted that in some situations girls were relegated to the role of spectators. When students were sent to the resource room to work alone or in small groups, some students applied themselves to the task and some did not. Student lockers were mainly closed, although a minority were open with items hanging out. Broomball brooms and an occasional chocolate wrapper on the floor were other indications that Prairie was not Utopia.

In teaching various groups, the researcher found the students attentive and cooperative. The classrooms were

all nicely decorated, as were the common areas of the school. Many intelligent questions, and a few not-so-intelligent, were directed by students at the researcher. In the administration of the student survey, the researcher received the full cooperation of principal, teachers, and students.

Prairie School Summary

Of the four schools, Prairie had the best school climate. The reader will, doubtless, have concluded as much from the descriptions. In fact, the four school climates have been described in ascending order, with the most positive climate being described last. The order of description does not necessarily agree with the order of visits.

The setting of Prairie had much in common with Lily. Both were free from outside distraction; the only sounds were the sounds of nature. Unlike some city schools, these schools did not have to compete with shopping malls and video arcades. Setting was rated as Outstanding.

The school grounds were spacious and had, in the researcher's view, adequate play equipment. The grounds were, in other respects, unremarkable. The rating was Good.

The building was solid and still looked new. Outside

and inside, the building was in good repair. Maintenance was adequate, but there was room for improvement in some areas: lighting could have been better, particularly in the resource centre; work areas such as the computer room and common areas could have been tidier. The rating for the building was, nevertheless, Good.

Students, teachers, and administration were all rated Good to Very Good. Relationships between groups within the school and between home and school were Very Good to Outstanding. The next section compares the extent to which multimethod and multisource data for the four schools converged.

Different Perspectives

Four data sets were gathered from the subsample of schools: the researcher gathered data through observation, interview, and document analysis; school administration and staff supplied data on the SSCS; school division directors of education supplied data on a summary school climate form (DASC); and about 30 students in each school completed the Student Attitude Towards School (SATS) survey. Since three of the four data sets were already in quantitative form, the researcher assigned a summary climate score to each school to permit comparison between the data sets. The results of the comparison are

reported below.

Pearson product moment correlations were used to compare the data sets. Each data set consisted of four scores for each school: (1) the total score out of 100 assigned to the school by the researcher, based on the 10 questions in Appendix D; (2) the total DASC score assigned the school by the school division director of education, based on response to the 7-item summary climate measure (DASC); (3) the school mean score on the SSCS; and, (4) the school mean score on the SATS, the instrument used to measure student attitude towards the school.

Pearson correlations between the measures were calculated. Correlations between the DASC and the other three measures, although high, were not statistically significant. Correlations between SSCS, SATS, and observation data were all statistically significant ($p < .05$). The correlation matrix for the data is shown in Table 6.1.

Table 6.1

Correlation Matrix for Four School Measures (N = 4)

Measure	DASC	OBS	SSCS	SATS
DASC	1.00	0.88	0.91	0.83
OBS		1.00	0.97*	0.97*
SSCS			1.00	0.99*
SATS				1.00

DASC, OBS, and SSCS: Three measures of school climate, based on the perceptions of school division directors of education (DASC) and school-based educators (SSCS), and on observations of the researcher (OBS).

SATS: A measure of student attitude towards school.

* $p < .05$

The correlations suggested that school climate measured by survey and other methods (a combination of observation, interview, and document analysis) would produce similar results. However, this conclusion was based on the experiences of one researcher in a small sample of schools. There is insufficient basis for stating that this relationship will hold true in all circumstances. It may not hold true for other

researchers, and it may not hold true for the same researcher in repeated studies.

The correlations between directors' data (DASC) and other measures suggested that directors' knowledge of their schools was less intimate than that of the other groups. It was not surprising that the school-based educator school climate scores (SSCS) and student school attitude scores (SATS) correlated higher with each other than they did with directors' scores. The time teachers and students spend together at the school seems like a plausible explanation.

The researcher also, although exposed to the school for a much shorter period of time than the directors, had a much more intensive relationship with the schools during the visit; the researcher was focused on one aspect of the school for 35-40 hours, and it would be unlikely that school division directors of education would spend that much time in any one of their schools for any purpose.

Although school visits and mail survey led to the same results in this study, this was true only for answering the broad question of climate identification. Both methods answered the question, "Which schools have positive climates and which have negative (less positive) climates?" However, the on-site visits provided more

detailed and graphic data and suggested reasons why the school climate was positive or negative.

As to whether surveys should be abandoned in favour of on-site visits, the answer is a very definite "No." Each method has its own advantages and disadvantages. The mail survey is cost-effective and answers broad questions with respect to large samples. On-site visits provide answers to more specific questions, but they are intrusive, less acceptable to participants (subjects), less cost-effective, and difficult to conduct with large samples. These points are illustrated by reference to the study.

The mail survey was more acceptable. All the schools contacted agreed to participate in the mail survey, and all schools returned some data. The only concerns expressed by school principals were regarding the reference to a follow-up school visit. In telephone conversations with school principals and directors of education, evidently school visits of the kind proposed were sensitive and worrisome to school administrators. In contacting schools with respect to visits, three outright refusals were received. Of the four that finally agreed, only one principal did not appear too concerned. The other three principals had to be persuaded.

The visits were appropriate for the small subsample, but they would not have been for the larger sample. Leaving aside the economics or cost factor for the time being, there are difficult data issues when on-site visits are proposed for large samples. For example, it is unlikely that the researcher could have visited all 36 schools in one school year. Even if this were possible, the time lapse from first visit to last could have altered the measure, the phenomenon, or both: the researcher may have changed his standards over that time span; the schools' climates may have changed over the same time period; or, the most probable scenario is that both researcher's standards and climates would have changed. The results, therefore, would not be comparable.

An alternative to the one-observer approach outlined above would be to employ several research assistants for a shorter period of time. Assuming each assistant visited four schools, nine assistants would be needed. This would amount to using nine different measures; interrater reliability would become a factor in interpreting the data. (The researcher was involved some years ago as a member of a team administering tests in Saskatchewan schools. Although team members had been briefed before administering the tests, in an attempt to ensure

standardization, the researcher learned at a posttest meeting that team members had not followed the same administrative procedures.)

Finally, the costs associated with visits make them less cost effective than mail surveys. If a survey form is developed for the study, as the SSCS was in this instance, it is a time-consuming activity(see Chapter 3). Added to this there are printing, mailing, and telephone costs. However, all these costs associated with mail surveys are much less than the travel, accommodation, meal, and time costs associated with school visits, especially in a province as sparsely populated as Saskatchewan. The researcher estimated that the cost of visiting the 4 schools was approximately equal to the cost of surveying 11 directors and 36 schools. (This comparison was based on out-of-pocket expenses and did not consider the time spent developing the SSCS or visiting schools.)

The researcher's position on multimethods has not changed. Each method proved useful in this study. Each had its strengths and weaknesses. It is likely that most, possibly all, studies could benefit from a combination of methods.

Summary

In this chapter, the results of the school visits were presented. The four schools visited had dissimilar climates, and the differences were detected through mail surveys and observation. In this study, there was a high level of agreement between school climate data gathered by on-site visits and self-report mail surveys. Strengths and weaknesses of both research methods were mentioned, and a case was made for combining the two methods as the preferred research approach.

CHAPTER 7

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter contains a review of the study and its findings, conclusions, implications, and recommendations based on the findings. The review includes a summary report of the study's purposes and research design. The conclusions are the researcher's attempts to draw meaning from the findings. The exploratory nature of the study and its focus on developing a new instrument to measure school climate render the implications for theory, research, and practice tentative, at best. In making recommendations for further study, several suggestions are made regarding research in general, and school climate research, in particular.

Study Summary

Research on school climate began about 30 years ago and has continued to the present. Although it was considered a promising area of research, school climate research has not yielded consistent findings (Anderson, 1982; Finlayson, 1987; Thomas, 1976). Reasons for the inconsistencies can be found in the conceptualization and measurement of school climate and in the analysis of school climate data.

School climate is such a broad, complex concept that

researchers were often examining different entities (Anderson, 1982; Wilson, 1987). School climate measures were also flawed: some were measures of other constructs, notably job satisfaction; others were never subjected to any testing to establish their validity (Sirotnik, 1980). The study described here was an attempt to address those deficiencies in school climate research.

Purposes

The two main purposes of the study were to develop a measure of school climate and to examine the school climate phenomenon. To achieve the first purpose, it was necessary to ensure that the instrument measured school climate rather than another construct, that it measured school climate comprehensively, and that it met acceptable validity standards. To achieve the second purpose, a multimethod approach to the study of school climate, combining mail surveys and on-site observation, was used.

The measure developed in the study, the Saskatchewan School Climate Scale (SSCS), was based on the Tagiuri (1968) framework for organizational climate. Tagiuri's framework was chosen because of its comprehensiveness. Anderson (1982) and Wilson (1987) found that all the school climate research could fit within Tagiuri's framework. The 55-item SSCS was constructed with

Tagiuri's four climate subscales, ecology, culture, milieu, and social system. The SSCS is a self-report, mail survey intended for school-based educators in the Province of Saskatchewan and other similar jurisdictions.

In constructing the SSCS, care was exercised to ensure that items measured school climate rather than job satisfaction, that items were important measures of school climate, and that the vocabulary used in items was appropriate (Chapter 3). The SSCS was pilot tested on a sample of 100 College of Education graduate students before its use in the study.

The Sample

The study was conducted using a sample of 36 urban and rural schools randomly drawn from Saskatchewan Education Region Four. The sample represented over 20% of schools in the region.

The study had two components, mail surveys and on-site observation. Two survey forms were used to gather school climate data. The SSCS was mailed to all school-based educators in the sample; the DASC (Director's Assessment of School Climate) was mailed to school division directors of education responsible for the sample schools. A total of 426 school-based educators, about 70% of the sample, completed the SSCS. All 11 school division

directors of education completed the DASC.

