THE ORGANIZATIONAL CLIMATE AND SOCIOECONOMIC BACKGROUND OF SELECTED ELEMENTARY SCHOOLS IN THE LOWER MAINLAND AREA OF BRITISH COLUMBIA

by

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We accept this thesis as conforming to the required standard.

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ABSTRACT

This study was based on Halpin and Croft's Organizational Climate studies. It was designed to evaluate the Organizational Climate Description Questionnaire, and to investigate possible relationships between the Organizational Climate of a school and the socioeconomic status of its patrons. It attempted to do this by administering the Organizational Climate Description Questionnaire to 219 teachers in twenty elementary schools selected on the basis of the socioeconomic status of their patrons.

Results would seem to indicate that the subtests of the OCDQ are valid, but that the theoretical basis of the open-closed climate categorization is faulty. The theory behind the questionnaire, and the concept of Organizational Climate are obviously of great value to education. It seems likely that with the proper adaptation the questionnaire could be used to identify and describe three major climate factors.

Two patterns of subtest profiles were observed in the twenty schools measured. Both indicate a high degree of attempted control by the principal, and a high degree of independence in the teachers. Both seem to be combinations of different Halpin and Croft climates. Halpin and Croft's climates did not describe the schools measured accurately enough.

Because of the breakdown of Halpin and Croft's climates, it was not possible to come to any conclusion about the socioeconomic factor. There seemed to be some relationship between the two observed subtest profiles and the socioeconomic factor, but it proved very difficult to analyze and account for.
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INTRODUCTION

This study is designed to evaluate Halpin and Croft's Organizational Climate Description Questionnaire in the British Columbia school system, and to investigate possible relationships between the Organizational Climate and Socioeconomic Background of elementary schools.

The Organizational Climate Description Questionnaire describes the Organizational Climate, or "personality," of elementary schools. It does so on the basis of teacher response, therefore all measurements are based on teachers' perceptions. It consists of eight subtests, four measuring teacher behavior, and four measuring principal behavior. On the basis of results obtained by administering their questionnaire to 1151 teachers in 71 schools in six states, Halpin and Croft have tentatively identified six clusters of subtest profiles, which they have called climates.

"Socioeconomic Background" refers to the "socioeconomic status of the school's patrons." It will be assessed on the basis of L. I. Bell's

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1 See A. W. Halpin and D. B. Croft, The Organizational Climate of Schools, (Chicago, Midwest Administration Centre, 1963).

2 Halpin and Croft, p. 1.

3 Halpin and Croft, p. 7.
This survey divides the Metropolitan Vancouver area into five socio-economic levels on the basis of income, occupation and education.\(^4\)

The scope of this study is limited. It is basically a study in methods, and any specific results, in terms of climates and relationships between climate and Socioeconomic Background may not be valid beyond the schools measured. The two main purposes of this study are the evaluation of the Organizational Climate Description Questionnaire and the investigation of a method for studying relationships between Organizational Climate and Socioeconomic Background.


\(^{5}\)L. I. Bell, p. 54.
CHAPTER I SURVEY OF LITERATURE

A. Definitions

1. Organizational Climate

Halpin and Croft define Organizational Climate as follows:

The Organizational Climate can be construed as the organizational "personality" of a school; figuratively, "personality" is to the individual what "climate" is to the organization.\(^5\)

Personality, in turn, can be defined as "the totality of an individual's characteristics ... an integrated group of emotional trends, behaviour tendencies, etc."\(^6\)

Halpin and Croft also refer to Argyris,\(^7\) who defines the climate of an organization as the pattern of organizational behavior. Argyris conceptualizes this pattern as consisting of three factors:

... the formal policies, procedures, and positions of the organization; personality factors, including individual needs, values, and abilities; and the complicated pattern of variables associated with the individual's efforts to accommodate his own ends with those of the organization.\(^8\)

These definitions combine to give a picture of climate as the overall pattern of behaviors and relationships which characterizes an organization. Climate consists not of the behaviors and relationships

\(^5\)Andrew W. Halpin and Don B. Croft, The Organizational Climate of Schools, (Chicago, Midwest Administration Centre, 1963) p. 1.


\(^7\)Halpin and Croft, footnote p. 1.

themselves, but of the overall pattern which they form. Climate is formed
by a vast number of factors, and it is the pattern which determines observed
behaviors within an organization.

2. Word Difficulties

There is a semantic difficulty in this study. Halpin and Croft use
the term Organizational Climate to refer solely to the social interactions
which their questionnaire measures. This is a very limited and incomplete
definition. For the purposes of this report, the term Organizational Climate
will be used as follows: in the present chapter (Chapter I), it will be
used in the general sense, as defined above under (1); in all other places
it will be used in Halpin and Croft's more limited sense, to refer to
the factors measured by the Organizational Climate Description Questionnaire,
unless otherwise stated.

3. Socioeconomic Background

Socioeconomic Background refers to the factor of school climate
described by Halpin and Croft as "the socioeconomic status of the school's
patrons." For the purposes of this essay, socioeconomic background is
defined operationally as the socioeconomic status of the area served by
the school, as indicated by L. I. Bell's study, Metropolitan Vancouver:
An Overview for Social Planners.

9Halpin and Croft, p. 7.

10Halpin and Croft, p. 7.

11L. I. Bell, Metropolitan Vancouver: An Overview for Social Planners,
(Vancouver, Community Chest and Councils of the Greater Vancouver
Area, 1965).
B. Theory

It should be obvious that teacher and principal relationships comprise only one part of the overall climate of a school. Halpin and Croft list several other factors which would be expected to influence climate:

... the socio-economic status of the school's patrons; the biographical and personality characteristics of the principal and the teachers; the "quality" of the students; the attitudes of the parents towards the school; the school's physical plant; the teachers' salary schedule; the educational and administrative policies of the school district; the location\(^\text{12}\) of the school; and, of prime importance for the present phase of the study, the social interactions that occur between the teachers and the principal.\(^\text{13}\)

Experimental studies could determine the effects of each of these factors on climate, and other studies could determine the practical effects of climate on organizational behavior. But before such results could be understood and made useful, they would have to be fitted into some conceptual framework. It is necessary for experimentation and theory to complement each other: for experimentation to provide the facts, and theory to organize them; for theory to provide the patterns and experimentation to validate them. Several theories of organizational behavior exist, and it is essential to consider the OCDQ in relation to them.

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\(^{12}\) Halpin and Croft, p. 7, footnote. "At least three kinds of location demand recognition: the location of the school within the school system; the location in respect to urban, rural or suburban districts; and the geographical or regional location within the United States." To this, it would be possible to add the national location.

\(^{13}\) Halpin and Croft, p. 7.
The OCDQ studies are a first step in identifying and describing administrative relationships experimentally. Theoreticians have conceptualized several possible patterns of administrative relationships. Studies like the OCDQ studies can determine whether hypothesized relationships exist, can study them if they do exist, and can determine their effects on the organization.

For the present study, theory can give a pattern within which to evaluate results, and the results themselves can be used to evaluate the efficacy of theory.

The areas of theory which seem to hold the greatest promise as a means of conceptualizing the position of Organizational Climate within the overall organization are those which view the organization as a small social system, and try to map a pattern of relationships within this social system.

The most interesting theories of the social structure of organizations are those of Getzels, and, later, of Getzels and Thelen. They are based on the concept that any organization consists of two dimensions: the idiographic or personal dimension, which consists of the individuals within the organization, their personalities and their needs-dispositions; and the nomothetic or institutional dimension, which consists of the institution, the roles which it consists of, and the expectations which it holds for the people who occupy these roles. This corresponds quite closely to Argyris's three factors of organizational climate; formal organizational variables, personal variables, and variables resulting from interaction between the other two. Getzels describes in great detail the

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14 See diagram on page 7.

16 Argyris, p. 501.
Figure 1: Getzels and Thelen: The School As A Social System

The School As A Social System

Ethos
Mores
Values

Institution
Role
Expectations

RATIONALITY

Belongingness

GROUP

Climate
Intentions

NEEDS - DISPOSITIONS

Individual
Personality

Organism
Constitution
Potentialities

GOAL

BEHAVIOR


Getzels and Thelen use the model to describe the class, but it is equally applicable on the level of the school.

Getzels' original two dimensions are underlined.
nature of the interaction between his two dimensions. Very little
organizational behavior can be described as purely idiographic or purely
nomothetic. Most behavior is the result of interaction between the two
dimensions. The purpose of the OCDQ studies is to study experimentally
the nature of this interaction in a school situation.

Getzels conceptualizes the idiographic and nomothetic dimensions
as interacting at three levels: the institution interacts with the
individuals it comprises; the roles interact with the personalities of the
role incumbents; and role expectations interact with the needs-dispositions
of the role-incumbents. These interactions can be in the nature of co­
operation or conflict, and are influenced by various factors connected
with the external environment, as well as by the internal factors here
described. The extent to which these two dimensions can be integrated
will have a direct effect on whether, or how well, the goals of the
organization and the needs of the individuals within it will be met. 17

But these are not the only factors causing organizational behavior.
There are several factors which influence them. Getzels and Thelen
later added to Getzels' model, to take some of these other factors into
account. Influencing the nomothetic dimension is an anthropological
dimension, consisting of the cultural ethos, mores and values of the
larger social system within which the school operates. Influencing the
idiographic dimension is a biological dimension, consisting of the organism,
its constitution and its potentialities. Interaction between the
anthropological and nomothetic dimensions leads to institutional behavior,
and interaction between the idiographic and biological dimensions determines individual behavior. The observed behavior of the organization results from the interaction between all four dimensions.

Finally, Getzels and Thelen add a general dimension, relating to the interactions between the nomothetic and idiographic dimensions. This corresponds to most actual situations, as behavior which is purely nomothetic or purely idiographic is rare.

The group is the result of interaction between the institution and the individual, and has characteristics of its own, distinct from but dependent on both. Climate is the result of interaction between role and personality. And role expectations and the needs-dispositions of role incumbents interact to produce the intentions of the role incumbents. These in turn lead to observed goal behavior. This describes a general dimension, consisting of the group, its climate, and the intentions of its members.

This use of the term climate is remarkably similar to the definition already accepted in the present study. Climate is the group characteristic corresponding to the individual's personality, as Halpin describes it;\(^{18}\) and it consists of an organizational dimension, a personal dimension, and a dimension of interaction, as Argyris defines it.\(^{19}\) The climate consists not of the isolated dimensions themselves, but of the pattern of interaction between them.

The position of the present study in relation to these theories is quite simple. It is designed to measure the nature of relationships within an organization. As the relationships measured are relationships between principals, who would be expected to relate to the nomothetic

\(^{18}\) Halpin and Croft, p. 1.

\(^{19}\) Argyris, p. 501.
dimension, and teachers, who will be influenced by the idiographic dimension, the relationships would be expected to follow Getzels' pattern quite closely. It will obviously be important to assess teacher-principal relationships in terms of task accomplishment (nomothetic), and needs satisfaction (idiographic). It should also be possible to use a questionnaire based on these concepts to measure the effects of nomothetic or idiographic behavior on the organization itself.

In practice, the OCDQ does take into account and measure social needs and task accomplishment-based behavior, and finds experimentally that the social needs of individuals and the demands of the organization are important determinants of climate. The OCDQ is also being used to determine the effects of various patterns of behavior on the organization, in an effort to determine "good" patterns of behavior. In this respect, the questionnaire is being used to determine the effects of different climate on goal behavior. Etzioni has discussed goal behavior in a manner which corresponds closely to the factors measured by the OCDQ.

In terms of Etzioni's goal structure, the nomothetic dimension, influenced as it is by the anthropological dimension, is oriented towards cultural or pure goals. The idiographic dimension is oriented towards personal needs, which may displace organizational (cultural) goals, but which are an integral part of the organization, and must be taken into account in any description or evaluation of goal behavior. The Getzels and Thelen model is then a systems model, as opposed to a goal model dealing with organizational goals alone, and enables us to study the organization as a social system much more realistically.

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The present study deals only with part of the school society, and only with part of the school climate. It deals with the group consisting of the teachers and their principal, from the point of view of their interactions, both personal and professional. As such, Getzels and Thelen's model is highly applicable. The teacher-principal group itself is a social system within the school system, and we can use the sociological model to study relationships within this social system. The empirical study is designed to create from observed behaviors a picture of a segment of school climate. The model gives us a conceptual framework within which to discuss empirical results. Thus the behavior of teachers and principals can be discussed in terms of its relationship to nomothetic or idiographic tendencies, or to the interactions between the two dimensions. It would also seem likely that the integrating forces which Getzels and Thelen depict as acting to unite the two dimensions in pursuit of common goals could be expected to be important factors in effective organizational structure. Getzels and Thelen depict rationality directing the nomothetic dimension towards common group goals, identification directing the individual towards these goals, and belongingness acting as a blanket force to draw the dimensions together. 22

The importance of a study of teacher and principal relationships should be obvious. Group or leader behavior is not the result only of isolated actions by individuals. It is the result of interactions between individuals, and between individuals and their environment. "Leadership is a term that applies not to an individual alone, but to a relationship between an individual in a group and the other members of the group." 23

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22 See page 7, diagram.

Thus it is profitable to study leader behavior and group behavior from the point of view of personal interactions. This will not give the whole picture, but it will give a very significant part of it. It is important to realize, however, that in measuring relationships and interactions, one is not judging individuals. It is perfectly possible for two highly satisfactory individuals to have totally unsatisfactory interactions.

Another theoretical consideration, in connection with interaction, is that the present study is designed to measure teachers' perceptions of teacher and principal relationships, not the relationships themselves. "It is well to begin by putting aside the attitude of naive realism, which suggests that our perceptions simply register accurately what is 'out there'." Each teacher's responses will be coloured by his feelings and opinions, and what will be measured will be his reaction to group or principal behavior, not the "pure" behavior itself. This is not a disadvantage, however, as this is a measure of interaction rather than merely of behaviors, and the interactions are the important factor.