In the on-site observation component of the study, the researcher visited 4 of the 36 schools which had participated in the mail survey. Visits to each of the four schools were of one week duration. During the visits, the researcher gathered school climate data by way of observation, conversation, interview, and document analysis. The purpose of the visits was to gain a more comprehensive understanding of the school climate phenomenon and to make a comparison between data obtained from the mail survey and data obtained from on-site observation.

Data Analysis

The mail surveys were hand scored and the data were entered into a computer file and analysed using the Statistical Package for the Social Sciences (SPSS). In testing validity of the SSCS, Cronbach's alpha, Pearson correlations, and factor analysis were used. In examining relationships between school climate and other variables, multiple regression was used.

Written notes and tape-recorded data from the on-site visits were entered in a Word Perfect file. Qualitative descriptions of school climate were considered by the researcher to be an important component of the study. The

descriptions can stand alone and enhance our understanding of the school climate phenomenon. To permit comparison between observation data and survey data, numerical values were assigned to the descriptions of school climate dimensions. Observation data were analysed before the analysis of the survey data. This approach enabled the researcher to analyse the observation data with an open mind or, at least, with a mind clouded only by his own preconceptions.

SSCS Results

Evidence and argument for the validity of the SSCS included its roots in the literature and research (Anderson, 1982; Tagiuri, 1968), the process used in the development, and empirical data. Regarding empirical evidence, the following results were observed.

It was crucial that the items on the SSCS were concerned with important aspects of school life. Consequently, respondents were asked to assess the importance of items. Respondents in the study indicated that the SSCS items were important measures of school climate; 53 of the 55 items on the SSCS were considered important by 70% or more of the respondents.

Internal consistency reliability for the scale (SSCS) and the subscales were tested using Cronbach's alpha. All

of the observed alpha values exceeded what is generally held to be an acceptable level for measures in the early stages of development (Nunnally, 1967; 1978). Alpha for the scale was .92, and alpha values for the subscales ranged from .72 to .83. Factor analysis showed that a single factor could account for all four subscales. It can be concluded that school climate, as measured by the SSCS in this study, is a unitary concept.

All the correlations between the SSCS and the other measures used in the study were consistent with the claim that the SSCS is a valid measure of school climate: positive, significant correlations between SSCS and the other measures were expected and found.

In comparing school-based educators' and directors perceptions of school climate, each school's mean SSCS score was paired with its director's school climate score (DASC). The Pearson correlation of SSCS and DASC scores was $r = .70$, $n = 33$. In other words, there was a high level of agreement between school climate reported by school division directors of education (DASC) and school climate reported by school-based educators (SSCS).

Two other correlations were based on data gathered during on-site visits to a subsample of 4 of the 36 sample schools. The correlation between SSCS and SATS (Student

Attitude Towards School) scores and the correlation between SSCS and the researcher's school climate observations were both very high, $> .9$. However, the correlations were based on a very small subsample of schools, $n = 4$.

The correlation between respondents' SSCS scores and their job satisfaction scores was positive and significant, $r = .46$, $n = 416$. (Job satisfaction was measured by a single item on the SSCS survey form.) This correlation was within the expected range. A very low correlation or a negative correlation would be difficult to explain, as these two variables have always been significantly and positively correlated to each other (Field & Abelson, 1982; Guion, 1973; Schnake, 1983; Schneider & Snyder, 1975). On the other hand, a very high correlation would have called into question whether the SSCS was another measure of satisfaction. The results in this study indicated that the SSCS was not another measure of satisfaction.

School Climate Results

Regarding the study's second purpose, the investigation of school climate, the following research questions were posed:

1. Which school and individual factors affect school

climate?

2. What are the important aspects of school climate?
3. Do climates vary between schools?
4. What types of climate are there?
5. Is there agreement among measures of climate?

Each of these questions is examined with reference to how they were addressed in the study, and the extent to which they were answered.

Findings and Discussion

The findings are presented as they relate to the research questions stated above.

1. Which school and individual factors affect school climate? Perceptions of school climate were affected by attributes of both the setting and the person. School factors and individual factors were statistically significant in explaining variability in school climate scores. This finding lends credence to the position that school climate is neither an individual attribute nor an organizational attribute; it lies somewhere between the two. Analysis of survey data did not permit a direct comparison of the relative effects of individual and organizational factors. However, based on his observations in schools and his conversations with educators during the on-site visits, the researcher

believes that setting exerts the greater influence.

Two school-level factors had very significant effects on school climate, **staff gender composition** and **school level**. There was substantial overlap between these two factors in the study, and the overlap reflected the status quo in Saskatchewan schools with respect to teacher employment: female teachers outnumber male teachers in elementary schools, and male teachers outnumber female teachers in high schools. The finding indicated that elementary schools, or schools with proportionally more females on staff, had more positive school climates.

One question that was not answered in this study is whether it is gender alone or grade level alone or some combination of these variables that affects school climate. As stated in Chapter 5, it would be very difficult, at present, to design a study in Saskatchewan schools whereby this question could be answered. This is so, because the genders are so unequally distributed among elementary and high schools. The reality is that high schools have a preponderance of male educators and elementary schools have a preponderance of female educators.

Other research suggests that the positive effect on school climate was due to the presence of younger students

rather than to a high proportion of female teachers. In an Australian study of school climate in different types of school, primary (elementary) schools were found to have more positive climates than schools with other grade structures (Grades 7-10, Grades K-10, and Grades 11-12) (Fraser, Docker, & Fisher, 1987).

The finding for gender ran counter to what MacIntosh (1988) found in his study. He found that schools with higher proportions of female teachers had more negative climates. However, MacIntosh was referring to students' perceptions of school climate rather than teachers' perceptions. He further classified it as a weak finding and possibly an artifact of the study design.

Anderson (1971) reviewed the research on the effects of teacher gender on classroom behaviour and concluded that the effects of teacher gender on classroom climate were difficult to anticipate. His finding with respect to gender was that it was "unrelated to pupils' perceptions of the learning climate" (p. 661). It should be noted that both MacIntosh and Anderson were referring to student perceptions and, further, that Anderson was referring to classroom climate rather than school climate.

Among the personal variables that had significant effects on school climate were **teaching level** and

position. Teachers with assignments in the lower grades had more positive perceptions of school climate. To some extent, this is a redundant finding, and the same comment could be made about teaching level as has already been made about school level: in this study, younger students and positive school climates were closely associated.

The finding for position showed that school principals, particularly in schools with less positive climates, perceived a more positive school climate than did their teachers. The finding with regard to position was expected. In business and industry environments, it has been found that position in the hierarchy affects perceptions (Moos, 1976; Newman, 1975; Schneider & Reichers, 1983). A similar gap between principal and teacher perceptions has been noted in school research (Anderson, 1982; Fox, 1974). Other studies have shown that school principals perceive a more positive environment than their teachers (Reineke & Welch, 1975; Jorde-Bloom, 1987).

It would appear that school principals, for whatever reason, are unreliable informants on their schools' climates. In schools with negative climates, the principal's view of the school's climate may be distorted or the principal may be reluctant to report the perceived

climate. If the latter is true, one explanation could be that the principal has such a strong sense of identification with the school that he feels the school's climate is a reflection on him.

2. What are the important aspects of school climate? To answer this question, respondents were asked to evaluate the SSCS items as measures of school climate. The data indicated that respondents felt that all or almost all the items were important. The researcher's inclination going into the study, on the belief that people are more important than things, was that the physical element of school climate, ecology, would prove to be least important. This belief was reinforced by the neglect of this variable in school climate research (Anderson, 1982). Responses on the SSCS regarding the importance of items did not support that position.

During school visits, the researcher became impressed with how important the physical setting was in contributing to school climate. Tranquil settings seemed to have a positive effect on both students and educators. It appears that school climate is a composite of many important elements. This is consistent with Tagiuri's (1968) and Moos' (1976) conceptualizations. It is important that global concepts such as school climate be

studied holistically. A fragmented approach cannot hope to do justice to a complex reality. In the physical sciences, at times, it may be appropriate and productive to isolate and examine part of the whole, while controlling other factors. In the social world, where mutual influence is always present, such an approach is neither appropriate nor productive and is likely to lead to distortion.

3. Do climates vary between schools? This was a rather crucial question, as it was, in effect, a test of the construct: a negative response would suggest that school climate did not exist. To test this, ANOVA was used to see if the differences between schools were greater than the differences between individuals. The results showed that differences between schools were greater. These results supported the existence of school climate.

This finding supports the position taken by the researcher that climate is an organizational concept (Glick, 1985, 1988; Reichers & Schneider, 1990). It fails to support the contention that climate is no more than an individual, psychological attribute (James, 1982; James, Joyce, & Slocum, 1988; Joyce & Slocum, 1984). School climate is school or setting dependent.

4. What types of climate are there? Researchers have

focused their efforts on identifying school climates along the positive-negative continuum. Undoubtedly, this is an important focus. However, it may not be the only important aspect of school climate. In the study, an attempt was made to examine a second dimension of school climate, the consensus-disagreement continuum. Not unexpectedly, schools with positive climates tended to have greater agreement among members in their perceptions of climate, and schools with negative climates had less agreement. However, there were schools with positive climates that also had little agreement, and there were schools with negative climates where the members agreed. This is a preliminary finding in this area and it may or may not be important. Further research would be needed to determine this. For example, one might want to know if schools with positive-consensual climates differed from schools with positive-disagreement climates in important respects, such as student achievement.

5. Is there agreement among measures of climate? In the study, a variety of data sources and methods were used. The design permitted triangulation on the school climate construct and an opportunity to examine costs and benefits associated with the methods. Results indicated a high degree of convergence between the methods; correlations

between the school climate perceptions of school-based educators, school division directors of education, and the researcher were positive and statistically significant.

In comparing methods, both mail surveys and on-site data gathering were equally effective in identifying school climates on the positive-negative continuum. Mail surveys, however, did not provide the rich and detailed description that emerged from on-site methods. The latter provided insights as to what may have caused negative climates. The advantages of the mail survey were that it was less intrusive, more acceptable to participants, and more cost efficient than the on-site visits. Also, in large samples, standardization is much more likely to be achieved through mail surveys.