One of the factors measured in the present study is perceptual agreement. Parsons' model of organization divides each organization into three levels; institutional, managerial and technical. In the case of the school, the product is a live human being, with behaviors and reactions of his own, so a fourth, productive level has to be added to Parsons' model. Between the levels there is a qualitative break, which can hinder communication.


Since the principal is on the managerial level, and the teachers are on the technical level, there will be a qualitative break between them, and a possible break in communications. Each tends to view the organization from his own perspective, and often they are not thinking on the same plane. Halpin has illustrated this break quite dramatically. He administered a Leader Behavior Description Questionnaire (LBDQ) to air crew leaders and educational leaders, and to their subordinates. He found that most leaders were unable to assess their subordinates' perceptions of them. From this, it would seem that an instrument which could measure teacher perceptions objectively for principals would be very useful. This is one of the things that the Organizational Climate Description Questionnaire is designed to measure.

As well as being designed to measure the aspects of climate measured by the Organizational Climate Description Questionnaire, the present study is designed to study one of the factors depicted by Halpin as defining Organizational Climate - "the socio-economic status of the school's patrons" - social background.

It would seem very likely that Socio-economic Background would influence school climate, and quite possible that it could influence teacher and principal relationships. The present study is designed to investigate possible relationships between teacher and principal relationships and Socio-economic Background. Any relationships observed would apply only to the schools tested. This relationship, if it existed, would depend on many factors. In a large, socially heterogeneous district, with

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28 Halpin and Croft, p. 7.
strict policies of equality between schools, and little movement of
teachers between schools, there might be little relationship between
Social Background and teacher-principal relationships. In a district
like Chicago, on the other hand, with a tremendous range of Socio-
economic Background, and a record of a high level of movement of teachers
between schools, one would expect quite a definite relationship between
Organizational Climate Description Questionnaire results and Socio-
economic Background. Most teachers would prefer to teach in "better class"
districts, and those who preferred to teach in the slums would be different
types of teachers than would be found in other districts. This would
affect the school climate and the nature of the staff group so much that
different patterns of teacher-principal relationships could logically be
expected.

Because of the variable nature of this relationship, any results
observed in the present study could only be applied to the schools measured.
The only generalization which could be drawn is the illustration of a
method by which this relationship can be measured anywhere.

C. Review of Research

Only relatively recently have researchers in educational adminis-
tration used such techniques as the behavior description questionnaire to
study administrative relationships. Hemphill, Griffiths and Frederiksen
say that it was not until 1948 that:

29H. S. Becker, "Schools and Systems of Stratification," in A. N. Halsey,
J. Floud and C. A. Anderson, Education, Economy and Society, (New York,

This aspect will be discussed more fully in Chapter two of the present study.
research workers undertook studies that emphasized the experimental use of psychological tests, the study of leadership, the use of the critical incident technique, and other methodological departures from educational administration's past. 1

Since 1948, however, several studies have been undertaken, both in the area of behavior description, and in related areas.

Francis S. Chase has done some significant research into administrative relationships, particularly teacher expectations of principals and teacher satisfaction as a function of principals' behavior, using a checklist type of questionnaire based mainly on values and attitudes. 2

This research, based as it is on attitudes, forms an excellent complement to the descriptive nature of the Organizational Climate Description Questionnaire, without in any way duplicating it.

Studies by Getzels, Guba, Bidwell and others into the sociological aspects of administration also provide valuable information without in any way duplicating the work of Halpin and Croft. Guba and Bidwell undertook a very interesting study of Administrative Relationships, 3 but it was much more diffuse than the present study, covering a much wider area much less closely. It attempted to measure relationships between principals' expectations of teacher behavior, teachers' perception of principals' expectations of teacher behavior, ideal principals' expectations according to teachers, teachers' behavior as reported by themselves, and teachers' behavior as seen and reported by principals.

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Another method of studying administration which has received widespread attention in recent years is the "in-basket" method of simulating a school situation. Hemphill, Griffiths and Frederiksen were first to use this technique on a widespread basis. It gives an excellent method of bringing administrators together, putting them in the same simulated situation, and studying their reactions and behaviors. Hemphill, Griffiths and Frederiksen gave as their objectives:

1) To determine the dimensions of performance in the elementary school principalship, and thus develop a better understanding of the nature of the job of the school administrator.

2) To provide information helpful in the solution of the problem of selecting school administrators.

3) To provide materials and instruments for the study and teaching of school administration.\(^\text{4}\)

This method involves putting a group of administrators or prospective administrators in the same situation, by giving each an "in-basket" - a collection of materials describing possible administrative situations. In this way, the situation is controlled, leaving the behavior of the individual as the only variable. Thus it is theoretically possible to study the reactions of several people in the same situation.

Once again, this group of studies, while in the area of leader behavior, does not conflict with the Organizational Climate studies. It deals more with the leader's actions and the role of the principal as a decision maker in all fields, and less with the sociological aspect of his interaction with his teachers and their perception of him.

The second objective of the in-basket method, helping in the selection of school administrators, may not be applicable to the Organizational Climate Description Questionnaire. Erickson claims that the Halpin and Croft questionnaire would be useful in the selection of administrators, but he overlooks an important point. This questionnaire is primarily a self-measuring device, to be used objectively within a school. If it were to be used by people outside a school to "judge" a principal, this would almost certainly influence the responses of the teachers. Moreover, the Organizational Climate Description Questionnaire does not measure the principal's behaviour - it measures the teachers' perception of principal behavior, an altogether different factor.

The group of studies which is most applicable to the present study, both in terms of area of concern and methods, is the group of studies conducted at the Ohio State University, using behavior description questionnaires to measure group characteristics and leader behavior. A monograph by Stogdill and Shartle in 1955, describes eight Methods in the Study of Administrative Leadership: interviews; organization charts and manuals; sociometric methods; responsibility, authority and delegation scales; work analysis forms; leader behavior descriptions; and effectiveness ratings.

Under the heading of "Leader Behavior Descriptions," Stogdill and Shartle give a brief discussion of the Leader Behavior Description


6Ralph M. Stogdill and Carroll M. Shartle, Methods in the Study of Administrative Leadership. (Columbus, Ohio State University, 1955).
Questionnaire (LBDQ). However a much more complete and up-to-date description of this questionnaire and its uses is given in a later monograph edited by Stogdill and Coons. This questionnaire was based on a definition of leadership as "the behavior of an individual when he is directing the activities of a group toward a shared goal." By discussion, and with reference to other studies done by this group, nine dimensions of leader behavior were tentatively identified. These were: Integration, Communication, Production Emphasis, Representation, Fraternization, Organization, Evaluation, Initiation and Domination. Items were collected from the personal experiences of the researchers, the literature on administration, and students in advanced university courses. The 1,790 items obtained by these methods were then classified according to the nine predetermined categories, and approximately 200 items which seemed to describe and distinguish between the categories were selected. This number was later reduced to 150 items, and the nine categories were slightly redefined to better match the factors which the questions in them seemed to describe. The Communications dimension was split into Communications Up and Communications Down, to make a total of ten dimensions.

This was the preliminary form of the questionnaire. Future work

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7 Ralph M. Stogdill and Alvin M. Coons (eds.) Leader Behavior: Its Description and Measurement, (Columbus, Ohio State University, 1957).


resulted in several changes in its format, and several adaptations were made by researchers wishing to use the questionnaire for differing purposes.

Halpin and Winer describe the application of the questionnaire to air crews.\footnote{Andrew W. Halpin and James Winer, "A Factorial Study of the Leader Behavior Descriptions," in Stogdill and Coons, \textit{Leader Behavior}.} They eliminated from the questionnaire twenty items which they considered to be not applicable to the Air Force situation. They factor-analyzed their results, and identified four major factors of leader behavior: consideration, initiating structure, production emphasis, and sensitivity (social awareness). Since the first two factors accounted for most of the common variance (83.2\% between them), the other two were discarded, and only consideration and initiating structure remained. The next step was to construct a questionnaire specifically designed to measure these two factors. This was done by identifying the thirty items (15 each) which correlated most closely with the two factors.\footnote{Halpin and Winer in Stogdill and Coons, \textit{Leader Behavior}.}

In extremely general terms, initiating structure refers to behavior oriented to Getzels' nomothetic dimension, while consideration falls largely within the idiographic dimension. There is overlapping between them, however. Halpin found a correlation of .38 between the scores on the two dimensions for a sample of 249 aircraft commanders.\footnote{Andrew W. Halpin, "Leader Behavior" in \textit{Harvard Educational Review} 25, (1955), p. 19.} Halpin gives the following items as examples of what the dimensions are measuring:

Initiating Structure

1. He makes his attitudes clear to the crew.

2. He speaks in a manner not to be questioned.

3. He maintains definite standards of performance.
Consideration

1. He is easy to understand.

2. He does little things to make it pleasant to be a member of the crew.

3. He gets crew approval on important matters before going ahead.

The members of the crew are asked to rate their leader on the frequency with which the described behavior occurs. Halpin has used his form of the Leader Behavior Description Questionnaire in many other military and educational situations. He reports that both he and Hemphill have found evidence to indicate that "the most 'effective' commanders are those who score high on both dimensions."\(^{14}\)

Other studies have adapted the Leader Behavior Description Questionnaire for use in other areas of administration. Fleishman describes its application to industry (the Supervisory Behavior Questionnaire\(^{15}\) and the Leadership Opinion Questionnaire\(^{16}\)). He used a form of the questionnaire including questions designed to measure the two factors production emphasis and sensitivity as well as consideration and initiating structure. However, he found, as did Halpin, that production emphasis and sensitivity added little to explanation of variance.

The Leader Behavior Description Questionnaire itself, either alone or in conjunction with other measurements, has been used in many studies

\(^{13}\)Halpin, "Leader Behavior," p. 20.


under the auspices of the Ohio State University Bureau of Business Research and other organizations. Abstracts of studies in this area by the Ohio Bureau of Business Research and Bureau of Educational Research are included in most monographs by either group.  

At the same time that the Leader Behavior Description Questionnaire was being constructed and tested, Hemphill constructed a parallel Group Dimensions Description Questionnaire. His questionnaire consisted of 150 items of the same type as those in the Leader Behavior questionnaire, designed to measure thirteen "group dimensions." From results obtained from this questionnaire, he extracted by factor analysis three factors; Behavior Regulation appearing as Social Structure, Effective Synergy, and Primary Personal Interaction. Behavior Regulation refers to formal organization directed towards group goals, which is very close to Getzels' nomothetic behavior. Effective Synergy refers to efforts of the group per se directed towards group goals, or "the unified attitude which emerges as the dynamic intention of the group per se." This closely corresponds to Getzels' concept of belongingness and identification uniting the efforts and feelings of all individuals in the pursuit of group goals. Primary Personal Interaction refers to direct social interaction between individuals - the idiographic dimension.

These are remarkably close to Shartle's three factors; productivity, integration, and morale. However, Hemphill found that these factors were not stable in different samples, and "it is concluded that no attempt

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17 For Example, see pages 63-66 of John K. Hemphill, Group Dimensions, (Columbus, Ohio State University, 1956).

18 Ralph M. Stogdill, Individual Behavior and Group Achievement, (New York, Oxford University Press, 1959), Ch. VI.
should be made at this time to reduce the number of group dimensions included in the questionnaire." So Hemphill merely noted the possible existence of his three factors, and left his questionnaire in its original thirteen dimension form.  

No previous research in the area of the Organizational Climate Description Questionnaire has sought to correlate Socio-economic Background and teacher-principal relationships. The only relevant research is in the area of sociological effects on education, and even it is surprisingly limited. Although several writers have commented on connections between socio-economic status and educational opportunity, very little research has been undertaken into teacher reaction to Socio-economic Background. Becker refers to "studies of the Chicago system done under the direction of Everett C. Hughes, reported in a number of M.A. and Ph.D. theses at the University of Chicago," and to other articles by himself. Becker also refers to "an unpublished study of Kansas City by Warren Peterson." Some typical comments on the subject are:

The record of these requests (teachers' requests for transfers within the Chicago school system) when mapped, shows a tremendous movement away from the slums toward the middle-class areas. The same pattern may be seen in those informal rural-urban systems, like that of Kansas City, in which movement is accomplished by acquiring experience and bargaining successfully for for more desired jobs.


20 John K. Hemphill, *Group Dimensions*, (Columbus, Ohio State University, 1956).


Schools in the lower socio-economic areas are "transfer vacuums." Many teachers request to be transferred from such schools, but few request transfer to them. 24

These are specific examples, not generalizations. They refer to specific school districts, and indicate a pattern which may or may not exist in other districts. Where such a pattern did exist, it would seem likely that it would affect the Organizational Climates of the schools involved, and that this in turn would affect the nature of the teacher-principal group. Schools in the less desirable areas would attract fewer good teachers, fewer experienced teachers, and probably a different type of teacher. They could expect to have a higher rate of staff turnover also. These factors would almost definitely affect the nature of the staff group and the interactions within it. Other factors connected with extremes of Socio-economic Background could possibly affect school climate so strongly that teacher-principal relationships could be affected, but the teacher mobility factor is one of the most important.

The schools in the present study come from suburban areas around Vancouver, and while they do represent a range from the highest socio-economic areas to the lowest, they do not represent nearly as wide a range as would be found in a city like Chicago, and neither are they geographically remote enough from Vancouver to justify calling any of them rural, in the sense of being "way out in the sticks."

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Moreover, the amount of provincial control, particularly over such financial matters as teachers' salary, is enough to produce some, though not complete uniformity in standards of teaching. There would, therefore seem to be factors working for and against a relationship between teacher and principal relationships and Socio-economic Background. This study was designed to see if these relationships do exist.

D. Organizational Climate Description Questionnaire

Halpin and Croft's book, *The Organizational Climate of Schools*, contains more than just a description of their experimental work. It also contains a great deal of theoretical discussion. It would seem only logical in a study so closely allied to Halpin and Croft's to discuss both their experimental work and their theoretical discussions.

The actual construction of the Organizational Climate Description Questionnaire followed a pattern similar but not identical to the pattern followed by the members of the Ohio State Leadership Studies in constructing the Group Dimensions Questionnaire and the Leader Behavior Description Questionnaire. Instead of selecting items to fit into a set of predetermined factors or dimensions, as was done with the Leader Behavior Description Questionnaire, Halpin and Croft derived their original factors from a large number of questions by a process of factor analysis. However, the questions were not arrived at randomly. The selection of

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1 See in particular Chapter 5, "Whither?" in Halpin and Croft, *The Organizational Climate of Schools*.

2 See Chapter I, Part B.
questions and the eventual identification of eight factors, or subtests, were strongly influenced by a theoretical pattern which the researchers identified before they began their research. They identified three schemata for describing administrative relationships, "which recurred in the literature so frequently that we could ill afford to ignore them," and used these schemata as guidelines in selecting questions and identifying factors. They identified these schemata as follows:

... The first of these classifications focussed upon the locus, or the source, from which interactions stemmed. The second method of classification was evaluative in that it pertained to the "effectiveness" or "ineffectiveness" of the group (or organization). And the third basis of classification dealt with the relationship between the social needs of the individual as a group member, and the social control imposed upon as the price of being a member of the group. 3

The possible sources of interaction in the first classification are: leader behavior, group characteristics, procedures or actions by persons superior to the leader, and individual behavior. The second schema is based on a nomothetic-idiographic classification of behavior, similar to that of Getzels, and similar to the consideration and initiating structure factors identified in the Leader Behavior Description Questionnaire. This schema contains four pure, theoretical types: the effective organization, which has high task accomplishment and social needs satisfaction; the social-needs oriented organization; the task-oriented organization; and the ineffective organization, which satisfies neither factor. The third schema refers to the degree to which membership in the organization satisfies the individual's social needs, or stifles them by excessive social control. 4

These three schemata were used in the selection of questions, in the

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3 Halpin and Croft, p. 16.

4 Halpin and Croft, pp. 16-17.
tentative classification of items, and in the identification of dimensions arrived at statistically.

All questions were in the form of behavior descriptions. Each respondent was asked to indicate the extent to which each statement characterized his school according to the following categories:

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

It should be reiterated here that what is being measured is the respondent's perception, not objective facts.

Some sample questions are:

1. The principal insures that teachers work to their full capacity.
2. The principal is in the building before teachers arrive.
3. The principal helps teachers solve personal problems.

Halpin and Croft used several methods of collecting items. Some items were obtained from teacher interviews; some were obtained from graduate students; some were devised intentionally to fit in with theoretical expectations; and others were obtained from other questionnaires, particularly the Leader Behavior Description Questionnaire and the Group Dimensions Description Questionnaire. 

These methods of item collection yielded 1000 items. These were

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5 Halpin and Croft, p. 19.
6 Halpin and Croft, p. 19.
7 Halpin and Croft, The Organizational Climate of Schools, pp. 20-21.
screened for logical defects, such as lack of clarity, redundancy, and so on. Six hundred items survived this screening. They were divided into twenty-five subtests on logical and theoretical grounds, and these subtests were divided among four quadrants according to the "effectiveness" criterion earlier discussed by Halpin and Croft.

The 600 items were then divided into four 150 question versions of Form I of the questionnaire. "The items incorporated into each of the four forms were drawn from all four quadrants." From then on, the questionnaire went through a series of administrations and analyses designed to identify relatively separate and significant subtests, to select those questions which best described these subtests, and to identify the factors measured by the subtests. This was done by a series of cluster analyses and item analyses.

By the time that the questionnaire reached Form III, only eight dimensions remained, and the "effectiveness" taxonomy had been discarded. The remaining subtest factors fitted into four quadrants based on the source of interaction and social-needs - social-control criteria. The same taxonomy was used for Form IV, the final form of the questionnaire. Form IV was obtained by administering Form III, which contained eighty questions, to 1151 teachers in 71 different schools. By analyzing the matrix of correlation, Halpin and Croft were able to assign some items to other, more appropriate subtests. They also eliminated sixteen items, either because they were redundant or because they added little to subtest variance. The final form consisted of sixty-four items organized

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8 Halpin and Croft, p. 23.

9 See Appendix A for the completed questionnaire (Form IV) and for the breakdown of questions into subtests.
according to the following taxonomy:

Figure 2 - Eight Dimensions of the OCDQ, Form III (80 items)

<table>
<thead>
<tr>
<th>Dimensions Associated Primarily with Social-Needs Satisfaction</th>
<th>Group</th>
<th>Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV</td>
<td>Esprit</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td>Intimacy</td>
<td>Thrust</td>
</tr>
<tr>
<td>III</td>
<td>Disengagement</td>
<td>II Production emphasis</td>
</tr>
<tr>
<td></td>
<td>Hindrance</td>
<td>Aloofness</td>
</tr>
</tbody>
</table>

As can be seen, this taxonomy combines two of the possible "sources of interaction" with the social-needs - social control factor. It is tempting to try to classify the subtests as two matrices based on the "effectiveness" criterion, one for group characteristics and one for leader characteristics, but Halpin and Croft warn against this. It would, for example, be interesting if it were possible to define Thrust as the "effective" leader, Consideration as the Social Needs oriented leader, Production Emphasis as the task oriented leader, and Aloofness as the "ineffective" leader. Not all the subtests fit into this categorization when their question-content is analyzed, however, as will be shown, so this taxonomy does not fit the questionnaire as it presently exists.

The factors measured by these subtests are defined by analyzing the item content of each. They are as follows:

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10 Halpin and Croft, p. 27.

11 The indented descriptions of subtests are from Halpin and Croft, pages 29 and 32. I have interspersed my own comments among them.
Teacher's Behavior

1. **Disengagement** refers to the teachers' tendency to be "not with it." This dimension describes a group which is "going through the motions," a group that is "not in gear" with respect to the task at hand. It corresponds to the more general concept of anomie as first described by Durkheim. In short, this subtest focusses upon the teachers' behavior in a task-oriented situation.

The key item in this subtest is "The mannerisms of teachers at this school are annoying." Most of the other questions describe behavior which is either annoying ("Teachers ask nonsensical questions in faculty meetings") or illustrative of displeasure ("Teachers talk about leaving the school system"). All questions are illustrative of a negative attitude to task achievement.

2. **Hindrance** refers to the teachers' feeling that the principal burdens them with routine duties, committee demands, and other requirements which the teachers construe as unnecessary busy-work. The teachers perceive that the principal is hindering rather than facilitating their work.

It is not surprising that the teachers' complaint of too much non-professional work should manifest itself here, but it is surprising that it should appear as a measure of teacher behavior. However, this subtest does not claim that the teachers are responsible for this hindrance; merely that they feel it. It may be caused by the principal, the school system, or any combination of a number of sources. It could even be a figment of the imaginations of a group of permanent malcontents. All that the subtest does is measure perception of its presence or absence, not its cause.

The difference between Hindrance and Disengagement is that Hindrance measures the frustration of a supposedly existent desire for task

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12 Sample questions are obtained from pages 30 and 31 of Halpin and Croft, where they are divided into subtests. This form of the questionnaire is given in Appendix B of the present study.
accomplishment, while Disengagement measures a lack of this desire.

The items in the Hindrance subtest are quite straight-forward. The key item is: "Routine duties interfere with the job of teaching." Others refer to too much work in connection with "student progress reports," "committee requirements," and "administrative paper work." Two items in this subtest are scored negatively: "Sufficient time is given to prepare administrative reports," and "Instructions for the operation of teaching aids are available." Obviously a lack of these behaviors would hinder teachers.

3. Esprit refers to "morale." The teachers feel their social needs are being satisfied, and that they are, at the same time, enjoying a sense of accomplishment in their job.

This subtest is a fairly clear measure of "effectiveness." The key question refers to morale: "The morale of teachers is high." But the question which is most indicative of the whole subtest states: "The teachers accomplish their work with great vim, vigor and pleasure." This illustrates the combination of task accomplishment and social-needs satisfaction.

This subtest measures the degree of integration of nomothetic and idio­graphic behavior within the group. Several of its questions reflect Getzels and Thelen's concept of belongingness and identification as inte­grating forces. Belongingness is indicated in "Teachers at this school show much school spirit," while the "vim, vigor and pleasure" item shows identification of teacher satisfaction with task accomplishment.

4. Intimacy refers to the teachers' enjoyment of friendly social relations with each other. This dimension describes a social needs satisfaction which is not necessarily associated with task­accomplishment.

This subtest measures purely social relationships - the idiographic dimension of the group. The key item, "Teachers' closest friends are other faculty members at this school," is indicative of the whole subtest.
Principal's Behavior -

5. **Aloofness** refers to behavior by the principal which is characterized as formal and impersonal. He "goes by the book" and prefers to be guided by rules and policies rather than to deal with the teachers in an informal, face-to-face situation. His behavior, in brief, is universalistic rather than idiosyncratic. To maintain this style, he keeps himself - at least, "emotionally" - at a distance from his staff.

The principal is aloof socially, but he is very present in a formal, task oriented sense. For example, "Teachers are contacted by the principal every day," and "Faculty meetings are mainly principal-report meetings."

The key item is: "Faculty meetings are organized according to a tight agenda."

6. **Production Emphasis** refers to behavior by the principal which is characterized by close supervision of the staff. He is highly directive, and plays the role of "straw boss." His communication tends to go in only one direction, and he is not sensitive to feedback from the staff.

The key item here is: "The principal makes all class scheduling decisions."

Both Aloofness and Production Emphasis describe situations in which the principal is highly task-oriented, and exerts a high degree of social control. However, in Aloofness this control is exerted formally and impersonally, by means of rules and procedures, while in Production Emphasis the principal exerts his control personally and directly. For example, one item in the Production Emphasis subtest says "The principal talks a great deal."

7. **Thrust** refers to behavior by the principal which is characterized by his evident effort in trying to "move the organization." "Thrust" behavior is marked not by close supervision, but by the principal's attempt to motivate the teachers through the example which he personally sets. Apparently, because he does not ask the teachers to give of themselves any more than he willingly gives of himself, his behavior, though starkly task-oriented, is nonetheless viewed favorably by the teachers.
The key item is "The principal goes out of his way to help teachers," but most items deal with the task situation. The questions do indicate, however, that a principal scoring a high mark on Thrust is interested in both teacher welfare and task achievement. The behaviors described here would be accepted by most theorists as describing "effective" leadership. This principal "... sets an example by working hard himself ... uses constructive criticism ... is well prepared when he speaks at school functions ... explains his reasons for criticism to teachers, ... looks after the personal welfare of teachers," and so on. However, it must be remembered that this can only be construed as "good" behavior on theoretical grounds. There is not yet any proof that a principal who scores high on Thrust does indeed create a "good" educational situation for the children under his command. None of these subtests have yet been validated against external criteria of education or social relationships, so they must be looked on as objective descriptions as much as possible.

8. Consideration refers to behavior by the principal which is characterized by an inclination to treat the teachers "humanly," to try to do a little something extra for them in human terms.

As in all other cases, this subtest attempts to measure what the teachers perceive as happening, not what they think should happen. Some of the questions in this subtest would be looked on as human interest by some teachers, and meddling in private affairs by others. For example, the key item, "The principal helps teachers solve personal problems," and another "The principal does personal favors for teachers," were looked on by some teachers in the present study as examples of their principal's bad habit of meddling in their private affairs. What this subtest does measure is the extent of the principal's interest in his teachers as individuals, be this interest good or bad, appreciated or not.

Having thus established the final form of the questionnaire, Halpin
and Croft set out to identify within the questionnaire some factors more general than the subtests, because:

... whenever one constructs a battery of tests, one must be concerned with three standards: (1) that each test measures a relatively different "thing" or type of behavior; (2) that the battery, as a whole, taps enough common behavior to describe the pattern in terms of a few, more "General" factors (i.e., fewer, certainly, than the number of subtests); and (3) that the "general" factors which he extracts for a particular domain of enquiry are not discordant with those which previously have been reported in the literature. 13

In extracting these factors, Halpin and Croft were more interested in adding to their understanding of the subtests than in using the factors themselves. They factor analyzed the correlation matrix for the eight subtests, using an N of 1151, (that is, using individual rather than school results). They were able to identify three factors, which they called Social Needs, Esprit, and Social Control. Factor I is marked by high positive loadings on Consideration and Intimacy, the two factors of pure social needs satisfaction. 14 Factor II secures high loadings for Esprit and Thrust, and high negative loadings for Disengagement and Hindrance. This would seem to be a measure of acceptable task-orientation, or "effectiveness," and as Halpin and Croft note that most of the questions in this factor describe group characteristics, they call the factor Esprit. Factor III, on the other hand, correlates highly with Aloofness and Production Emphasis, both measures of the principal's attempts to exert social control.

These three factors definitely coincide with other factors already reported in the literature. Halpin and Croft refer to Schutz's three

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13Halpin and Croft, p. 38.

14Halpin and Croft, pp. 43-44.
factors, Affection, Control, and Inclusion. Affection is similar to the social needs factor, control to the social control factor, and inclusion to esprit, except that inclusion measures group interaction, whereas esprit measures teacher and principal interaction.  

The three factors also closely correspond to several theories already discussed. They fit the Source of Interaction taxonomy: Social Needs refers to individual interaction; Esprit refers to group interaction; and Social Control refers to principal-based interaction.

The factors themselves are similar to factors widely discussed in the literature. Social needs satisfaction is part of the idiographic dimension, while social control is an aspect of the nomothetic dimension as perceived by the individual. Esprit refers to an integration of nomothetic and idiographic demands.

Halpin and Croft accepted these factors as evidence of the usefulness of the subtests, but instead of concentrating on them, went on to analyze subtest results at the school level. They chose to do this by comparing subtest profiles rather than by factor analyzing relationships between all school subtest scores, because this could be done by the Q-technique, which is much less laborious than the R-technique for subtest analysis.