Conclusions and Implications

As stated earlier, an exploratory study such as this one is not a firm base for suggesting changes to theory, research, or practice with respect to school climate. Caution should be exercised when evaluating the merit of the suggestions and proposals contained in this section of the report.

Theory

What do the findings, tentative though they may be, add to the school climate debate or our knowledge of the

concept? One longstanding issue with respect to climate is its possible redundancy, particularly with satisfaction (Guion, 1973; Schnake, 1983). This study provided further evidence that climate is not the same as satisfaction. The correlations among the climate dimensions were much higher than the correlation between climate and satisfaction.

The dimensionality of school climate has implications for theory and research. Since school climate is such a complex, global concept, it is in keeping with traditional science to atomize the concept, study the fragments, and eventually synthesize. Based on the findings, school climate is unidimensional, and such methods are, as stated earlier, inappropriate.

It was indicated in Chapter 1 that climate instruments used in previous research had ignored milieu and ecology (Anderson, 1982; Wilson, 1985). **Based on the analysis of study data**, milieu contributed substantially to school climate, while ecology did not. However, **in the view of respondents**, items based on culture, milieu, social system, and ecology were important descriptors of school climate. There is a basis for retaining all four dimensions in future school climate research.

There has been an ongoing debate over whether school

climate should be considered an organizational attribute or individual perception (Glick, 1988; James, 1982; James, Joyce, & Slocum, 1988; Joyce & Slocum, 1984; MacIntosh, 1988; Moeller, Schneider, Schoorman, & Berney, 1988; Reichers & Schneider, 1990). The current status of the debate is that climate is the intersection of those factors. In the study, the variability of scores within schools, particularly with respect to schools with less positive climates and with respect to the position occupied by the respondent, were too great to be explained as measurement error. This would support the view of climate as the artifact of individual perception. On the other hand, the convergence of results from various methods, and the significant effects of school-level factors would argue for climate as an organizational attribute. The findings in this study seem to indicate that school climate is part organizational, or school-level, attribute, and part individual perception. This is consistent with an interactionist perspective of school climate, which holds that there is mutual interaction between people and setting (Anderson, 1982; Schneider & Reichers, 1983).

The very tentative finding in this study with respect to the permanence of school climate suggests that it

changes over time. A more comprehensive, longitudinal study would be required to estimate the rate of change and to identify factors that inhibit or retard change in school climate.

Research

The findings in the study with respect to school level raise questions about the comparability of school climates. While size has long been considered an important variable in organizational research, the uniqueness of the school as an organization (Allison, 1983; Thomas, 1976) and differences between elementary schools and high schools (Firestone, 1982; Hoy & Clover, 1986) have been noted. The findings with respect to level lend support to the position that fair comparisons cannot be made between elementary schools and high schools. We may need to adopt different standards when assessing the climates of small elementary schools and large high schools.

Practice

Two findings, both related to staffing, may have implications for educational practice. School-based educators who had been in the school division longer had more positive perceptions of school climate. It may, therefore, be in the interests of school divisions to retain staff and reduce the rate of staff turnover.

The second finding was that school climate perception was related to gender composition: schools with a majority of female staff had more positive climates than those that had a majority of male staff. However, the issue was clouded over by the overlap in this study between staff gender composition and school grade level. It may be premature to suggest that moving towards gender equity in school staffing would result in more positive climates.

Recommendations for Further Study

A new measure of school climate, the SSCS, was developed in this study. Its validity should be tested in other school climate studies. If the SSCS cannot withstand critical examination and provide consistent results, it is of no value in school climate research.

The present study should be replicated. It is important in building a body of research to retest and to question findings. Too frequently in school climate research, researchers moved on to new questions before the old ones had been answered satisfactorily. Findings from a single study are unreliable. Confidence cannot be placed on the findings in this study unless they are repeated in other studies.

Findings, however, are not the whole of research. It

is the writer's conviction that, if researchers examined more than the findings, knowledge would accumulate more slowly, but would stand the test of time better.

Definitions, questions, assumptions, measures, and analytical techniques should be examined as well as findings. Only when there is a match between two pieces of research can it be said that the findings in one support, or fail to support, the findings in the other.

In social situations, there are always alternate explanations for observed effects. In researching social questions, the researcher tries to delimit the study to an examination of the presumed major causes of the phenomenon of interest. In this study, school climate was viewed as the result of personal factors and school factors. Undoubtedly, there are other factors that affect school climate, some of which may be important. One unexamined factor, described below, became apparent to the researcher during the study.

When the study was being conducted, schools in Saskatchewan were affected by diminished funding to public education. It was obvious to the researcher, when he visited some schools, that the economic cutbacks, which resulted in school closures, teacher redundancies, demotions, and transfers, affected schools differentially.

This factor was not considered or controlled in the study. Future studies could examine the extent to which factors external to the school affect school climate.

There is a need for more follow-up or longitudinal studies in school climate research and in other educational research. Cross-sectional studies, such as the present study, provide a snapshot of what the situation is. That information is, undoubtedly, useful. Knowledge about what prevails is one of the bases on which policy is set and action is taken.

The problem with cross-sectional studies is that they provide no information about how the situation has developed and no basis on which to make predictions about future events. For example, one may take the case of School X which records a score at the 70th percentile in a survey of school climate. The information permits comparison with other schools in the survey; based on the results, the school has a good school climate relative to other schools in the survey. However, the judgment may vary considerably, if one is informed that the school scored at the 95th percentile five years earlier, and at the 80th percentile two years earlier. Such longitudinal data suggest that the climate of School X is deteriorating. On the other hand, if School X had scored

at the 30th and 50th percentiles on the two earlier surveys, the interpretation of its score on the recent survey would be very different; the school climate is improving dramatically.

Longitudinal studies can provide valuable information about school climate and other educational phenomena. However, they require a long-term commitment and are, therefore, not likely to be undertaken by graduate students, unless the universities and colleges of education facilitate this approach. For example, institutions, such as the College of Education, could undertake a 10-year study of some aspect of education, and graduate students could be given the option of doing research in that area. The researcher is aware of the danger inherent in such an approach: the graduate student, or faculty member, may lose the academic freedom to choose a research topic. However, the researcher believes that the interests of education and the academic freedom of the researcher can be reconciled.

The most important questions about school climate have yet to be addressed and would probably require longitudinal study: Does positive school climate lead to positive student and educator outcomes?; and, further, are these outcomes realized in the short or long term? For

example, in relation to student outcomes (effects), one might examine the effects of school climate on academic achievement or on another goal deemed valuable by the school or the community. In the long-term, the students' ability to cope at university or in the work force could be related to school climate.

Based on results in this study, it was possible to make a 4-way classification of schools, based on their scores along two dimensions, mean score and score variability. It may be interesting and enlightening to further examine the variability of climate scores. For example, are schools with positive climates and low variability dissimilar to schools with positive climates and high variability in other important respects, e.g. student achievement?

Finally, it may be useful to gather school climate data from a wider audience. Students, parents, and perhaps the public could provide information on school climate. Convergence of perceptions on school climate would suggest the existence of a more concrete school climate construct, in keeping with realist tradition.

In Conclusion

School climate has been a popular area of research for the past thirty years. As indicated earlier, findings

have been inconsistent for several reasons. The inconsistencies could be explained by the different conceptualizations, flawed measures, and inappropriate analyses. The lack of progress in the field has led some researchers to question the usefulness of school climate research. It was and is the writer's conviction that school climate can be a productive area of educational research.

One problem has been addressed in this study. A useful measure of school climate has been developed. The Saskatchewan School Climate Scale (SSCS) is a comprehensive measure of school climate and, based on study results, is valid for use in Saskatchewan schools. It should enable researchers and educational administrators in Saskatchewan, and perhaps in other jurisdictions, to get an accurate picture of climate in schools. Such a picture is a necessary antecedent to improvement. The writer, therefore, believes that he has, in a small way, contributed to educational research and educational administration.

No measure, no matter how valid or reliable it is, is useful, if it is not used. It is the writer's earnest hope that the SSCS will not rust unburnished.

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APPENDICES

APPENDIX A: Pilot Study Documents

Appendix A-1: Request for School Climate Items

Dear fellow student:

I am asking for a little of your time and expertise. I hope you can spare a little of each; if not, I understand. Being a student at this time of year is, as we all know, demanding. If you can help, please read on.

I am developing a questionnaire on school climate, and I would like your assistance in writing items. The items should belong to one of four categories which I've described below. If you would be so good as to write even a few items on the attached sheets, it would help me enormously. The items should **DESCRIBE** a school with which you are familiar--one in which you have taught or administered. The other criteria for item writing are:

- Each item should be stated as **briefly** as possible.
- Each item should contain only **one idea**.
- Items can be either **positive or negative**.
- Items should be **descriptive**, NOT evaluative.
- Assume the stem "**In this school ...**" comes before each statement.
- Items relate to the **school-level**. They might

Appendix A-1 continued:

begin "The teachers ..." or "The students ..." or
"The principal ...", but NOT "The grade 6
teacher ..." or "I ...".

Please return the item sheets **AS SOON AS POSSIBLE**,
either to **Room 3095** or to the **Edadm.** secretary.

THANK YOU.

Martin Ruane

Graduate Student

Appendix A-2: Form for Items on School Climate

Items may be written for each of four categories which are described below: ecology; culture; milieu; and social system.

Ecology: This includes anything **non-human** in the school environment that might be **important** from a teacher or principal perspective, e.g., grounds, building, facilities, supplies, equipment, etc..

IN THIS SCHOOL ...

1. _____
2. _____
3. _____
4. _____

Milieu: These are **characteristics of people** in the school (teachers, students, principal, others) that might be important. We are not talking about relationships among the people, only their virtues or failings, their experience or inexperience.

IN THIS SCHOOL ...

1. _____
2. _____
3. _____
4. _____

Appendix A-2 continued:

Culture: These are the **important beliefs and values** that different groups, e.g., teachers, share. They tell what is **acceptable or unacceptable** behaviour for teachers, or students, at this school.