The procedure consisted of four steps: 1) Subtest profiles, consisting of double-standardized subtest scores were prepared. The scores were standardized normatively (across the sample of 71 schools) and ipsatively (across subtests, within schools).

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16 Halpin and Croft, p. 53.
2) The profiles were factor-analyzed, and three factors were extracted. Six factor loadings were recognized, and established as patterns for six "climates." 3) For each of the six sets of profiles, the mean profiles were computed for the profiles which registered highly on one factor only, (three positive correlations and three negative correlations). This produced six prototypic profiles, which Halpin and Croft designated as climates.

4) "We ranked these six Organizational Climates in respect to Openness versus Closedness,"\(^{17}\) then used the content of the subtests and profiles to describe the teacher and principal behavior described by each climate.

In effect, what Halpin and Croft did was to identify three factors, note that the school profiles seemed to cluster around high positive and negative correlations with only one factor, then use those profiles which correlated most closely with single factors to identify the factors. The last step was achieved by working out mean profiles for each of the six sets of results which correlated with single factors. They ranked these six climates "in respect to Openness versus Closedness" by ranking them according to their score on the Esprit subtest, which, as will be shown, correlated highly with the factor which was described as "Openness versus Closedness."

This is not normal procedure in a situation like this. For example, when Halpin identified his four factors in the Leader Behavior Description Questionnaire, he separated them, and worked out individual subtests to measure each one accurately. In this case, Halpin and Croft combined the factors, to form a continuum based on the Esprit subtest, because it appeared to them that most schools only correlated with only one factor.

\(^{17}\)Halpin and Croft, p. 54.
They also felt that the climates identified permanent enough patterns of relationships between teacher behavior and principal behavior to discard the differentiation between the two.

Table 1: Prototypic Profiles for Six Organizational Climates Ranked in Respect to Openness vs. Closedness

<table>
<thead>
<tr>
<th>Climates</th>
<th>Group's Characteristics</th>
<th>Leader's Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disengagement</td>
<td>Hindrance</td>
</tr>
<tr>
<td>Open</td>
<td>43</td>
<td>43</td>
</tr>
<tr>
<td>Autonomous</td>
<td>40</td>
<td>41</td>
</tr>
<tr>
<td>Controlled</td>
<td>38</td>
<td>57</td>
</tr>
<tr>
<td>Familiar</td>
<td>60</td>
<td>42</td>
</tr>
<tr>
<td>Paternal</td>
<td>65</td>
<td>46</td>
</tr>
<tr>
<td>Closed</td>
<td>62</td>
<td>53</td>
</tr>
</tbody>
</table>

The climates which correlate with the same factors are: open and closed, autonomous and paternal, and controlled and familiar.

From Table 1, it is possible to define the climates, and, eventually, the factors. The open climate is one in which the teachers feel a strong sense of pleasure in task-accomplishment. The high score on Esprit shows that there is a very high social needs satisfaction and task accomplishment. The average score on Intimacy shows that they do not feel that an undue closeness of personal relationships is necessary to achieve this high Esprit. The high Esprit is matched by low scores on Disengagement and Hindrance, indicating that the teachers do not have any lack of interest in their work.

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18 Halpin and Croft, p. 59. All scores are double-standardized with a mean of 50 and a standard deviation of 10.
in their work, and that they do not feel hindered by red tape. Correspondingly, the principal has a low score on Aloofness and Production Emphasis, a very high score on Thrust, and above average on Consideration. He is task-oriented, but in a manner that is acceptable to his staff. They do not feel that he attempts to impose too much control on them, and they feel that he is reasonably interested in their personal welfare. This all adds up to a climate which is very high on socially acceptable task accomplishment, and very low on the hindering influences of disinterest, red tape, and social control by the principal. The very high scores on Esprit and Thrust indicate that this is a climate in which task accomplishment and individual social needs are well integrated, and both are satisfied without any exceptional amount of close social interaction or social control.

The Autonomous Climate is distinguished by "the almost complete freedom that the principal gives to teachers to provide their own structures-for-interaction as well as to find ways within the group for satisfying their social needs." The principal attempts to exert a considerable amount of control, but he does it impersonally, by means of rules and directives (High Aloofness). He exerts very little personal control over the teachers, however, and leaves their social interactions up to them (low Production Emphasis). The teachers give him slightly above average on Thrust, indicating that they feel that he gets the job done in a socially acceptable manner, and an average score on Consideration. The teachers in the autonomous climate, like those in the open climate though not to so great an extent, score high on Esprit, and low on Disengagement, but they also score high on Intimacy. The group balances the principal's Aloofness with a high degree of social interaction (intimacy), and they feel

19 Halpin and Croft, p. 62.
that they are accomplishing their tasks and satisfying their social needs at the same time.

The Controlled Climate is marked by the principal's very high Production Emphasis. This would be expected to produce "a press for achievement at the expense of social needs satisfaction." The principal scores close to average on the other subtests. The teachers are very low on both Intimacy and Disengagement, and above average on Hindrance and Esprit. They achieve a fairly high level of Esprit without Intimacy, despite too much red tape and busy work (some of which probably comes from the principal), and because of their involvement with their work (low disengagement).

The Familiar Climate is marked by "the conspicuously friendly manner of both the principal and the teachers. Social-needs satisfaction is extremely high, and little is done to control or direct the group's activities towards goal achievement." The principal has low scores on the subtests which measure social control - Aloofness and Production Emphasis, and has a correspondingly high score on Consideration. Despite this marked lack of nomothetic tendencies, he still scores slightly above average on Thrust.

The teachers show low scores on Hindrance, and high scores on Disengagement and Intimacy, once again indices of low social control and high social needs orientation, yet still have an average score on Esprit. It would seem likely that "the Esprit that is found in this climate is one-sided in that it stems almost entirely from social-needs satisfaction." 

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20 Halpin and Croft, p. 63.
21 Halpin and Croft, p. 64.
22 Halpin and Croft, p. 64.
The Paternal Climate is the opposite end of the scale to the Autonomous Climate. The paternal principal has a very low score on Aloofness. He prefers to exert his social control directly and personally (high Production Emphasis). He also scores above average on Consideration, but only average on Thrust. Halpin and Croft feel that he is not successful: "The Paternal Climate is characterized by the ineffective attempts of the principal to control the teachers as well as to satisfy their social needs. In our judgment, his behavior is 'non-genuine' and is perceived by the teachers as non-motivating." 23

The Closed Climate scores lower than any other climate on Esprit and Thrust. Neither the group nor the principal is effective in satisfying either social needs or task achievement. The principal attempts to exert control both directly (Production Emphasis) and by means of rules and regulations (Aloofness), but ignores the teachers' social needs (low Consideration). The teachers, although they mix freely (high Intimacy) have no interest in their work (high Disengagement) and feel that they are overburdened by routine duties (Hindrance). No one is happy, and no one is accomplishing anything. This is an extreme climate. It is defined as closed, in that there is no room or desire for effective communication. Halpin and Croft describe the principal's efforts at control as "inauthentic" in that he tries very hard to exert control, without either giving effective leadership or letting anyone else give it. His nomothetic strivings result in control rather than leadership, and act against both social needs satisfaction and task accomplishment.

These are the six climates. It is all too easy to describe them, as has been done, largely intuitively from the content of the subtests, but this is two steps removed from reality. It would be wise now to analyze

23 Halpin and Croft, p. 65.
the three factors with which these six climates correlate. Halpin and Croft did do an R-technique analysis of the school subtest results. The results of this analysis are given in Appendix D. It is interesting to compare the results obtained in this method with those obtained by studying the subtest profiles. The profiles can be analyzed by reference to those subtests which show great differences between climates supposedly correlating positively and negatively with the same factor. For example, "by reviewing the way in which the Open and the Closed Climates differ, we can understand better what Factor I represents."

The three subtests in which the Open and Closed Climates differ most markedly are Disengagement, Esprit and Thrust, with Esprit and Thrust being higher in the Open Climate, and Disengagement lower. Halpin and Croft relate this to the "genuineness" or "authenticity" of behavior, in that the task-oriented behavior described by this factor is more real, and therefore more effective. That is, it corresponds to the real characters and social needs of the individuals involved, and enables task accomplishment and social needs satisfaction to become integrated. Perhaps the term Integration might better describe this factor. Esprit and Thrust both are measures of integration of nomothetic and idiographic demands. Disengagement measures a complete lack of integration. Many of the behaviors in the Disengagement subtest are characteristic of Getzels' disintegrated personality - a personality unwilling to fit into the organization. Halpin and Croft call this factor "Authenticity" or "Openness." They use these terms frequently,

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24 Halpin and Croft, p. 74.

and use scores on Esprit as a measure of this factor to rank all the climates with respect to "Openness versus Closedness."

This analysis agrees with the analysis by the R-technique. The R-technique analysis shows Disengagement, Esprit and Thrust as correlating highly with Factor I, Disengagement correlating negatively and the other two positively.

Halpin and Croft call the factor which correlates with the Autonomous and Paternal Climates Factor III, and the present study will continue this. Halpin and Croft describe this factor as referring to the source of leadership acts. In an Autonomous Climate, the principal's Aloofness and the high Intimacy of the staff combine to give each a source of potential leadership. In the Paternal Climate, on the other hand, the principal's emphasis on Production Emphasis, combines with the low Intimacy of the teachers to restrict teacher participation in leadership initiation. This factor is not as clear as the "Authenticity" factor, however. The R-technique shows a correlation with Aloofness, which is evident in the profile analysis, and with Consideration, which is not. The correlation with Aloofness is positive, while that with Consideration is negative. This would describe a factor which ranged from strong social control, by means of rules and regulations and accompanied by a thwarting of individual needs, to strong social needs orientation. There are also unexplained relationships with Disengagement, which might result in part from contamination by Factor I, although they seem too strong to be entirely caused by this, and lesser relationships with Production Emphasis and Intimacy, which might arise from Factor II. Halpin and Croft do little to justify their description of Factor III as; "Leadership initiation: The latitude within which the group members, as well as the leader, can initiate leadership acts." 26

26 Halpin and Croft, p. 76.
Factor II is more distinct. Both the R-technique and the profile analysis show significant correlations with Intimacy (negative) and Production Emphasis (positive), and a lesser correlation with Hindrance (positive), although for some reason, Halpin and Croft do not recognize the high loading on Production Emphasis.\(^{27}\) This would tend to indicate a factor describing behavior ranging from strong personal control by the principal, to strong socially oriented control by the staff group. Halpin and Croft describe this factor as; "Satisfaction: The group members' attainment of conjoint satisfaction in respect to task accomplishment and social needs."\(^{28}\)

Factor II is also confused by a high relationship with Disengagement in the profile analysis.

These three factors have not been accurately defined. It does seem very likely that three factors do exist, and Halpin and Croft have been willing to accept this, and place their emphasis on their climate patterns rather than doing anything to clarify the factors themselves. Their climate patterns are based on the belief that most schools would correlate with only one factor, thus making it possible to place all climates on a continuum ranging from Open to Closed. Logically, it would seem that schools would correlate with all three factors, and should be measured with respect to all three. One of the purposes of the present study is to determine whether schools tend to correlate with only one factor, or

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\(^{27}\)Halpin and Croft, p. 129. In the table for the R-technique analysis, which is reproduced in Appendix D of the present study, Halpin and Croft underline "those loadings which most characteristically define the three major patterns of subtest scores," but do not underline the very high loading (.76) of Factor II on the Production Emphasis subtest. This may just be a typographical error.

\(^{28}\)Halpin and Croft, p. 76.
with all three, that is, whether the factors are separate factors, or points on a continuum.

Another question which is not satisfactorily answered by Halpin and Croft is whether it is profitable to talk of fixed patterns of teacher and principal behavior. Perhaps it might be better to keep these two separate, as there may not be fixed relationships between them. However, since this question was not considered in the present study, it must remain for future researchers to attack.

Chapter five of *The Organizational Climate of Schools* contains some self-criticism, some limitations on results, discussion of theoretical questions raised by the results of Halpin and Croft's study, and some possible directions for future research, both specific and general.

Among the criticisms and limitations are several relating to the scope of the original study. Halpin and Croft's study was originally intended as a feasibility study only.\(^\text{29}\) As a result, the questionnaire is still far from perfect, and the patterns of results are not in any way norms. The questionnaire will have to be administered to many more schools before anything approaching norms will be identified, and before this is done, it will have to be expanded. Several of the subtests do not contain enough questions to be able to measure accurately the factors which they are designed to measure, or to permit any accurate tests of reliability. However, this could be remedied, as the subtests are now clearly defined, and it would seem possible to add questions to them.

Another limitation stems from the fact that the questionnaire has not been validated against external standards. The only tests of reliability have been tests of internal consistency. One way in which an external

\(^{29}\text{Halpin and Croft, p. 77.}\)
measurement could be obtained would be to send people into the school, disguised as teachers, and have them assess the climate, then administer the questionnaire to the staff. "Then a group of qualified judges should be asked to do a 'blind matching' between the case reports and the OCDQ profiles."  

Halpin and Croft also point out that the relationships between subtests which make up factors may be curvilinear. They feel that the use of subtest patterns overcomes this, but give no solution to the problem in connection with the factors themselves. They also point out that the double standardized results have had an artificial pattern forced on them by the double standardization, and it is important not to seize on this pattern as a discovery, proved by experimental results. For example, in standardizing the results, they have limited the ranges of these results, and thus increased the possibilities of correlations between them. It would be wrong to think of correlations caused by this as being significant in terms of experimentally proven phenomena. Halpin and Croft point out that the climate profiles are still very crude, being drawn only from the four to six schools which correlated most closely with each theoretical profile. They also warn, correctly, that the vignettes which they use to describe climates are exaggerated.

A very necessary warning is given against taking questionnaire results as descriptions of principal behavior. Halpin and Croft see the principal's behavior as "a necessary but not a sufficient condition in determining the school's climate." Climate is the result of interaction much more than individual behavior, and the climate factors measured by

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30 Halpin and Croft, p. 83.

31 Halpin and Croft, p. 86.
the Organizational Climate Description Questionnaire describe the teachers' perception of behavior; not pure behavior.

This leads to a list of factors not measured by the questionnaire. These include: the effect of the group on the leader; the effects of the outside social system on the school; demographic and socio-economic factors; biographical and personality characteristics; political pressures; and a great many more factors. In the realm of personal relationships, for example, a teacher's relationships with her students may totally overshadow for her any effects of teacher and principal relationships.

Another limitation stems from the fact the Organizational Climate Description Questionnaire is descriptive, and may not be easily translated into action. If you decide that an Open Climate is desirable, how do you achieve it? How do you "Open" a "Closed Climate" once you have identified it? Which is more important, to "be authentic" or to be perceived as being authentic?

These questions lead Halpin and Croft into a highly theoretical discussion of authenticity. They discuss authenticity with respect to four major conceptual frameworks:

1. The problem of marginal man;
2. The problem of other-directedness and of societal pressures which impose conformity upon the individual;
3. The problem of person to person relations in cross-cultural exchange;
4. The crisis of identity.32

Halpin and Croft predict that men in marginal positions will tend to behave in inauthentic ways. For example, the school principal, whose authority and power to command are often quite limited may react by

32Halpin and Croft, p. 95.
overexerting what authority he has. The principal who is insecure in that he is not sure that what he is doing justifies his being described as the school's educational leader may attempt to "lead" where he should leave alone. The result would be unnecessary social control - inauthenticity.

The problem in connection with other-directedness is the conflict between being authentic and being perceived as being authentic. Halpin and Croft take the point of view of inner direction when they say:

... in an other-directed society in which man's actions are gauged mainly either by expediency or by a desire to conform to the group, it is difficult to find a stable standard against which "authenticity" can be measured.

The third conceptual framework deals with crosscultural exchange. Halpin and Croft see the danger that insecurity might result in distorted communication. The American in Europe who is insecure in his own self-concept will tend to be on the defensive, and react against anything which differs from his own weak concepts. He will gather only oversimplified and probably erroneous impressions about the people he meets, and he will, in his inauthenticity, give a false impression of Americans. This concept could be applied with great profit to several of Henry James's novels. Another example of inauthenticity in crosscultural exchange would be the professor of education who reacts defensively to the current trend to scorn educational research, and attempts to paint an unreal picture of his own research, but only succeeds in displaying an air of inauthenticity.

The "crisis of identity" is not a new concept. It is related to the search for something higher than basic needs, which has been so important in the development of civilization. This something higher has been given

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33 Halpin and Croft, p. 97.

34 Halpin and Croft, p. 97.
many names and many descriptions. Halpin and Croft refer to Schachtel, who sees "focal attention" and "the tool, the distinctively human equipment, by means of which the capacity for object-interest can be realized."\(^{35}\)

Focal attention gives man both the ability and the desire to search beyond the bounds of pure survival. It is the faculty which causes him to ask "Who am I? What is this world around me? What can I hope for? What should I do?"\(^{36}\) But this enquiry can not take place unless the basic needs have been satisfied. In this Schachtel discusses a factor very similar to the anxiety factor. Man can only move beyond his social needs if those needs have been satisfied and he feels secure that they will continue to be satisfied - that is, if he no longer feels anxiety.

Halpin and Croft extrapolated this to hypothesize that an excessive anxiety factor in the members of an organization will lead to inauthentic behavior. Particularly in the case of a school principal; he will not be able to view the problems of the school rationally, from the point of view of education rather than from the point of view of his own individual needs, if he has a high anxiety factor caused by his insecurity in his position. He will spend more time worrying about whether he is "leading" than he will spend worrying about education.

Next, Halpin and Croft describe some methods of validating their climate descriptions and increasing understanding of them. They propose a system of construct validation which amounts, basically, to making


predictions based on the factors to be validated, and testing to see if these predictions are accurate. In this manner, factors which are not measurable can be used to predict measurable factors, and can thus be validated.37

Halpin and Croft suggest obtaining two groups of schools; one scoring high on "Openness," and one scoring high on "Closedness." These schools could then be compared on behaviors predicted from climate descriptions.

One measurable behavior might refer to personal characteristics. For example, "we would expect that the faculty in the Open Climate would, on the whole, score lower in concretism, higher in intraception, and higher in the ability to accept and deal with their own emotional problems."38

Open Climates would be expected to foster more complex "axes of reference ... personal role-constructs."39 There would probably be greater congruence between non-verbal and verbal communication in an Open Climate.40

Principals in schools with Open Climates would be expected to use less cliches, slogans, platitudes and jargon than those in Closed Climates.

Seeman's measures of status-attitudes would be expected to correlate with the Halpin-Croft measurement. Seeman defines inauthenticity as: "the use of irrelevant or inappropriate status references, that is, overreference to the fact of a given status incumbency."41

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38 Halpin and Croft, p. 107.

39 Halpin and Croft, p. 108.

40 Halpin and Croft, p. 108.

41 Halpin and Croft, p. 109, quote Melvin Seeman, Social Status and Leadership: The Case of the School Executive, (Columbus, Ohio: Bureau of Educational Research and Service, Monograph No. 35, The Ohio State University, 1960), p. 103.
Other factors which might be expected to correlate with climate factors are risk-taking and conformity. Another measuring device which measures behavior applicable to climate is Ryans' Teacher Characteristic Study. 42 This describes teacher behavior in terms which might be expected to correlate with Organizational Climate Description Questionnaire descriptions.

Halpin and Croft end their report by appealing to educators to utilize their results, particularly in the field of teacher education and principal education. They feel that inauthenticity in "Mickey Mouse" courses and in methods of teacher selection and reward drive many of the best teacher-prospects away from education.

E. Further Organizational Climate Research

Recent studies in Alberta have sought to validate the OCDQ, and study it more closely.

Dr. John H. M. Andrews, in a paper presented to the American Educational Research association, discusses "Some Validity Studies of the OCDQ." 1 He says that "The method used here is the construct validity approach." 2 He studied the validity of both the subtests and the climates. He found that "the overall Climate categories may be considered as reasonably valid descriptions of commonly occurring patterns of certain aspects of principal-staff interaction," but that "The term Organizational Climate ... is so much broader than the actual measures as to be quite

2 Andrews, p. 2.
misleading." But he later says that "in many relationships the Climate variable acts merely as a somewhat blurred Esprit score."4

Andrews is much more positive in his statements about the subtests: "... it is concluded that the subtests of the Organizational Climate Description Questionnaire provide reasonably valid measures of important aspects of the leadership of the school principal in a perspective of interaction with his staff."5

Andrews' general conclusions seem to be that the subtests are valid, and that the climates seem to be measuring something, but that the ranking of climates on the basis of Esprit introduces an extremely unclear theoretical bias into experimental results. He obviously feels that the subtests are more reliable than the climates.

Several other discussions of the Alberta OCDQ studies are included in the CSA Bulletin for July 1965.6 Dr. Andrews gives a summary of his validity studies, and decides subjectively that Esprit, Intimacy, Thrust, and Consideration are probably desirable, Disengagement and Hindrance are not desirable, and it is difficult to assess the desirability of Aloofness and Production Emphasis.7


4 Andrews, p. 37.

5 Andrews, p. 38.


R. Plaxton studied relationships between principal personality and OCDQ results. He found relationships "between personality variables and four of the eight climate subtests: Production Emphasis, Aloofness, Thrust, and Hindrance." 8

D. E. Millar studied relationships between organizational climate and pupil achievement. He found "... little relationship between the global concept of Organizational Climate and pupil achievement," but "significant relationship between certain OCDQ subtests and the achievement criterion." 9 He found that high Intimacy, low Aloofness, high Consideration, and low Production Emphasis tended to correlate with high pupil achievement. His definition of pupil achievement is based largely on examination passing ability, however, and is not necessarily the best definition.

Millar's results are interesting because they seem to indicate that a high degree of social control affects student achievement detrimentally.

W. G. Schmidt compared LBDQ results with OCDQ results, to study possible relationships between "Organizational Climate and Leader Behavior." 10 He found that "There are a number of significant correlations between OCDQ and LBDQ dimensions," (on the subtest level). However, there were fewer correlations between climates and LBDQ scores. "This leads one to suspect that since there were a number of correlations between the


dimensions (subtests) of the instruments used, the climates, in contrast to the dimensions, are a less useful description of the personality of the school.\textsuperscript{11}

The final study in \textit{The CSA Bulletin} is a discussion by Alan Brown of "Two Strategies for Changing Climate."\textsuperscript{12} This is somewhat premature, since the OCDQ is not yet satisfactorily validated, and the climates have been questioned.

The two "strategies of change" which Brown discusses are the "clinical strategy" and the "growth-centred strategy." The "clinical strategy" is based on the following pattern: knowledge of the organism, diagnosis, prognosis, prescription and follow-up. Basically, it consists of analyzing the situation, prescribing (and taking) action. All these steps require an understanding of organizational climate.\textsuperscript{13}

The "growth-centred strategy" is based on the assumption that all organizations inevitably change. By the use of such devices as "change agents," it is possible to direct that change. Once again, an understanding of organizational climate is invaluable to this method of producing change.\textsuperscript{14}

These two "strategies of change" are not mutually exclusive. They can, and should, be used side by side. Both of them require, or would be greatly facilitated by, an understanding of Organizational Climate.

\textsuperscript{11}Schmidt, p. 61.


\textsuperscript{13}Brown, pp. 67-70.

\textsuperscript{14}Brown, pp. 72-76.
Appendix B of the CSA Bulletin lists OCDQ studies presently under way in Alberta. These seem to reflect a growing interest in and understanding of the concept of Organizational Climate.

The Alberta studies are somewhat premature in that the OCDQ is still far from perfect, and they are not large enough to generalize from, but they do raise several interesting points. They show what can, and no doubt will be done with the concept of Organizational Climate. And they seem to indicate that Halpin and Croft's climate pattern is much more difficult to justify than their subtests.

F. Metropolitan Vancouver: An Overview For Social Planners

This survey gives several sociological maps of the Metropolitan Vancouver area, showing variations in sociological characteristics by census tracts. Of interest in determining the Socio-economic Backgrounds of schools is the map on page seven, which shows the status of each census tract on a five level "Socio-economic Index." Mr. Bell also gives, in table form, the data from which he calculated his index. The source of these data is the 1961 Canadian Census, as reported in: "Population and Housing Characteristics by Census Tracts," Catalogue No. 95-537, Census of Canada, 1961.

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2Bell, Metropolitan Vancouver, p. 54.

3Bell, Metropolitan Vancouver, p. 1.
The socio-economic index is based on the following factors:

1. Income - percent of male labor force with wage and salary income $6,000 or more.

2. Occupation - percent of male labor force in managerial or professional occupations.

3. Education - percent of total population, not attending school, 5 years of age and over, who have attended university. 4

One weakness of this method of determining socio-economic status is that it uses a single cut-off point for each factor. This does not take into account other variations within the factors. For example, the income factor, based on an arbitrary cut-off point of $6,000 does not take into account variations among those earning less (or more) than $6,000. They could all be out of work, or they could all be earning $5,000. However, while this argument would probably invalidate this scale as an accurate measurement of individual status, it is perfectly satisfactory for placing areas on a five-point scale. So are his data, secured as they are from census tracts.

Bell refers to a study by J. A. Kahl and J. A. Davis5 to substantiate his scale. 6 Kahl and Davis have done a factor analysis which divides most types of socio-economic scales into two groups: those which measure environmental factors, such as area rating, parents' education, and house

4Bell, Metropolitan Vancouver, p. 54.


6Bell, Metropolitan Vancouver, p. 54.
rating. Census occupation and education correlate highly (.84 and .75 respectively) with the first factor. Income correlates relatively poorly with both factors. This does not mean that income is not a factor of socio-economic status. It merely means that it correlates equally with both groups of factors, and can probably be looked on as a separate factor. This means that Bell's scale will give a measure of socio-economic status which emphasizes personal characteristics (of the children's parents) and also includes financial status. This is quite appropriate for the present study.
CHAPTER II  METHODOLOGY

A. The Problem

The purpose of this study is twofold: to test the Organizational Climate Description Questionnaire and the Climates which it measures in elementary schools in the Lower Mainland area of British Columbia; and to study possible relationships between scores on this questionnaire and the Socio-economic Backgrounds of the schools tested.

More specifically, the study is designed to answer the following questions:

1. Are the Organizational Climate Description Questionnaire items valid and applicable to the British Columbia situation?
2. Do the Organizational Climate Description Questionnaire subtests measure commonly perceived aspects of teacher and principal relationships?
3. Do the school subtest scores correspond to Halpin and Croft's pattern of Climates?
4. Do the school subtest scores correspond to any pattern of Climates?
5. Is there any relationship between Organizational Climate and Socio-economic Background?

B. Hypotheses

The following, in null form, are the hypotheses which this study seeks to test:

1. The Organizational Climate Description Questionnaire items do not apply to the British Columbia situation.
2. The Organizational Climate Description Questionnaire subtests do not measure commonly perceived aspects of teacher and principal relationships.

3. The school subtests scores do not correspond to Halpin and Croft's Climates.

4. The school subtest profiles do not fit into any patterns or climates.

5. In the schools tested, there is no significant relationship between Organizational Climate, as measured by the Organizational Climate Description Questionnaire, and Socio-economic Background, as given in Metropolitan Vancouver: An Overview for Social Planners.¹

C. Criteria For Rejection Of Null Hypotheses

(Numbers correspond to numbers of hypotheses.)

1. "The Organizational Climate Description Questionnaire items do not apply to the British Columbia situation."