IN THIS SCHOOL ...

1. _____
2. _____
3. _____
4. _____

Social System: These are the **relationships** that exist between and within groups in the school, e.g., teacher-teacher, teacher-student, teacher-principal, student-student, etc.

IN THIS SCHOOL ...

1. _____
2. _____
3. _____
4. _____

Appendix A-3: Request to Item Review Panel

Dear Fellow Graduates:

I am requesting your assistance in an important task. It is one that requires the expertise that you possess, namely, sound judgement and in-depth knowledge of schools. Your time commitment will not, I believe, be great. The details of the task appear on the next page.

I hope you can find time to help me out. If I can return the favour, I will. For now, please accept my thanks.

Martin Ruane

Graduate Student

**Appendix A-4: Criteria and Instructions Presented to Item
Review Panel**

Dear Panel Member:

I am developing an instrument to measure school climate based on perceptions of teachers and school administrators. To this point, I have, with the assistance of a group of teachers and administrators, assembled a list of statements. Your task is to decide if these statements/items are acceptable.

CRITERIA

For items to be acceptable, they must meet the following criteria:

1. Statements must be more **descriptive** than evaluative.
2. Statements must be **brief**.
3. Statements must be **clear** and unambiguous.
4. Each statement must contain **only one idea**.
5. Statements must relate to some aspect of the **school as a whole**.
6. Statements must belong in one of the **four categories** described overleaf: ecology, milieu, social system, culture.

(Statements may be positive or negative.)

Appendix A-4 continued**INSTRUCTIONS**

Consider each item against the above criteria. If the item meets all of the criteria, write **"A"** (for accept) at the end of the statement. If an item does not meet all of the criteria, write the **number/s** of the criteri(on)/a it fails to satisfy. Feel free to offer any suggestions you may have for item improvement.

Appendix A-5: Items Submitted to Item Review Panel**ECOLOGY**

This includes anything in the school's **physical environment** that might be **important** from a teacher, principal, or student perspective, e.g., the grounds, the building, facilities, supplies, equipment, etc..

IN THIS SCHOOL ...

The interior is clean and bright.____

The noise level is high.____

There are enough computers and computer software.____

There is a shortage of physical education and sports equipment.____

Teachers have access to a school fund for purchasing supplies.____

The classrooms are spacious.____

The library is well stocked and updated.____

Student artwork decorates the walls.____

Washrooms are a mess.____

Classrooms lack an adequate supply of blackboards and display boards.____

Playground equipment is not adequate.____

Students have the needed school supplies.____

Textbooks are up-to-date.____

Appendix A-5 continued

Audio-visual equipment and/or materials are in short supply. ___

Classrooms have adequate storage facilities. ___

The staffroom is attractive. ___

Instructional materials are adequate. ___

The grounds are not maintained. ___

Students have a common area where they can visit. ___

The walls are brightly painted. ___

MILIEU

These are **characteristics of people** in the school (teachers, students, principal, others) that might be important. We are not talking about relationships among the people, only the virtues or failings, experience or inexperience they bring with them.

IN THIS SCHOOL ...

The principal is an efficient manager. ___

The principal inspires and motivates. ___

The principal is knowledgeable and aware of current trends in education. ___

The principal is a committed professional. ___

Teachers are highly qualified. ___

Teachers are professionals. ___

Appendix A-5 continued

Teachers are enthusiastic about teaching. ___

Parents value education. ___

Students' learning is supported in the home. ___

Students are not very motivated. ___

Students believe in the work ethic. ___

Teachers have high principles. ___

Students are responsible. ___

The principal is a good communicator. ___

Teachers have a good sense of humour. ___

The principal always seems able to acquire resources for the school. ___

Staff attend courses, workshops, conferences to upgrade their knowledge and skills. ___

The parents are highly educated. ___

SOCIAL SYSTEM

These are the **relationships** that exist between and within groups in the school, e.g., teacher-teacher, teacher-student, teacher-principal, student-student relationships.

IN THIS SCHOOL ...

Teachers plan and work together. ___

Teachers keep to themselves. ___

Teachers socialize with each other outside school. ___

Appendix A-5 continued

There is a lot of bickering on staff.____

Teachers and administration get on well together.____

Students hold teachers in high regard.____

Teachers and parents are antagonistic.____

Students help each other.____

School goals are shared by all staff.____

Teaching loads and other duties seem fairly divided.____

Parents help out by volunteering for school jobs.____

There are many rules.____

Students frequently misbehave.____

Teachers complain about lack of preparation time.____

Teachers pursue personal goals more than school goals.____

The principal is very approachable.____

Parents drop in frequently, without a pressing concern.____

Parents support school initiatives.____

Teachers observe each other teaching.____

Teachers turn to the principal for advice.____

The principal supervises teachers closely.____

The principal often visits with students in the
hallways.____

There is a strong sense of hierarchy.____

Relations with central office are good.____

School division senior administrators show little
interest.____

Appendix A-5 continued

There is frequent communication between home and school.____

Teachers use a variety of strategies to assess student progress.____

Student progress is monitored frequently.____

CULTURE

These are the **important beliefs and values** that different groups, e.g., teachers, share. They tell what is **acceptable or unacceptable** for teachers, or students, at this school.

IN THIS SCHOOL ...

Teachers are expected to arrive well ahead of scheduled classes.____

Teachers leave as soon as classes finish.____

Teachers believe all students can succeed.____

Teachers resist attempts to change things.____

Teachers are encouraged to try out new ideas.____

Teachers are recognized or rewarded for extra effort.____

Students are more interested in socializing than in learning.____

Students are proud to be here.____

Appendix A-5 continued

All students receive recognition for their best efforts. ___

Former students often visit. ___

Getting good grades is a high priority for students. ___

Students accept and abide by school rules. ___

Students are active in planning student activities. ___

There is more emphasis on wrong things students do than on right things they do. ___

Student turnover is high. ___

School spirit is strong. ___

There are frequent assemblies to recognize achievement. ___

Students are under great pressure to achieve. ___

Gender stereotyping is evident. ___

Individual and cultural differences are respected. ___

Appendix A-6: School Climate Draft Instrument

Instructions: In responding, think about your present school (or one you know really well). Consider each statement, and tell how ACCURATELY it DESCRIBES YOUR SCHOOL. The response scale has six (6) points covering the range from COMPLETELY ACCURATE to COMPLETELY INACCURATE:

Completely Accurate (CA): This describes the school PERFECTLY.

Generally Accurate (GA): This describes the school MOST OF THE TIME.

Marginally Accurate (MA): This is A LITTLE MORE LIKE than unlike the school.

Marginally Inaccurate (MI): This is A LITTLE MORE UNLIKE than like the school.

Generally Inaccurate (GI): The school is NOT like this MOST OF THE TIME.

Completely Inaccurate (CI): The school is NEVER like this.

Appendix A-6 continued

CIRCLE the response (X) that best describes your school. Please record the TIME it took to complete the form. Place a QUESTION MARK (?) beside any question you found difficult to answer.

THANK YOU MOST SINCERELY FOR YOUR HELP.

Martin Ruane

Start Time: **Finish Time:**

Appendix A-6 continued

IN THIS SCHOOL ...	ACCURATE			INACCURATE		
	CA	GA	MA	MI	GI	CI
1. Teachers complain that the work load is NOT fairly divided.	X	X	X	X	X	X
2. The principal displays an awareness of current trends in education.	X	X	X	X	X	X
3. Teachers complain that there are NOT enough computers.	X	X	X	X	X	X
4. Students are more interested in socializing than in learning.....	X	X	X	X	X	X
5. The principal shows great concern for students.....	X	X	X	X	X	X
6. Parents often oppose school initiatives.	X	X	X	X	X	X
7. Few teachers are highly qualified....	X	X	X	X	X	X
8. Few students are active in planning student activities.....	X	X	X	X	X	X
9. The principal supervises teachers closely.....	X	X	X	X	X	X
10. The noise level is high.....	X	X	X	X	X	X
11. The teachers talk enthusiastically about teaching.	X	X	X	X	X	X
12. The principal makes time to listen to teacher and student concerns....	X	X	X	X	X	X
13. Teachers CANNOT access a school fund for purchasing supplies.....	X	X	X	X	X	X
14. Staff members seldom attend courses to upgrade their knowledge.....	X	X	X	X	X	X
15. Teachers complain about lack of preparation time.....	X	X	X	X	X	X

Appendix A-6 continued

IN THIS SCHOOL ...	ACCURATE			INACCURATE		
	CA	GA	MA	MI	GI	CI
16. Students frequently misbehave.....	X	X	X	X	X	X
17. Teachers and parents agree on the school's purposes.....	X	X	X	X	X	X
18. Teachers believe all students can succeed.....	X	X	X	X	X	X
19. Students have a common area where they can visit.	X	X	X	X	X	X
20. Parents only come to the school when there is a problem.	X	X	X	X	X	X
21. New books are added to the library every year.....	X	X	X	X	X	X
22. Teachers rarely plan or work together.	X	X	X	X	X	X
23. Student turnover is high.	X	X	X	X	X	X
24. Most parents are NOT highly educated.	X	X	X	X	X	X
25. Visitors comment favourably on the staffroom.	X	X	X	X	X	X
26. School goals are shared by all staff.	X	X	X	X	X	X
27. Teachers leave the school as soon as classes finish.	X	X	X	X	X	X
28. Teachers are generally satisfied with classroom storage facilities ..	X	X	X	X	X	X
29. Students lack the needed school supplies.	X	X	X	X	X	X
30. The classrooms are spacious.	X	X	X	X	X	X

Appendix A-6 continued

IN THIS SCHOOL ...	ACCURATE			INACCURATE		
	CA	GA	MA	MI	GI	CI
31. Student artwork decorates the walls.	X	X	X	X	X	X
32. The interior is clean and bright....	X	X	X	X	X	X
33. Students behave responsibly.	X	X	X	X	X	X
34. Teachers keep to themselves.	X	X	X	X	X	X
35. The grounds are NOT maintained.	X	X	X	X	X	X
36. Teachers and administration usually agree.	X	X	X	X	X	X
37. Most parents value education.....	X	X	X	X	X	X
38. Sports equipment and supplies are kept in usable condition.	X	X	X	X	X	X
39. Teachers use a variety of strategies to assess student progress.	X	X	X	X	X	X
40. Student washrooms are NOT kept neat and clean.	X	X	X	X	X	X
41. Textbooks are NOT up-to-date.	X	X	X	X	X	X
42. There are procedures for resolving staff conflict.	X	X	X	X	X	X
43. Students help each other.	X	X	X	X	X	X
44. The principal fails to convey clear messages to students and teachers. .	X	X	X	X	X	X
45. The principal seems able to acquire resources for the school.	X	X	X	X	X	X

Appendix A-6 continued

IN THIS SCHOOL ...	ACCURATE			INACCURATE		
	CA	GA	MA	MI	GI	CI
46. Teachers are expected to arrive well ahead of scheduled classes. ...	X	X	X	X	X	X
47. There is often friction between central office and the principal. ..	X	X	X	X	X	X
48. Teachers do NOT socialize with each other outside school.	X	X	X	X	X	X
49. There is frequent communication between home and school.	X	X	X	X	X	X
50. Most students show respect for teachers.	X	X	X	X	X	X
51. Teachers seldom turn to the principal for advice.	X	X	X	X	X	X
52. Students do NOT seem highly motivated to achieve.	X	X	X	X	X	X
53. The principal visits with students in the hallways.	X	X	X	X	X	X
54. Student progress is monitored frequently.	X	X	X	X	X	X
55. Teachers resist attempts to change things.	X	X	X	X	X	X
56. Teachers observe each other teaching.	X	X	X	X	X	X
57. Administration formally recognizes extra effort by teachers or students.	X	X	X	X	X	X
58. Students speak highly of the school.	X	X	X	X	X	X
59. All students receive recognition for their best efforts.	X	X	X	X	X	X
60. Few students abide by school rules.	X	X	X	X	X	X

Appendix A-6 continued

IN THIS SCHOOL ...	ACCURATE			INACCURATE		
	CA	GA	MA	MI	GI	CI
61. Parents help out by volunteering for school jobs.	X	X	X	X	X	X
62. Playground equipment is in disrepair.	X	X	X	X	X	X
63. Getting good grades is a priority for students.	X	X	X	X	X	X
64. Most teachers believe the principal is an INEFFICIENT manager.	X	X	X	X	X	X
65. Learning is supported in the home. .	X	X	X	X	X	X
66. Former students visit with teachers and students.	X	X	X	X	X	X
67. Teachers are NOT encouraged to try out new ideas.	X	X	X	X	X	X
68. Shortage of instructional materials is a common teacher complaint.	X	X	X	X	X	X

**Appendix A-7: Items on the Draft (Pilot Study) School
Climate Questionnaire Classified by the School Climate
Dimension Measured and Scoring Guide**

Culture: Fifteen (15) items were measures of the culture dimension, items 4, 8, 18, 23, 26, 27, 46, 55, 57-59, 60, 63, 66, and 67.

Ecology: Seventeen (17) items were measures of the ecology dimension, items 3, 10, 13, 19, 21, 25, 28, 29-32, 35, 38, 40, 41, 62, and 68.

Milieu: Thirteen (13) items were measures of the milieu dimension, items 2, 5, 7, 11, 14, 24, 33, 37, 44, 45, 52, 64, and 65.

Social System: Twenty-three (23) items were measures of the social system dimension, items 1, 6, 9, 12, 15, 16, 17, 20, 22, 34, 36, 39, 42, 43, 47-51, 53, 54, 56, and 61. The total number of items on the draft questionnaire was 68.

Item Scoring

Positively-Worded Items: Complete Agreement (5) to Complete Disagreement (0).

Negatively-Worded Items: Complete Agreement (0) to Complete Disagreement (5).

Negatively-Worded Items: 1, 2, 4, 6, 8-10, 13-16, 20, 22-24, 27, 29, 34, 35, 40, 41, 44, 47, 48, 51, 52, 55, 60, 62, 64, 67, 68.

Appendix B: Survey Forms Used in the School Climate Study

**Appendix B-1: The Saskatchewan School Climate Scale
(SSCS)**

RESPONDENT INFORMATION

GENDER: I am a female ___ male ___ .

POSITION: (Check one.) I am a teacher ___ dept head
___vice/asst principal ___ principal ___

QUALIFICATIONS: My highest academic qualification is

Bachelor Degree ___ Postgraduate Diploma ___

Master Degree ___ Ph.D. ___

Other (Specify.) _____

EXPERIENCE: *Principals Only*

I have been principal: at this school for ___ years;
in this school division for ___ years; and for a
total of ___ years.

All Others

I have taught in this school for ___ years, in this
school division for ___ years, and for a total of
___ years. My teaching duties are mainly in

K-3 ___ 4-6 ___ 7-9 ___ 10-12 ___

SASKATCHEWAN SCHOOL CLIMATE SCALE

Consider each of the 55 statements and decide how ACCURATELY it DESCRIBES YOUR SCHOOL. The response scale has six points covering the range from COMPLETELY ACCURATE (5) to COMPLETELY INACCURATE (0) as follows:

- 5: This describes the school PERFECTLY.
- 4: This describes the school MOST OF THE TIME.
- 3: This is A LITTLE MORE LIKE than unlike the school.
- 2: This is A LITTLE MORE UNLIKE than like the school.
- 1: The school is NOT like this MOST OF THE TIME.
- 0: The school is NEVER like this.

Choose the response that best describes the school, as you see it, by circling a number from 5 to 0.

You are also asked to evaluate the statements. If you think a statement is an important descriptor of school climate, circle the I at the end of the statement. If you think a statement is unimportant, circle the U.

THANK YOU FOR PARTICIPATING IN THE SURVEY. PLEASE RETURN THE COMPLETED SURVEY FORM IN THE ENVELOPE PROVIDED.

In this school...	ACC						INACC						UNIMPORTANT		IMPORTANT	
	5	4	3	2	1	0	5	4	3	2	1	0	U	I	U	I
Teachers are dissatisfied with the way the work load is divided.	5	4	3	2	1	0							U	I		
The principal is knowledgeable about developments in education.	5	4	3	2	1	0							U	I		
Socializing is a higher priority than learning for most students.	5	4	3	2	1	0							U	I		
The principal shows great concern for students.	5	4	3	2	1	0							U	I		
Parents oppose school initiatives.	5	4	3	2	1	0							U	I		
School staff is highly qualified.	5	4	3	2	1	0							U	I		
Students play no part in planning student activities.	5	4	3	2	1	0							U	I		
The teachers talk enthusiastically about teaching.	5	4	3	2	1	0							U	I		
The principal acts on teacher and student concerns.	5	4	3	2	1	0							U	I		
There are few opportunities for staff members to upgrade their knowledge.	5	4	3	2	1	0							U	I		
Lack of preparation time is a constant concern.	5	4	3	2	1	0							U	I		
Most of the students misbehave.	5	4	3	2	1	0							U	I		
Teachers and parents agree on the school's purposes.	5	4	3	2	1	0							U	I		
Teachers believe all students can succeed.	5	4	3	2	1	0							U	I		
Most parents come to the school only when there is a problem.	5	4	3	2	1	0							U	I		
New books are added to the library every year.	5	4	3	2	1	0							U	I		
Teachers plan and work together.	5	4	3	2	1	0							U	I		
Parents are highly educated.	5	4	3	2	1	0							U	I		
Visitors comment favourably on the school.	5	4	3	2	1	0							U	I		
School goals are shared by all staff.	5	4	3	2	1	0							U	I		
Most of the teachers put in many extra hours.	5	4	3	2	1	0							U	I		
Shortage of student school supplies is a problem	5	4	3	2	1	0							U	I		

In this school...	ACC						INACC						UNIMPORTANT IMPORTANT	
The interior is clean and bright.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Most students behave responsibly.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Teachers keep to themselves.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
The grounds are neglected.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Teachers and administration usually agree.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Most parents value education	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Shared school equipment and supplies are kept in usable condition	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Teachers use a variety of strategies to assess student progress.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Student washrooms are not clean.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Textbooks are old and out-of-date	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Students help each other.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
The principal's communications leave students and teachers confused.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
The principal gets the resources the school needs.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Teachers are expected to volunteer for extracurricular duties.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Staff members do not socialize with each other outside school.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
There is frequent communication between home and school.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Most students show respect for teachers.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Teachers rarely seek the principal's advice.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Most students show little academic motivation.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
The principal visits with students	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Student progress is monitored frequently.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Teachers resist attempts to change.	5	4	3	2	1	0	5	4	3	2	1	0	U	I

In this school...	ACC						INACC						UNIMPORTANT IMPORTANT	
	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Teachers have no opportunities to observe each other teaching.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Administration recognizes extra effort by teachers.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Students speak highly of the school.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Weaker students receive recognition for their best efforts.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Most students do not observe school rules.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Parents help out by volunteering for school jobs.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Getting good grades is a priority for students.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
The principal has good organization skills.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Learning is supported in the home.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
Teachers are not encouraged to try out new ideas.	5	4	3	2	1	0	5	4	3	2	1	0	U	I
There is a shortage of instructional materials.	5	4	3	2	1	0	5	4	3	2	1	0	U	I

ADDITIONAL QUESTIONS

Use the same scale (5 to 0) to answer the following questions;

- Would you have described your school the same way
a month ago, 3 months ago, a year ago, 2 years ago?
(5 = exactly the same; 0 = completely differently;
NA = you were not on the school staff at that time)

1 month ago ____ 3 months ago ____
One year ago ____ 2 years ago ____
- How satisfied are you with your position/job at this school? ____
(5 = completely satisfied; 0 = completely dissatisfied)

Appendix B-2 continued**The Staff**

The number of professional educators in the school is ___.

Of that number, ___ are full-time at this school, and ___ are part-time at this school.