Items will be evaluated individually only. Teachers were asked to comment on questions which gave them difficulty, or which seemed in any way vague, unclear or ambiguous. The criterion for acceptance or rejection of the null hypothesis is purely subjective. This part of the study was designed mainly as an attempt to identify items which describe behavior not applicable to the British Columbia school system, although it should also detect any logical difficulties which may exist. Items not queried will be accepted as valid and applicable.

2. "The Organizational Climate Description Questionnaire subtests do not measure commonly perceived aspects of teacher and principal relationships."

This hypothesis will be tested by correlating the scores of the odd and even numbered respondents, paired by school, on each subtest. Any correlation significant to the .01 level will be sufficient for rejection of the null hypothesis for that subtest.

3. "The school subtest scores do not correspond to Halpin and Croft's climates."

This hypothesis will be tested by the same criterion that Halpin and Croft used. Any school with a similarity score of less than or equal to 45 on any climate will be deemed to have that climate. The pattern of climates will be accepted, and the null hypothesis rejected, if it describes eighty per cent of the schools; that is, sixteen out of twenty.

4. "The school subtest profiles do not fit into any patterns or climates."

Since the present study uses a smaller sample than Halpin and Croft used (approximately one third as many schools), this null hypothesis will only be rejected if (a) null hypothesis three is rejected, or (b) two or less climates or subtest profiles can be identified which satisfy Halpin and Croft's criterion for at least eighty per cent (sixteen) of the schools.

5. "In the schools tested, there is no significant relationship between Organizational Climate, as measured by the CCDQ, and Socio-economic Background, as given in Metropolitan Vancouver."

The simplest statistical correlation between climate and
Socio-economic Background is less than satisfactory. This is to obtain a simple product-moment correlation between climate score, numbered from one (Open) to six (Closed), using the climate which each school most closely approaches, and Socio-economic Background, numbered from one to five according to Bell's scale. This will be done, but more reliance will be placed on intuitive and subjective attempts to hypothesize relationships which could be studied more closely later. A correlation significant to the .01 level will be accepted as sufficient for rejection of the null hypothesis.

D. Delimitations

1. Any criticisms of questionnaire items will be designed to point out weaknesses only. Any attempt to change possible defective items will be avoided because of the problems this would create in respect to subtest and climate characteristics.

2. The degree to which the subtests measure commonly perceived aspects of Organizational Climate should not be over-generalized. The results obtained here will apply only to the schools tested. They may be generalized with some confidence to the entire suburban area, but not any further. They describe characteristics of the teachers, not of the questionnaire.

3. Care must be taken in generalizing any results with respect to climates. A sample as small as that used in this study may point to certain general conclusions, but it can in no way prove them. It will not be possible to accept or reject the climates on the basis of this study. It may be possible to indicate certain possible strengths or

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2L. I. Bell, Metropolitan Vancouver, p. 7.
weaknesses, which may or may not be backed up by theoretical considerations.

4. Any profile patterns observed will apply only to the schools tested and can in no way be treated as indicative of norms. They may indicate patterns of behavioral similarities on a local level.

5. This study is designed to measure relationships between climate and Socio-economic Background, not to show why they do or do not exist.

6. This study does not attempt to measure "social inequality in education;" only one factor which could possibly cause some inequality.

E. Procedures

1. The schools to be tested were selected with the aid of the Superintendents of Schools in the Districts involved. All Superintendents were highly co-operative, and assisted in the selection of schools on the basis of Bell's socio-economic chart. The Superintendents were able to ensure that the schools selected were indeed representative of the larger area on Bell's chart from which they were selected. Four schools were selected from each of Bell's five socio-economic areas.

2. The procedures followed in contacting principals varied. In most cases, the Superintendent informed the principals involved that this study had his support, and that the researcher would arrange a suitable time with them. In other cases, the Superintendent set a time, and then checked with his principals to see if this was suitable for them. In every case, however, the principal was contacted by the author before the questionnaire was administered, either to explain the questionnaire and set a time, or to make sure that the principal knew
when and how the questionnaire would be administered.

3. The actual administration was hampered by the fact that it was conducted in the last two weeks of the school term. However this was largely overcome by administering the questionnaire at recess, in the morning, at noon, and after school, making it possible to administer the questionnaire to as many as four schools in one day.

4. The questionnaire was administered to the teachers as a supervised group. Principals were asked to leave the room, although no insistence was placed on this as long as they did not look at teachers' questionnaires. Teachers were asked not to discuss their answers, and this was largely observed, although most staff rooms found at least one question which they felt they had to comment on. This was quite amusing. It seemed that there was at least one question which struck home forcibly in each staff room, and caused great mirth.

5. Because of the group administration and personal supervision, it was possible to administer the questionnaire to almost all the teachers in all schools. Except for the few teachers who were absent due to illness, the only teachers out of a possible 224 who did not complete the questionnaire were two who were on supervisory duty, one who handed in an incomplete questionnaire, and one who refused to answer the questionnaire. One paper was also lost, as in one school one less questionnaire was received than there were teachers, and every teacher claimed that he had handed his questionnaire in.

6. The only other problem was the fact that it became necessary, on two occasions, to administer the questionnaire to three schools at

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3 The form of the questionnaire that was administered is given in Appendix A.
approximately the same time. This meant that it was necessary to begin
the administration in one school, leave it before the teachers had
completed their questionnaires, move on to the second school, and finally
to the third school, where the principal had already handed out the
questionnaires. However, all people involved co-operated fully, and no
serious problems were involved. This did mean, however, that these
teachers were not supervised for the full time that they were filling
in the questionnaire.

7. The questionnaire was successfully administered to 219
teachers in twenty schools in five socio-economic areas in the Lower
Mainland area of British Columbia.

8. The data were then organized, analyzed and studied as
described in the later chapters of the present report. Details of
organization and analysis of data are included in Appendix C.
CHAPTER III  RESULTS

A. Items

Null hypothesis 1: "The Organizational Climate Description Questionnaire items do not apply to the British Columbia situation."

The following, with comments, are the items which teachers criticized. Numbers correspond to those used in the form of the questionnaire which was administered. ¹ It should be noted here that the form of the questionnaire used was identical to that used by Halpin and Croft, except that the word "faculty" was changed to staff in all except items 70 and 71, and the word "supervisor's" was changed to "superintendent's" in item 76: "Teachers are informed of the results of a supervisor's visit."

Item 19: "Extra books are available for classroom use." The term "extra books" was criticized as being vague. This was an isolated criticism, however, and is not justified.

Item 23: "In staff meetings, there is a feeling of 'Let's get things done.'" Some teachers interpreted "Let's get things done" as meaning "Let's get things over with" rather than "Let's get things accomplished." This problem was encountered by enough teachers to make it serious. While it may not sound so euphonious, "Let's get things accomplished" might be less open to misinterpretation.

Item 29: "Teachers have fun socializing together during school time," worried some teachers. They did not know whether this applied to time between classes or time when they should be teaching, and this

¹See Appendix A.
made a great difference to their responses. Since this question is
designed to measure social interaction (Intimacy), and not whether
social interaction is perceived as interfering with work, "Teachers
have fun socializing together between classes" or words to that effect,
might be better.

Item 42: "Teachers at this school stay by themselves" was
described as vague. Teachers complained that it did not say whether
this meant in school or out of school. Since it is a measure of Dis-
engagement, it seems likely that it means in school, and the wording
should be changed accordingly.

Item 50: "Teachers socialize together in small select groups."
Inadvertently, the word "select" was missed out in the version of the
questionnaire used for this study. This caused some problems, but none
which could not be solved by the inclusion of "select."

Item 51: "The principal makes all class scheduling decisions."
This caused a great deal of trouble. Most teachers felt either that
the term "class scheduling decisions" was vague, or that such decisions
belonged entirely to the principal because of some inviolable procedure
adhered to throughout the province. However, the claim of vagueness
was isolated and probably not justified, and the claim that no one else
ever makes or has any opportunity to make class scheduling decisions
merely indicates that most principals take this duty entirely on them-
selves. This may be a provincial custom, but there is no law which
says the principal can not consult his teachers in making such decisions.

Item 58: "Teachers help select which courses will be taught."
Most decisions on curriculum are made at levels above the school in
British Columbia, so this item is not strictly applicable. Teachers
were asked to answer it on the basis of the amount of teacher participation in any curriculum decisions which were made within the school. The difficulties with this item were purely the result of local conditions, and were not insurmountable.

Item 62: "The principal tries to get better salaries for teachers." Once again, this is not normally part of the principal's duties in British Columbia. Teachers were asked to answer this item on the basis of the behavior which they would expect if this were part of their principal's duties. The item was answered satisfactorily on this basis.

Item 64: "The rules set by the principal are never questioned." Many respondents were confused by the fact that this item is in a negative form. If the principal's rules are never questioned, the correct response to this item is "very frequently occurs." It would be less confusing to state this item positively ("The rules set by the principal are often questioned,") and then score it negatively.

Items 70 and 71: In both these items, the word "faculty" was not changed to "staff," due to typographical errors. These items caused enough queries to make it obvious that changing this word was desirable in administering the questionnaire to British Columbia teachers.

Item 76: "Teachers are informed of the results of a superintendent's visit." This question had already been changed by changing "supervisor's" to "superintendent's." However, a great many teachers claimed that they were never visited by their superintendent. Some teachers also did not realize that the visits referred to were presumably visits for the purpose of inspection. This item would have been answered much more easily if it had read: "Teachers are informed of the results of a principal's inspection." This refers to behavior within the school
which is likely to happen relatively frequently, and it also makes the purpose of the visit more specific.

In summary, it should be noted that the criticisms noted are not serious, and while they might cause difficulties if respondents were answering the questionnaire by themselves, they are easily overcome when the questionnaire is administered by someone who is familiar with it.

B. Subtests

Null hypothesis 2: "The Organizational Climate Description Questionnaire subtests do not measure commonly perceived aspects of teacher and principal relationships."

Table 2 shows that there is a wide variation in individual teachers' perceptions of organizational climate. Only one subtest (Thrust) showed a correlation between the scores of odd and even numbered respondents significant at the .01 level, and four subtests did not even show a correlation significant at the .05 level (Disengagement, Hindrance, Intimacy, and Production Emphasis).

This does not mean that Organizational Climate does not exist. It merely means that in the schools tested, there was a wide variation in teachers' perceptions of climate. In terms of the hypothesis, it cannot be said that the OCDQ measures commonly perceived factors. Rather, it seems to measure something about which there is wide difference of opinion among members of the same staff.

Obviously, the present sample is too small to generalize from. It is possible that the observed variation of perception could be a local characteristic.
Table 2: Coefficients of Correlation\(^a\) between Odd and Even Respondents, Paired According to School, on the Eight Subtests of the Organizational Climate Description Questionnaire

<table>
<thead>
<tr>
<th>Subtest</th>
<th>Correlation</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Disengagement</td>
<td>.18</td>
<td>NS</td>
</tr>
<tr>
<td>2. Hindrance</td>
<td>.17</td>
<td>NS</td>
</tr>
<tr>
<td>3. Esprit</td>
<td>.21</td>
<td>.05</td>
</tr>
<tr>
<td>4. Intimacy</td>
<td>.13</td>
<td>NS</td>
</tr>
<tr>
<td>5. Aloofness</td>
<td>.25</td>
<td>.05</td>
</tr>
<tr>
<td>6. Production Emphasis</td>
<td>.09</td>
<td>NS</td>
</tr>
<tr>
<td>7. Thrust</td>
<td>.48</td>
<td>.01</td>
</tr>
<tr>
<td>8. Consideration</td>
<td>.21</td>
<td>.05</td>
</tr>
</tbody>
</table>

\(^a\)All coefficients are product-moment coefficients.

\(^b\)To be significant at the .01 level, coefficients must exceed .25. To be significant at the .05 level, they must exceed .19. (See T. C. McCormick, Elementary Social Statistics, New York, McGraw-Hill, 1941, Table 4, p. 306.)
C. Climates

Null hypothesis 3: "The school subtest scores do not correspond to Halpin and Croft's climates."

Null hypothesis 4: "The school subtest profiles do not fit into any patterns or climates."

Only five schools out of twenty satisfy Halpin and Croft's criterion for inclusion in one of the six climates (a similarity score equal to or less than 45). Moreover, it seems that Halpin and Croft's criterion is too generous, as the range of similarity scores is limited. Several schools have no similarity scores over one hundred, and few have very similar similarity scores on different climates. For example, school eighteen is designated as having an Autonomous Climate, because its error score of 62 on the Autonomous Climate is its smallest error score. However, it has an error score of only 63 on the Continuous Climate, which indicates that it is probably equally close to each. School three has similarity scores on three Climates (Autonomous, Controlled and Closed) which are within six points of each other. Obviously Halpin and Croft's Climates do not provide an accurate description of enough schools to be accepted on the basis of this sample of schools.

However it was possible to devise two climates (A and B in Table 2) which accounted for eighteen of the twenty schools. These climates were obtained quite unscientifically by averaging the scores on each subtest of those schools which seemed to follow similar patterns. This intuitive approach led to dividing the schools into two groups, one of eleven schools (A) and one of eight schools (B). Only one school thus included did not fit into the patterns obtained by averaging subtest scores. This was school twenty. School fourteen was perceived from the beginning as differing markedly from both groups of schools.
Table 3: Subtest Scores of Twenty Schools on Organizational Climate Description Questionnaire

<table>
<thead>
<tr>
<th>School</th>
<th>Subtest</th>
<th>Disengagement</th>
<th>Hindrance</th>
<th>Esprit</th>
<th>Intimacy</th>
<th>Aloofness</th>
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Table 4: Climate Similarity Scores for Twenty Schools on the Organizational Climate Description Questionnaire

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</tbody>
</table>

aSimilarity scores are obtained by adding the absolute values of the differences between each school and the climate profiles on each subtest.

b, cClimates A and B are hypothetical climates, derived from these results. (See Table 5).

dThe lowest Halpin and Croft similarity scores are underlined.
Table 5: Prototypic Profiles for Two Climates (A and B) Perceived in Schools Measured

<table>
<thead>
<tr>
<th>Climate</th>
<th>Subtest</th>
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<tbody>
<tr>
<td></td>
<td>Disengagement</td>
<td>Hindrance</td>
<td>Esprit</td>
<td>Intimacy</td>
<td>Aloofness</td>
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</table>
The profiles designated as climates A and B were obtained by averaging the subtest scores of the schools which seemed to fit into each climate. It would be easy to adapt climate A to include school twenty, but the prototypic climate would then not be an average of all the schools described by it.