How many of the present professional staff first came on staff in 1985 or before ___ 1986-1989 ___ 1990 or after ___

**Appendix B-3: Director's Assessment of School Climate
(DASC)**

SCHOOL IDENTIFICATION NUMBER: _____

On a scale of 5 to 0, 5 being a completely accurate description and 0 being a completely inaccurate description, say how accurately you believe each statement describes the school.

The school building and the school surroundings are attractive and well maintained. 5 4 3 2 1 0

The school has strong community support. 5 4 3 2 1 0

Students respect staff and abide by school rules. 5 4 3 2 1 0

Teachers are very professional and work together as a team. 5 4 3 2 1 0

School administration and teaching staff work in harmony. 5 4 3 2 1 0

Students are highly motivated to achieve. 5 4 3 2 1 0

The school has high expectations and a reputation for excellence. 5 4 3 2 1 0

Appendix B-4: Student School Attitude Questionnaire

(SSAQ)

ABOUT ME

1. I am a GIRL _____ BOY _____
2. I am in GRADE _____

ABOUT MY SCHOOL

A: AGREE COMPLETELY a: agree, but not completely

D: DISAGREE COMPLETELY d: disagree, but not completely

- | | | | | | |
|-----|---|---|---|---|---|
| 1. | Teachers encourage us. | A | a | d | D |
| 2. | Our principal does a good job. | A | a | d | D |
| 3. | When we do good work we are praised. | A | a | d | D |
| 4. | The teachers are always ready to help. | A | a | d | D |
| 5. | The principal asks us how we are doing at school. | A | a | d | D |
| 6. | I enjoy school. | A | a | d | D |
| 7. | This school is a good place to make friends. | A | a | d | D |
| 8. | I like our principal. | A | a | d | D |
| 9. | I feel the school rules are fair. | A | a | d | D |
| 10. | The teachers are fair. | A | a | d | D |

Appendix B-4 continued:

A: AGREE COMPLETELY a: agree, but not completely
 D: DISAGREE COMPLETELY d: disagree, but not completely

11.	Most of the students are nice.	A	a	d	D
12.	The library/resource centre is open when I want to use it.	A	a	d	D
13.	The school is nicely decorated.	A	a	d	D
14.	Homework assigned is reasonable.	A	a	d	D
15.	I like to do well in school.	A	a	d	D
16.	Our teachers are friendly.	A	a	d	D
17.	The principal often praises students for doing good things in school.	A	a	d	D
18.	Students are well behaved in this school.	A	a	d	D
19.	I like our school building.	A	a	d	D
20.	I like our school playground.	A	a	d	D
21.	I am learning a lot.	A	a	d	D
22.	I like to make my school attractive.	A	a	d	D
23.	I see our principal most days.	A	a	d	D
24.	Our principal talks to us about school.	A	a	d	D
25.	This school is a "fun" place to be.	A	a	d	D

Appendix B-4 continued:

A: AGREE COMPLETELY a: agree, but not completely
 D: DISAGREE COMPLETELY d: disagree, but not completely

- | | | | | | |
|-----|---|---|---|---|---|
| 26. | The marks I get are fair. | A | a | d | D |
| 27. | There are lots of things to do
at lunchtime. | A | a | d | D |
| 28. | Teachers listen to my ideas. | A | a | d | D |
| 29. | Big/Older students are nice to
young students. | A | a | d | D |
| 30. | You are treated the same if you are
a boy or a girl. | A | a | d | D |
| 31. | What we learn here is valuable. | A | a | d | D |
| 32. | I wouldn't change anything in this
school. | A | a | d | D |
| 33. | I cannot wait to get to school each day. | A | a | d | D |
| 34. | Students seldom fight. | A | a | d | D |
| 35. | No one is picked on by other students. | A | a | d | D |
| 36. | Students respect school property. | A | a | d | D |
| 37. | Student assignments are returned
with helpful comments. | A | a | d | D |
| 38. | Teachers and students agree on what
is important. | A | a | d | D |
| 39. | Parents and teachers agree on what
students should do at school. | A | a | d | D |
| 40. | I would be very sad if I had to leave
this school. | A | a | d | D |

Appendix C: Communications used in the Study

Appendix C-1: Application for Approval of Research

1. Project Supervisor: Dr. L. E. Sackney

Department of Educational Administration

College of Education

1 a. Student: Martin L. Ruane, Ph.D. candidate

2. Study Title: The Development of a Measure of School Climate and its Validation using a Multimethod Approach

3. Abstract: A measure of school climate will be developed, validated, and used to examine school climate in Saskatchewan schools. A review of literature and research indicates that findings in the area of school climate have been inconsistent. The inconsistencies are due, in part at least, to the instruments used to measure the concept. The instruments developed to date have measured different dimensions of school climate and have lacked comprehensiveness. This study will attempt the development of a comprehensive, valid, and reliable measure of school climate. The measure will be used to examine school climate in a sample of Saskatchewan schools. A multimethod approach will yield self-report and observational data from multiple sources. The different data sets will provide a basis for validation of the measure and for a more complete picture of school climate.

Appendix C-1 continued

4. Funding: No funding has been secured at this time.

Application is being made to STF and SSTA for a grant to cover administration and printing costs.

5. Subjects: Directors of school divisions, school principals, teachers, and students.

6. Methods/Procedures: The study will be conducted in a stratified, random sample of 40 schools. The school climate measure will be mailed to all principals and full-time teachers. Each director of a school division in which a school has been selected will be asked to provide a summary assessment of the school's climate. The researcher will visit 4 of the schools to administer a student attitude survey, and to observe school climate.

Stamped-addressed envelopes will be provided to directors, principals, and teachers for the return of completed questionnaires. Copies of the school climate and student attitude instruments, in draft form, are attached to this application.

7. Risk of Deception: None.

8. Confidentiality: Subjects will be asked not to identify either themselves or their schools on the response forms. A person other than the researcher will assign numbers to schools and safeguard the list. Mail to

Appendix C-1 continued

and from the schools will be routed through the intermediary. The only schools known by name and number to the researcher will be the subsample of 4 who agree to have the researcher visit them. No individual, school, or school division will be identified in the report of findings.

9. Consent Form: In the case of students selected for the school attitude survey, parental and student consent will be requested. Only students whose parents give written consent, and who themselves give written consent, will be included in the study. A copy of the consent form is attached to this application.

Permission of directors and principals will be obtained prior to data collection. All subjects will be made aware of the voluntary nature of their participation in the study.

10. Feedback: A summary of the study's findings will be provided to each participating school and school division. Parents and student participants will be made aware of this arrangement. Schools will be requested to make the report available to parents or students who wish to read it.

Appendix C-2: Ethics Committee Approval

**UNIVERSITY ADVISORY COMMITTEE
ON ETHICS IN HUMAN EXPERIMENTATION****(Behavioral Sciences)****NAME AND EC #:** Dr. L.E. Sackney (M.L. Ruane)
Department of Educational Administration

94-38

DATE: March 16, 1994

The University Advisory Committee on Ethics in Human Experimentation (Behavioral Sciences) has reviewed the revisions to your study, "The development of a measure of school climate and its validation using a multimethod approach" (94-38).

1. Your study has been APPROVED.
2. Any significant changes to your protocol should be reported to the Director of Research Services for Committee consideration in advance of its implementation.

Michael Oue
for Dr. C. von Baeyer, Chair
University Advisory Committee
on Ethics in Human Experimentation. Behavioral Science

cc: Dr. C. von Baeyer

**Appendix C-3: Letter mailed to Directors of Education
Requesting Their Participation in the School Climate Study**

Room 3034 ; Telephone: 966-7589 (Office); 374-3025 (Home)

8 March 1994

Dear Director:

I am a Ph.D. Candidate in the College of Education, University of Saskatchewan. For my doctoral research I am examining school climate in Region 4 schools and I would like your permission to include schools from your school division. I am including a brief description of the study. If you have questions about the study my adviser, Dr. Larry Sackney, or I would be glad to discuss them with you. I am also available to meet with you at your convenience. Dr. Sackney's phone number is 966-7626.

Thank you.

Sincerely,

Martin Ruane

Appendix C-3 continued:**School Climate Study**

Research Design: Data will be gathered from a number of sources using a variety of methods. Principals and teachers will be asked to complete a school climate survey. On the basis of a pilot test I estimate this task should take about 10 minutes. Directors of education will be asked to give a summary assessment of school climate in the selected schools. The directors' short survey form should take no more than a few minutes to complete. I plan to visit some schools to administer a student survey and to observe school operation.

Sample: Eight schools were randomly selected in each of 5 categories--city high, city elementary, rural high, rural elementary, and K-12. The school climate survey will be mailed to full-time educators in the 40 (5x8) schools. A subsample (4) of schools, randomly selected, will be visited. I would like to spend about one week in each school.

Ethical Considerations: The study will be guided by the University of Saskatchewan Code of Ethics. Participants will be informed that participation in the study is completely voluntary. In the case of student participation, parental consent will be obtained. Data

Appendix C-3 continued:

will be treated as strictly confidential, and anonymity of school divisions, schools, and participants will be safeguarded. Findings will be shared with participants; an executive summary will be mailed to each participating school division and school.

I am hopeful that you will permit me to conduct the study in your school division and I look forward to hearing from you at your earliest convenience. Thank you for your time. Included is a listing of the sample schools from your school division.

Sincerely,

Martin L. Ruane

**Appendix C-4: Letter mailed to Principals Requesting
Their Participation in the School Climate Study**

Room 3034 ; Telephone: 966-7589 (Office); 374-3025 (Home)

31/03/1994

Dear Principal:

I am writing to request your cooperation in a research study I am conducting as part of the requirements for the Ph.D. Degree in the College of Education University of Saskatchewan. Your director of education has given me permission to conduct the study in your school division, and I hope that I can count on your support also. Without your support the study cannot be completed.

I am including a brief description of the study and an approximation of the time commitment for participants. If you have questions about the study please contact me at 966-7589 or at the above address. My adviser, Dr. Larry Sackney, is also available to answer any questions you may have. His phone number is 966-7626.