Climate A consists of the following subtest scores:
Disengagement, 51; Hindrance, 55; Esprit, 54; Intimacy, 50; Aloofness, 58; Production Emphasis, 54; Thrust, 36; Consideration, 40. This would seem to indicate a school in which the teachers feel that there is an excessive amount of social control, coming from several sources. High Aloofness (58) indicates that the principal exerts a great deal of control through directives, and other indirect methods. He also exerts a lot of personal control (Production Emphasis, 54). The high score on Hindrance (55) indicates that the teachers feel overburdened by red tape from all sources.

In view of the excessive social control indicated in climate A it is surprising to find that the teachers give themselves a high rating on Esprit (54). They seem to feel that they have a high standard of accomplishment despite the many restrictions they encounter. This accomplishment does not seem to stem from any great intimacy either, (a rating of 50). Neither does it seem to stem from any great feeling of dedication (Disengagement, 51). Either the individuals find enough satisfaction in carrying out their duties well to make up for the disadvantages of too much social control, or they do not dislike the social control.

The teachers have an extremely low opinion of their principal (Thrust, 36), and feel that he has little or no consideration for their social needs (Consideration, 40). The extremely low Thrust and high
social control ratings of these principals would seem to indicate that their staffs feel that they spend most of their time telling the staff what to do, and little or no time doing anything constructive themselves. Once again, however, the staff members do not seem to feel that the principal's behavior makes it impossible for them to carry out their work to their satisfaction, (high Esprit). Perhaps this indicates a situation in which the principal is expected to exert a great deal of social control over his teachers, without giving any educational leadership.

Climate B consists of the following subtest scores:
Disengagement, 40; Hindrance, 42; Esprit, 55; Intimacy, 50; Aloofness, 62; Production Emphasis, 49; Thrust, 49; Consideration, 49. Curiously enough, this climate differs from climate A in most respects, but is almost identical to it in Esprit, which Halpin and Croft feel is the most important subtest. This climate is much easier to describe. The extremely high rating on Aloofness (62), and the low ratings on Disengagement and Hindrance would indicate a climate in which the principal exerts considerable control by means of directives, without giving the teachers the feeling that they are smothered in red tape. The teachers are very involved in their work (low Disengagement), and feel that the situation is very satisfactory in terms of task accomplishment and social needs satisfaction (Esprit). The other subtests all register average scores, and so would not influence the Esprit significantly.

Climates A and B are also interesting in that they show that it is possible for schools with similar ratings on Esprit to be very dissimilar in other ways. This would seem to indicate that Halpin and Groft's practice of ranking schools in one continuum according to Esprit is unsound.

It must be remembered, however, that these descriptions have no
more value than the subtest scores can give them. They are patterns of subtest scores which have been found to apply to the schools tested. They do not correspond to individual Halpin and Croft climates, but seem to be combinations of climates. This would seem to indicate that Halpin and Croft's three factors, if they exist, are separate factors, and should not be forced into one continuum. However this is a theoretical observation, and will be enlarged on later.

A superficial study of similarity scores would seem to indicate a relationship between the similarity scores on climates supposedly related to the same factor. For example, a school with a low similarity score on the open climate will have a correspondingly high score on the closed climate. This would seem to indicate the existence of three factors - three continua - on which the schools could be measured. Since the present study was not designed to study this possibility, it would be wrong to come to any positive conclusions. But it would definitely be worthwhile to undertake further studies to determine whether studying these three factors separately would produce any better results than Halpin and Croft's method of placing them all on one continuum.

Because results seemed to indicate that the entire basis of the Halpin and Croft climate system was erroneous, and because the similarity score method of classifying climates did not seem to be accurate enough, it was deemed necessary to use another method of classification. Simple product-moment correlations were worked out between school subtest profiles and the eight climate profiles (six Halpin and Croft climates plus climate A and climate B). (See Appendix E). These correlations showed the same pattern as the similarity scores. In general, all correlations were high, and no pattern of specific relationships with Halpin and Croft climates existed. There were very noticeable correlations with climates A and B, however.
Table 6: Relationships Between Climates A and B, and the Socio-economic Background of the Schools Measured.

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Table 7: Relationships Between Climates A and B, and the School District of the Schools Measured.

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*a"Socio-economic background" refers to socio-economic status on a scale from 1 (high) to 5 (low).*

*bSchools are arbitrarily described as having the climate for which they have the lower similarity score.*
Table 8: Relationships Between Subtest Scores and Socio-economic Background

<table>
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<th>Socio-economic Background</th>
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<th>Esprit</th>
<th>Intimacy</th>
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<td>42</td>
<td>62</td>
<td>43</td>
<td>62</td>
<td>52</td>
<td>50</td>
<td>59</td>
</tr>
<tr>
<td>(19)</td>
<td></td>
<td>42</td>
<td>42</td>
<td>62</td>
<td>43</td>
<td>62</td>
<td>52</td>
<td>50</td>
<td>59</td>
</tr>
</tbody>
</table>

a"Socio-economic background" refers to the socio-economic status of the school's patrons on a five point scale (1 = high, 5 = low).
The Halpin and Croft climates did not describe the situation in the schools studied, whereas climates A and B did.

D. Relationships between Climate and Socioeconomic Background

Null hypothesis 5: "In the schools tested, there is no significant relationship between Organizational Climate, as measured by the OCDQ, and Socioeconomic Background, as given in Metropolitan Vancouver."

Because Halpin and Croft's climates do not describe the schools measured, it would be pointless to look for relationships between them and the schools' socioeconomic background. It is not so pointless, however, to study relationships between climates A and B and the socioeconomic factor.

Table 6 shows that there seems to be some relationship between socioeconomic background and the two observed climates. This relationship is quite difficult to describe, and would be much more difficult to explain. Schools at the top and bottom of the socioeconomic scale tend to have climates similar to climate B, while those in the middle of the socioeconomic scale follow climate A.

One factor which might have caused this unexpected relationship is the fact that these schools are from different school districts, but table 7 shows that there is no apparent relationship between school district and climate.

Table 8 explores the possibilities of relationships between subtest scores and socioeconomic background. While some subtests do seem to have remarkably similar scores within individual socioeconomic levels, there is no identifiable pattern to these similarities.
1. Null hypothesis one, "The Organizational Climate Description Questionnaire items do not apply to the British Columbia teaching situation," can be rejected. Two items are not applicable to the British Columbia teaching situation and six others could benefit from slight changes, but none of these weaknesses is at all serious. The two items which are not applicable are item 58, "Teachers help select which courses will be taught," and item 62, "The principal tries to get better salaries for teachers."

2. Null hypothesis two, "The Organizational Climate Description Questionnaire subtests do not measure commonly perceived aspects of teacher and principal relationships," can not be rejected. The correlation between the odd and even numbered respondents was significant at the .01 level for only one subtest (Thrust). This is a comment on teacher perception; not on subtest reliability.

3. Null hypothesis three, "The school subtest scores do not correspond to Halpin and Croft's climates," can not be rejected. Only five out of twenty schools satisfied Halpin and Croft's criterion for inclusion in one of their climates, as opposed to the standard of sixteen out of twenty set for the rejection of the null hypothesis. Halpin and Croft's climates do not describe the situation in the schools measured.

4. Null hypothesis four, "The school subtest scores do not fit into any pattern of climates," can be rejected. Eighteen out of the twenty school profiles can be grouped in one of two climate patterns, A and B, satisfying Halpin and Croft's criterion of a similarity score of 45 or less. Both these climates indicate a high degree of independence in the
teachers, so both will be labelled "independent". Climate A indicates a great deal of control, both in the form of Aloofness and Production Emphasis, and a strong feeling of Hindrance, and so will be labelled "Independent Controlled". The seeming contradiction in this term arises from the fact that although the principal attempts to control his teachers, and they feel that this control hinders them, they feel that they are able to work well (high Esprit) despite this. In Climate B, however, the principal attempts to exert his control primarily through directives (high Aloofness), and the teachers do not feel hindered. This climate (B) will be called "Independent Aloof". Both climates seem to represent situations in which the teachers feel that they are working well despite their principals' very low Thrust and very strong attempts at control. Both climates seem to represent combinations of Halpin and Croft's three climate factors, rather than scoring highly on only one.

5. It was impossible to test hypothesis five, "In the schools tested, there is no significant relationship between Organizational Climate and Socioeconomic Background," because of the breakdown of Halpin and Croft's climate patterns. There did seem to be some relationship between climates A and B and Socioeconomic Background, but it did not fit the expected linear pattern. Schools in high and low socioeconomic areas tend to have climates similar to Climate B (Independent Aloof), while schools in the middle socioeconomic areas have climates similar to Climate A (Independent Controlled). However these findings would apply only to the schools measured, and could not be taken as bases for generalization.
CHAPTER V LIMITATIONS

The primary limitation in this study is that it does not measure a large enough sample of schools to allow any generalizations. All results can only be taken as referring to the schools studied, and can not be taken as proving or disproving anything beyond these schools. They do indicate that there may be very definite weaknesses in the Organizational Climate Description Questionnaire, but they should not be used as reasons for discarding the questionnaire or the climate factors. They very definitely do indicate that it is necessary to investigate further the questionnaire, and in particular the climates.

The relationship between Socioeconomic Background and Climate which was observed must be looked on as extremely tentative, and applying only to the schools studied, particularly as there does not seem to be any theoretical reason for it.

There is also a grave danger that value judgments might creep into this study. The Organizational Climate Description Questionnaire describes objectively. It has never been validated against any external standard of "good" or "bad", and any statement of values must be opinion only, and must be based on theoretical considerations rather than any experimental results.
CHAPTER VI THEORY AND IMPLICATIONS

The OCDQ was designed to study organizational climate, and find experimentally those climate factors which were perceived by teachers as being most common. While it is not yet complete and accurate, it has certainly identified several important climate factors. These factors are on two levels: the subtest factors, which are not as distinct as could be desired; and the three climate factors, which are broader, and not yet clearly defined, although capable of being more clearly defined.

The subtest factors are somewhat random, but do seem to fit in quite well with present theory. Disengagement would seem to be one possible reaction by the individual to nomothetic demands. A high score on disengagement would describe a group which was not nomothetically oriented—which was not interested in achieving organizational goals. A low score on disengagement would describe a group which was interested in achieving organizational goals.

Hindrance is obviously a feeling on the part of the individual that the nomothetic dimension is restricting him. This introduces a factor which is not fully covered by Getzels' model—social control. Social control would seem to be nomothetic behavior which restricts individual action, often without furthering organizational goals. It would seem that excessive social control could act against the achievement of organizational goals. Experimental evidence shows that social control is quite common in schools.

Esprit would seemed to measure the integration of social needs satisfaction and task accomplishment. If this is so, it is an extremely important factor. It seems theoretically likely that an organization in
which social needs satisfaction and task accomplishment are well integrated would be highly successful in achieving both organizational and individual goals.

Intimacy does not measure co-operation, or necessarily social needs satisfaction, as Halpin and Croft claim. A closer study of the items in this subtest, and the results of climate patterns observed seems to indicate that Intimacy measures only the closeness of personal relationships within the staff. This may or may not be related to social needs satisfaction, and it seems to have little or no connection with task accomplishment.

Aloofness and Production Emphasis are two more indices of social control, Aloofness being indirect control, and Production Emphasis direct. Both describe control which may or may not be directed towards organizational goals.

Thrust, like Esprit, seems to be very important. It describes a principal who combines goal-oriented leadership and consideration for individuals.

Consideration, like Intimacy, refers purely to the idiographic dimension, and need not directly affect the nomothetic, although it is obviously important.

Some of these subtests overlap; for example, the three which discuss social control (Hindrance, Aloofness, and Production Emphasis); so it would seem theoretically desirable to create a form of the questionnaire which measured fewer factors, but measured them more accurately. The factors could then be more clearly defined, and would, supposedly, be the most important factors of school climate.

Although they are by no means proven, Halpin and Croft's three climate factors are extremely interesting. "Authenticity" ("openness"),
if it exists has endless implications. It seems to give a more refined measure of Esprit, on the level of the group. That is, it shows the degree to which the group provides a climate within which individuals can combine the satisfaction of individual needs with the accomplishment of organizational goals. Halpin's theoretical pronouncements on Authenticity are extremely interesting, but somewhat premature. At the present time, it is only a fascinating possibility. It will take a great deal of study and experimentation to discover whether it lives up to its promises.

Halpin and Croft's other two factors are even more vague, and they tend to become overshadowed by the authors' excitement over Authenticity. They are very interesting, nevertheless. Halpin and Croft describe factor II as Satisfaction (controlled vs. familiar climates). It would seem more accurate to discuss this in terms of social control, which has been seen to be so evident in the teacher's opinions. It is not surprising to find that social control is a very noticeable factor in school climates. Obviously, this factor needs closer study and more accurate definition.

Factor III, Leadership Initiation, relates to the Autonomous and Paternal climates. It would seem to describe types of organizations. In an Autonomous climate leadership, or nomothetic behavior can come from the group or the leader, while the paternal climate describes a situation in which all such behavior comes from the principal. Perhaps this is the result of the principal's exerting goal-oriented social control, thereby restricting the initiative of group members. Like the other climate factors, however, this is only a possibility. Also like them, however, it is a possibility which should be investigated.