Thank you.

Sincerely,

Martin Ruane

Appendix C-4 continued**School Climate Study**

Study and Data Sources: The study is an examination of school climate the quality of the school's work environment. Data will be gathered from schools by mailed survey (questionnaire). Based on the results of a pilot test I am confident that the survey form can be completed in about 10 minutes.

Sample: Forty (40) schools were drawn in a stratified random sample from Saskatchewan Education Region #4 as follows: eight (8) schools were drawn in each of five categories--rural elementary, city elementary, rural high' city high, and rural K-12.

School administrators and teachers employed full time at the selected schools are asked to complete the mailed survey.

I plan to gather additional data for the study by visiting a random subsample of 4 schools. I will contact those schools in a separate mailing to request permission and to discuss the visits. However, I want to make it clear that all that is being asked of you now is permission to include your school in the mail survey. If your school is one of those selected in the subsample, I will discuss the school visit with you and you can decide

Appendix C-4 continued

at that time if you wish to have your school included in that part of the study.

Research Ethics: The University of Saskatchewan's Committee on ethical research has examined and approved the plan for data collection. As a university researcher I had to satisfy the Committee that participants in the study would not be at risk. The anonymity of school divisions schools and individuals participating in the study will be safeguarded. Data gathered will be treated as strictly confidential. The study's findings will be shared with participants; an executive summary will be mailed to each participating school division and school.

Each school will be identified by a number and this number will appear on all survey forms sent to the school. Identification of schools by number is necessary for data analysis/synthesis and for follow-up mailings in some cases. I have made arrangements with a university colleague whereby schools will only be known to me by number. (The only exception to this will be in the case of schools visited. I will be asking those schools to let me match their names and numbers.)

Procedure: On receiving the principal's approval, a package will be mailed to each school. The package will

Appendix C-4 continued

include a cover letter questionnaire and envelope for each educator based full time at the school. The principal is asked to distribute the materials. Any encouragement or support you can offer will be greatly appreciated.

I hope that this brief description of the study gives you some idea of what is proposed. If you approve, I need to know the number of questionnaires required at your school. I look forward to hearing from you at your earliest convenience. Thank you for your time.

Sincerely,

Martin L. Ruane

**Appendix C-5: Cover Letter mailed to School Principals
with the Saskatchewan School Climate Scale Forms**

Room 3034 ; Telephone: 966-7589 (Office); 374-3025 (Home)

11/04/1994

To: School Principals

From: Martin Ruane

Re.: School Climate Study

Dear Principal:

Thank you for permitting me to include your school in my research study. I appreciate that, while it is very important for me, this study cannot be at the top of your list of priorities.

I am enclosing all of the materials for the survey portion of the study. In the large envelope, you should find one stamped, addressed envelope for each full-time, professional staff member, including yourself. Each envelope contains a cover letter and questionnaire. Please keep one envelope yourself and distribute the others to your staff.

Since each questionnaire has a stamped, addressed envelope, questionnaires can be mailed directly back to me; no school collection is necessary. The due date for return of questionnaires is Friday, April 22, and it would probably increase the rate of return if staff were given a

Appendix C-5 continued

friendly reminder a day or two before.

The only additional task you are asked to perform is to provide some information about the school on the yellow SCHOOL DEMOGRAPHICS form. This information is very important for the study, since teachers are not asked to provide school demographic data.

If there are any problems, such as insufficient questionnaires or envelopes, please contact me, and I will rectify the matter. Thank you once again for your cooperation in the conduct of this study.

Sincerely,

Martin L. Ruane

**Appendix C-6: Cover Letter mailed to School-Based
Educators with the Saskatchewan School Climate Scale Forms**

Room 3034 ; Telephone: 966-7589 (Office); 374-3025 (Home)

11/04/1994

Dear Colleague:

I am writing to request your cooperation in a research study I am conducting as part of the requirements for the Ph.D. Degree in the College of Education, University of Saskatchewan. What I am asking for is about 10 minutes of your time--that's about how long it will take to complete the enclosed questionnaire.

The study is an examination of school climate, and the questionnaire is part of the data-gathering process I am using. The 40 schools in the study were randomly selected from Saskatchewan Education Region 4. I hope to visit 4 of the 40 schools, mainly to see if information gathered by survey instruments matches observation data.

If you decide to complete the questionnaire, I can assure you that the information you provide will be treated as strictly confidential. No individual, school, or school division will be identified in the research report. You will note the school identification number on the upper right corner of your questionnaire. This is necessary since all data from a school must be grouped to

Appendix C-6 continued

describe the school's climate.

When the study is completed, I will provide each school with a summary of the general findings. If you have any questions about the study now or later, please write me or phone 966-7589. My adviser, Dr. Larry Sackney, is also available to answer questions on my behalf. His phone number is 966-7626.

Having spent about 28 years in schools, most of it in classrooms, I know how busy you are. I also know that you have more pressing and more important matters to attend to than this questionnaire. Still, I hope you can find the time. I made a special effort to keep items as brief as possible, and I truly believe answering them will take no more than 10 minutes. Please place the completed questionnaire in the envelope provided, seal the envelope, and place it in the large brown envelope I've provided for the school on or before Friday, April 22. Thank you most sincerely for reading this letter and, I hope, completing the questionnaire.

Sincerely,

Martin L. Ruane

**Appendix C-7: Follow-up Letter mailed to School
Principals as a Final Request for the Return of Completed
Survey Forms**

14 May 1994

To: School Principals

From: Martin Ruane

Re.: School Climate Study

Dear Principal:

Please excuse the impersonal salutation. The provisions for anonymity in the study make it impossible for me to match school (and principal) names with school numbers. I am relying on my colleague, Dr. A. Halsall, to direct this letter to its proper destination.

First of all, I would like to **thank you** and your staff for participating in the school climate study. Overall response to the survey has been very gratifying. A number of schools completed all survey forms; in all, **between 60 and 70 percent of survey forms have been returned so far.** As survey research goes, these are not bad numbers. **However, since this study focuses on the school as a unit, I am concerned about an adequate response from each school.** Adequate, in my opinion, would be 60 percent or higher. When returns fall below 50 percent, the question arises as to how representative of

Appendix C-7 continued:

the whole staff the respondents were.

For the above reasons, **I am extending the deadline and making one more request for survey returns.** I invite those who have not already done so to complete one now. The information will be invaluable to me as a researcher, and I sincerely hope that the research report will be of interest and value to teachers, school administrators, and others.

I am enclosing a spare copy of the survey form (which may be duplicated), in case originals have been misplaced.

The deadline for return of all survey forms is Friday, May 27. For the next 3 weeks, May 16-June 03, I will be on school visits. If you wish to contact me, please leave a message with Dr. Halsall (966-7589) or Sue Piot, EdAdmin Secretary (966-7619), and I will get back to you as soon as possible.

Thank you once again.

Sincerely,

Martin L. Ruane

**Appendix C-8: Cover Letter mailed to School Division
Directors of Education with Climate Assessment Forms
(DASC)**

April 28, 1994

To: School Division Directors of Education

From: Martin Ruane

Re.: School Climate Study

Dear Director:

Thank you for your cooperation thus far in the SCHOOL CLIMATE study I am conducting in Region #4. I have made contact with all of the selected schools and all principals have agreed to take part in the study. Schools have received questionnaires and will, I hope, be returning them to me shortly.

In this study, I am using multiple data sources: principals, teachers, students, directors, and researcher. As director, you are in a good position to assess the climate of schools in your school division. For this reason, I am asking you to provide a summary assessment of the climate in each of the schools selected from your school division. Please complete a separate sheet for each school. Identify the schools by number only. Return the completed forms to me at the above address by the 15 May, if possible.

Appendix C-8 continued

Thank you once more for your assistance.

Sincerely,

Martin L. Ruane

**Appendix D: Communications and Documents Pertaining to
the School Visits**

Appendix D-1: Letter Mailed to School Principals**Regarding School Visits**

22 April 1994

Dear Principal:

Thank you for your participation thus far in the SCHOOL CLIMATE study. By now you should have received survey forms for the survey/questionnaire portion of the study. The survey is being conducted in 40 schools in Region 4. The second part of the study involves school visits to four of those 40 schools. Your school was one of the four schools randomly selected. I am now asking you to consider whether you are agreeable to my visiting your school. I am enclosing a description of what the school visits will involve. If, after reading it, you decide against the school visit, that is perfectly all right. Just let me know as soon as possible, so that I can select a replacement school from the sample. If, however, you are considering the visit, I am willing to come to your school to discuss the visit and answer questions or concerns you may have.

Sincerely,

Martin L. Ruane

Appendix D-1 continued**SCHOOL VISITS**

Purpose: The purposes of the school visits are (1) to gain a **better understanding of school climate** by experiencing it firsthand; and (2) to **compare observation data** gathered by an outsider/the researcher with self-report data provided by insiders/staff on a **mailed survey**.

The use of **multiple methods** and **multiple sources** in this study should enable the researcher to **describe school climate more fully**. Also, the data gathered on the visits should make it possible to **judge the usefulness of the survey instrument/questionnaire**.

Requirements: The following are the minimum requirements needed for me to complete the study:

to visit four schools which have participated in the **mail survey**;

to spend a **week or less (minimum of 3 days)** at each of the schools;

to **observe** the school building and grounds;

to **observe** students and staff as they interact with one another in common areas of the school such as staffroom, hallways, and playground;

to **administer a student school attitude survey** to a random sample of 30 students.

Appendix D-1 continued

Options: Anything not stated above would have to be consented to by the principal or principal and staff.

Examples could include:

permission to **talk to students** about the school;
permission to **talk to teachers** about the school;
permission to **talk to parents/visitors** about the school.

The nature of these conversations would probably include discovering **what people like best about the school and what they like least**, how it compares with other schools they've been in, etc.

Schedule: The visits would have to be completed in this school year. My own preference is that I could complete the visits **by the end of May, or the first week in June.**

In return for the privilege of observing the school, I as researcher agree to treat data gathered as strictly confidential, to report data in such a way that the anonymity of the school and its staff are safeguarded. Also, I would like to contribute some of my time and energy to the school during my visit. I am prepared to lend a hand to teachers and/or administration as long as I am permitted sufficient time to complete my main purpose.

**Appendix D-2: Letter to Parents and Students Regarding
the Student School Attitude Questionnaire**

School Address

School Phone Number

Date

Dear Parents and Students:

I am a graduate student at the University of Saskatchewan and presently engaged in a study as part of the requirements for the Ph.D. Degree. The study is on school climate (how educators, students, and others view their schools). The director of education (name) and principal (name) have given permission for your school to be included in the study.

In all, 40 schools are being studied. Your school is one of **four** I am visiting to gather information for the study. Some of the information is being supplied by the principals and teachers, some by students, and some from my own observations. Students have been selected at random to participate in the study. Your child is one of those whose names were selected.

Students will be asked to complete a questionnaire which asks them how they feel about their school. This

Appendix D-2 continued

task should take 10 or 15 minutes of your child's time. I will supervise this activity myself and be on hand to answer any questions students might have. Information given by students will be kept strictly confidential, and students will not write their names on the questionnaire. Participation is completely voluntary, and students are free to withdraw at any time.

If you wish to let your child participate, please sign and date the attached consent form and return it to the school by _____ (at least one day before test administration to allow for substitutions). Your child must also give consent, if he/she wishes to participate in the study.

On completing the study, I will send a summary of the results to all participating schools and school divisions. Schools will be requested to make the report available to you on request.

If you have any questions about the study, please phone me at the school, or my supervisor at the University of Saskatchewan. My supervisor is Dr. Larry Sackney and his phone number is 966-7626. Thank you for your time.

Sincerely,

Martin Ruane (School Phone Number)

Appendix D-3: Parent/Student Consent Form

PARENTS' CONSENT

STUDENT NAME: _____

SCHOOL: _____

I/We have read the accompanying letter and have given permission for my child, named above, to participate in the school climate study. I understand that participation is voluntary, and my child is free to withdraw from the study at any time.

PARENT'S SIGNATURE: _____

DATE: _____

STUDENT'S CONSENT

The study has been explained to me and I have decided to take part in it. I made this decision of my own free will. I understand that I can stop at any time if I change my mind.

STUDENT'S SIGNATURE: _____

DATE: _____

Appendix D-4: Principal/Vice Principal Interview Guide**Career as an Educator**

Could you describe your experiences as an educator

in teaching and in administration?

in other school divisions and schools?

in this school division and school?

What do you see in your future as an educator?

Community and Parents

How would you describe the parents and community, in terms of economic status?

What kind of communication is there between home and school?

How supportive of the school are parents?

Board and Central Office

What contacts are there between the school and the board?

the director and staff?

How supportive are they?

Students

Describe the students in terms of their opportunities, motivation, and behaviour.

Staff

Describe staff in terms of qualifications, experience, and attitude toward work and students.

Appendix D-4 continued

How well do staff cooperate and collaborate?

School

What are the best things about being principal of this school?

What could be improved here?

**Appendix D-5: Questions used by the Researcher/Observer
to Assess School Climate**

1. What is the nature of the school setting?

The most desirable setting was considered to be one which was peaceful and quiet. The least desirable setting for the school was one which was noisy and/or where there were distractions. Examples of negative settings are schools located beside busy highways, heavy industry, or shopping malls.

2. How attractive are the school grounds?

The most desirable grounds would be spacious, aesthetically pleasing, and well equipped for recreation activities. The least desirable grounds would be small (relative to the student population), unattractive, and lacking in recreational equipment. An example of a poor grounds is one where play equipment is lacking or in disrepair, there are no trees, the lawn is not cut and is overgrown with weeds.

3. What is the condition of the school building
(exterior)?

A desirable building would be architecturally pleasing and in good repair. It would appear to be a single building rather than a hodge podge collection of units. The undesirable building may be in disrepair, have

walls covered with graffiti, or consist of many portable units in addition to the main building.

4. What is the condition of the school building (interior)?

The best interior is well-laid out (good floor plan), spacious, well maintained and decorated. A poor interior has inadequate administrative areas and classrooms, traffic congestion, dim hallways, dirty and untended washrooms, no student work or trophies on display, and so on.

5 and (6). What is the nature of the administrators (and teachers)?

Are principal and vice principal (teachers) well dressed and well groomed? Are they well qualified academically? Are they experienced and knowledgeable educators and administrators? Are they motivated and ambitious? Do they have strong commitment to the students and the school? Are they willing to put in the extra hours before and/or after classes?

7. What is the nature of the students?

Are attendance rates high? Are students punctual? Are they motivated to achieve? Do they value education?

8. What are relationships like within groups?

Do principal and vice principal consult and act like

a team, or is there antagonism and a lack of communication between them? Do teachers cooperate and collaborate, or do separate cliques pursue their own interests? Are students helpful and civil to each other or is school bullying and intimidation in evidence?

9. What are relationships like between groups?

How do teachers, students, and administration get along? Is there mutual respect and cooperation? Do students feel they are treated fairly by teachers and administration? Does each group have a sense of ownership about the school and what happens there, or do students or teachers feel left out of decisions that are important to them?

10. What is the relationship like between home and school?

What are contacts like between parents and teachers, or between parents and administration? When parents come to the school, how are they treated, and what is their attitude? Do parents have opportunity to volunteer their services to the school, and have they done so? How adequate are the channels of communication between home and school?

Appendix E: SSCS Statistics

Appendix E-1: SSCS Reliability Analysis: Item and Scale**Statistics**

Item Statistics

Item	Mean	Std Dev	Cases
1	2.99	1.27	331.0
2	3.74	1.02	331.0
3	2.21	1.24	331.0
4	3.95	1.02	331.0
5	3.50	1.10	331.0
6	4.25	.77	331.0
7	3.55	1.12	331.0
8	3.20	.99	331.0
9	3.58	1.12	331.0
10	3.33	1.18	331.0
11	2.16	1.55	331.0
12	3.48	1.14	331.0
13	3.27	1.03	331.0
14	3.48	.96	331.0
15	2.09	1.27	331.0
16	4.24	1.02	331.0
17	3.36	1.11	331.0
18	2.24	1.04	331.0
19	3.69	.92	331.0
20	3.35	1.11	331.0
21	4.01	1.02	331.0
22	2.79	1.33	331.0
23	3.90	1.09	331.0
24	3.66	.83	331.0
25	3.16	1.16	331.0
26	3.21	1.37	331.0
27	3.27	1.04	331.0
28	3.56	.95	331.0
29	3.60	.92	331.0
30	3.92	.76	331.0
31	3.60	1.27	331.0
32	2.85	1.26	331.0
33	3.46	.79	331.0
34	3.32	1.38	331.0
35	3.51	1.03	331.0
36	4.25	.93	331.0

Appendix E-1 continued

Item	Mean	Std Dev	Cases
37	2.81	1.28	331.0
38	3.59	.76	331.0
39	3.65	.89	331.0
40	2.84	1.29	331.0
41	3.05	1.17	331.0
42	3.34	1.23	331.0
43	4.09	.68	331.0
44	2.84	1.20	331.0
45	2.11	1.45	331.0
46	3.31	1.22	331.0
47	3.14	.96	331.0
48	3.42	.94	331.0
49	3.54	1.05	331.0
50	2.45	1.36	331.0
51	3.09	.95	331.0
52	3.65	1.28	331.0
53	3.01	.93	331.0
54	3.73	1.16	331.0
55	2.73	1.36	331.0

Scale Statistics

Mean	Variance	Std Dev	Variables
182.10	733.30	27.08	N = 55

Appendix E-2: SSCS Reliability Analysis: Item-Total/Scale

Statistics

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
1	179.11	698.83	.49	.92
2	178.35	715.39	.31	.92
3	179.88	702.41	.45	.92
4	178.15	705.81	.49	.92
5	178.60	706.25	.44	.92
6	177.85	723.12	.23	.92
7	178.54	716.52	.26	.92
8	178.89	705.22	.52	.92
9	178.51	699.60	.55	.92
10	178.77	713.29	.30	.92
11	179.94	719.20	.14	.93
12	178.61	704.72	.45	.92
13	178.83	703.67	.52	.92
14	178.62	709.22	.45	.92
15	180.01	706.88	.37	.92
16	177.86	710.92	.39	.92
17	178.74	702.10	.51	.92
18	179.86	718.90	.24	.92
19	178.41	702.37	.62	.92
20	178.75	696.46	.61	.92
21	178.09	718.51	.25	.92
22	179.30	713.59	.25	.92
23	178.19	706.98	.43	.92
24	178.44	710.27	.51	.92
25	178.94	702.18	.48	.92
26	178.89	704.85	.37	.92
27	178.83	700.39	.58	.92
28	178.54	711.24	.42	.92
29	178.50	713.54	.39	.92
30	178.18	719.83	.32	.92
31	178.50	708.37	.35	.92
32	179.25	705.64	.39	.92
33	178.64	712.75	.47	.92
34	178.78	692.91	.53	.92

Appendix E-2 continued

Item-Total/Scale Statistics

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
35	178.58	709.46	.42	.92
36	177.85	731.80	.01	.93
37	179.29	710.73	.31	.92
38	178.50	715.60	.42	.92
39	178.44	705.36	.57	.92
40	179.25	693.20	.57	.92
41	179.05	697.30	.56	.92
42	178.76	705.27	.41	.92
43	178.01	719.82	.35	.92
44	179.25	710.10	.34	.92
45	179.98	712.55	.24	.92
46	178.79	699.26	.50	.92
47	178.96	703.43	.57	.92
48	178.67	711.64	.41	.92
49	178.56	701.57	.55	.92
50	179.64	698.09	.46	.92
51	179.01	709.49	.45	.92
52	178.45	700.96	.45	.92
53	179.08	706.37	.52	.92
54	178.37	700.71	.51	.92
55	179.37	708.23	.32	.92

Scale Reliability

N of Cases = 331.0; N of Items = 55; Alpha = .92