The two observed climates (Independent Controlled and Independent Aloof) are very interesting, both theoretically and as descriptions of
the B. C. system. Both appear to be combinations of Halpin and Croft's three factors. There is a very definite relationship between Open and Closed, Autonomous and Paternal and Controlled and Familiar Climates. Schools with a high positive correlation with the Closed Climate have a corresponding high negative correlation with the Open Climate and so on. There is no such relationship between climates measuring different factors (e.g., between Open and Autonomous). These observations are largely intuitive, and the present study was not designed to measure climate factors. However they do point out the necessity of designing a new study to isolate, measure and describe those factors if they do exist. Halpin and Croft's climates do not describe existing situations, and do not seem to be theoretically sound, but the three factors do seem to exist.

Specifically, the two climates seem to indicate that control and independence are the two main climatic characteristics of Lower Mainland elementary schools. Principal control takes several forms, and is ineffectual. The behavior of the principal in the Independent Controlled Climate is even more closed than the behavior of Halpin and Croft's Closed principal. The Independent Controlled principal scores lower on Thrust and Consideration, the same on Production Emphasis, and higher on Aloofness than the Closed principal. This excessive control is emphasized by the fact that the staff in the Independent Controlled school feel greater Hindrance than those in the Closed school.

The behavior of the principal in the Independent Aloof school is similar to that of Halpin and Croft's Autonomous principal, except that

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1 See Appendix E.
it is higher on Production Emphasis. Its dominant characteristic, however, is the principal's Aloofness.

The two climates indicate varying forms of control and an extremely low Thrust. The type of control affects the teachers' feelings of Hindrance but not their Esprit. This seems to indicate that the Aloof principal is easier to ignore, but that both can be and are ignored. It is surprising to find such high Esprit among teachers who have such a low opinion of their principals.

One other question remains. That is, "Is it desirable to treat staff and principal behavior together, or should they be treated separately?" The answer would seem to be that they should be treated together. This study is designed to measure group characteristics and interactions, and from the point of view of the education of children, the important factors are the overall attitudes of the staff group—including the principal. Once group characteristics have been identified and studied, it will be desirable to find out which are caused by the principal, which by the staff as a group, and which by the teachers individually. The first step, however, must be the identification and study of group characteristics.
CHAPTER VII  POSSIBILITIES FOR FURTHER RESEARCH

Halpin and Croft give a very complete description of the many avenues open for further research in the area of organizational climate. However, before any of this research is undertaken, it would be well to make some improvements to the Organizational Climate Description Questionnaire. The pattern of climates created by Halpin and Croft does not seem to describe observed conditions satisfactorily.

One possible reaction would be to discard the OCDQ and return to the older, but more successful Leader Behavior Description Questionnaire. This is not logical. The OCDQ and the LBDQ are designed to measure entirely different factors. The LBDQ is designed to measure Leader Behavior, while the OCDQ is designed to measure group climate. Leader behavior, or even perceived leader behavior, is only one of the factors involved in organizational climate. In other words, organizational climate is complex, and difficult to identify and measure, but that does not mean that it is not worth measuring.

Another possible answer would be to reject Halpin and Croft's climates, but retain the subtests, which seem to be more reliable. There are two reasons for rejecting this approach. The first is that the subtests, although better than the climates, are still not perfect. Halpin and Croft, using a "Split-half Coefficient of Reliability, Corrected by the Spearman-Brown formula," found a very low reliability for the Aloofness subtest (.26), and quite low reliabilities for Production

1Halpin and Croft, Chapter 5, pp. 77-116.

2Halpin and Croft, p. 49.
Emphasis (.55), Consideration (.59), and Intimacy (.60). However these reliabilities are not very reliable, because the subtests are too short for such a measure of reliability to be accurate.

W. G. Schmidt, in the Alberta study, found that the differences between subtest scores were significant at the .001 level for five subtests, at the .05 level for one (Disengagement), and not significant for Intimacy and Consideration. It is significant that Intimacy and Consideration are two of the shortest subtests. If the subtest form of the OCDQ were used, some of the shorter subtests would have to be lengthened, and all would have to be improved.

The second reason for not rejecting completely Halpin and Croft's climates is that they do seem to have identified three very meaningful factors. The correct procedure to follow would be that followed in the construction of the LBDQ. If it can be shown that the three factors do indeed exist, then a form of the OCDQ designed specifically to measure those three factors should be created. It should measure them in three separate subtests, and rank schools on three separate continua, not on the one continuum which Halpin and Croft create. There is no reason whatsoever to assume that all three factors can be forced into a single continuum, and Halpin and Croft do not justify doing so.

Once the OCDQ has been reduced to a form which measures fewer factors, and measures them more accurately, it will be possible to continue the studies which Halpin and Croft mention. But until then,

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4 See Andrew W. Halpin and James Winer, "A Factorial Study of the Leader Behavior Descriptions," in Stogdill and Coons, Leader Behavior. This is also discussed in Chapter I of the present study.
studies based on the subtests are using a less accurate form of the questionnaire than is necessary, and studies based on the Halpin and Croft climates are using a questionnaire which seems to be based on a faulty assumption.

Once a more reliable form of the questionnaire has been devised, the possibilities are boundless. Climates can be studied from the point of view of value judgments, to discover the effects of various climates on organizational behavior. Other studies can try to discover the causes of different climates, with the objective of changing climate, and producing more desirable climates. It will never be possible to control something as complicated as climate thermostatically, but a greater understanding of it should definitely help in improving organizational behavior.
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ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE

(as administered in the present study)
The items in this questionnaire describe typical behaviours or conditions that occur within an elementary-school organization. Please indicate to what extent each of these descriptions characterizes your school. Please do not evaluate the items in terms of "good" or "bad" behaviour, but read each item carefully and respond in terms of how well the statement describes your school.

The descriptive scale on which to rate the items is printed at the top of each page. Please read the Instructions which describe how you should mark your answers.

The purpose of this questionnaire is to secure a description of the different ways in which teachers behave and of the various conditions under which they must work. After you have answered the questionnaire we will examine the behaviours or conditions that have been described as typical by the majority of the teachers in your school, and we will construct from this description a portrait of the Organizational Climate of your school.

Copied with permission of the authors.
Marking Instructions

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

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

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

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

Please mark your response clearly, as in the example.

PLEASE BE SURE THAT YOU MARK EVERY ITEM.
BIOGRAPHICAL INFORMATION

5-7 School: ________________________________

(Write in the name of your school)

Please place a check mark to the right of the appropriate category.

8. Position: Principal  1.____
Teacher  2.____
Other  3.____

9. Sex: Man  1.____
Woman  2.____

10. Age:
    20-29  1.____
    30-39  2.____
    40-49  3.____
    50-59  4.____
    60 or over  5.____

11. Years of experience in education:
    0-9  1.____
    10-19  2.____
    20-29  3.____
    30 or over  4.____

12. Years at this school:
    0-4  1.____
    5-9  2.____
    10-19  3.____
    20 or over  4.____
<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>13. Teachers' closest friends are other staff members at this school.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. The mannerisms of teachers at this school are annoying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. Teachers spend time after school with students who have individual problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. Instructions for the operation of teaching aids are available.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. Teachers invite other staff members to visit them at home.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. There is a minority group of teachers who always oppose the majority.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. Extra books are available for classroom use.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. Sufficient time is given to prepare administrative reports.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21. Teachers know the family background of other staff members.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22. Teachers exert group pressure on non-conforming staff members.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23. In staff meetings, there is a feeling of &quot;let's get things done.&quot;</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. Administrative paper work is burdensome at this school.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25. Teachers talk about their personal lives to other staff members.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26. Teachers seek special favours from the principal.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27. School supplies are readily available for use in classwork.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28. Student progress reports require too much work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29. Teachers have fun socializing together during school time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
1. Rarely occurs
2. Sometimes occurs
3. Often occurs
4. Very frequently occurs

30. Teachers interrupt other staff members who are talking in staff meetings.  
1  2  3  4

31. Most of the teachers here accept the faults of their colleagues.  
1  2  3  4

32. Teachers have too many committee requirements.  
1  2  3  4

33. There is considerable laughter when teachers gather informally.  
1  2  3  4

34. Teachers ask nonsensical questions in staff meetings.  
1  2  3  4

35. Custodial service is available when needed.  
1  2  3  4

36. Routine duties interfere with the job of teaching.  
1  2  3  4

37. Teachers prepare administrative reports by themselves.  
1  2  3  4

38. Teachers ramble when they talk in staff meetings.  
1  2  3  4

39. Teachers at this school show much school spirit.  
1  2  3  4

40. The principal goes out of his way to help teachers.  
1  2  3  4

41. The principal helps teachers solve personal problems.  
1  2  3  4

42. Teachers at this school stay by themselves.  
1  2  3  4

43. The teachers accomplish their work with great vim, vigour, and pleasure.  
1  2  3  4

44. The principal sets an example by working hard himself.  
1  2  3  4

45. The principal does personal favours for teachers.  
1  2  3  4

46. Teachers eat lunch by themselves in their own classrooms.  
1  2  3  4

47. The morale of the teachers is high.  
1  2  3  4
1. Rarely occurs
2. Sometimes occurs
3. Often occurs
4. Very frequently occurs

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

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

(Items arranged by subtests)
APPENDIX B. OCDQ ITEMS ARRANGED BY SUBTEST

OCDQ, FORM IV, ITEMS THAT COMPOSE FOUR SUBTESTS:

TEACHERS' BEHAVIOR

I - DISENGAGEMENT

1. The mannerisms of teachers at this school are annoying.
2. There is a minority group of teachers who always oppose the majority.
3. Teachers exert group pressure on nonconforming faculty members.
4. Teachers seek special favors from the principal.
5. Teachers interrupt other faculty members who are talking in staff meetings.
6. Teachers ask nonsensical questions in faculty meetings.
7. Teachers ramble when they talk in faculty meetings.
8. Teachers at this school stay by themselves.
9. Teachers talk about leaving the school system.
10. Teachers socialize together in small select groups.

II - HINDRANCE

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

III - ESPRIT

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

*These items are the key (i.e., "tractor") items in each dimension.

aThese numbers are used solely to list the items here and to provide a convenient way of referring to them in the Tables presented in Appendices C and D.

1Halpin and Croft, pp. 30-31.
IV. - INTIMACY

* 27. Teachers' closest friends are other faculty members at this school.
28. Teachers invite other faculty members to visit them at home.
29. Teachers know the family background of other faculty members.
30. Teachers talk about their personal life to other faculty members.
31. Teachers have fun socializing together during school time.
32. Teachers work together preparing administrative reports.
33. Teachers prepare administrative reports by themselves.

OCDQ, FORM IV, ITEMS THAT COMPOSE FOUR SUBTESTS:

PRINCIPAL'S BEHAVIOR

V. - ALOOFNESS

* 34. Faculty meetings are organized according to a tight agenda.
35. Faculty meetings are mainly principal-report meetings.
36. The principal runs the faculty meeting like a business conference.
37. Teachers leave the grounds during the school day.
38. Teachers eat lunch by themselves in their own classrooms.
39. The rules set by the principal are never questioned.
40. Teachers are contacted by the principal each day.
41. School secretarial service is available for teachers' use.
42. Teachers are informed of the results of a supervisor's visit.

VI. - PRODUCTION EMPHASIS

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

VII. - THRUST

* 50. The principal goes out of his way to help teachers.
51. The principal sets an example by working hard himself.
52. The principal uses constructive criticism.
53. The principal is well prepared when he speaks at school functions.
54. The principal explains his reasons for criticism to teachers.
55. The principal looks out for the personal welfare of teachers.

*These items are the key (i.e., "tracer") items in each dimension.

*These numbers are used solely to list the items here and to provide a convenient way of referring to them in the Tables presented in Appendices C and D.
VII - THRUST (continued)

56. The principal is in the building before teachers arrive.
57. The principal tells teachers of new ideas he has run across.
58. The principal is easy to understand.

VIII - CONSIDERATION

59. a The principal helps teachers solve personal problems.
60. The principal does personal favors for teachers.
61. The principal stays after school to help teachers finish their work.
62. The principal helps staff members settle minor differences.
63. Teachers help select which courses will be taught.
64. The principal tries to get better salaries for teachers.

*These items are the key (i.e., "tracer") items in each dimension.

aThese numbers are used solely to list the items here and to provide a convenient way of referring to them in the Tables presented in Appendices C and D.
APPENDIX C: STATISTICAL PROCEDURES

Most of the statistical work was done by computer (IBM 4070 at UBC Computing Centre). The questionnaire is set up in such a manner that it is possible to punch data cards directly from the questionnaires. The individual computations were carried out as follows:

1) Subtest Scores: Halpin and Croft have produced a program which computes subtest scores, standardized normatively and ipsatively:

Normatively, we standardized the subtest scores across the sample of 71 schools so that we could compare each of the 8 subtest scores on a common scale. Thus, each subtest was standardized according to the mean and standard deviation of the total sample for that subtest.

Then we took these standardized scores and standardized them again, this time, ipsatively. Accordingly, all the subtest scores were standardized with respect to the mean and standard deviation of the profile scores for each school.

For both standardization procedures we chose a standard-score system based upon a mean of 50 and a standard deviation of 10.2

Thus, each individual school subtest score is standardized in relation to the scores of other schools on the same subtest, and in relation to the scores of the same school on other subtests.

1A. W. Halpin and D. B. Croft, "Organizational Climate Scoring Program," Mimeographed, University of Utah Computer Centre, Utah.

2Halpin and Croft, The Organizational Climate of Schools, p. 55.
The basic formula for computing standard scores with a mean of 50 and a standard deviation of 10 is:

$$\text{Standard score} = 10 \left( \frac{X - M}{\sigma} \right) + 50$$

where

- $X$ is any raw score of a given distribution
- $M$ is the arithmetic mean of the raw-score distribution
- $\sigma$ is the standard deviation of the raw-score distribution.

The standard deviation, $\sigma$, is calculated by the following formula:

$$\sigma = \sqrt{\frac{\sum X^2}{N} - \frac{(\sum X)^2}{N^2}}$$

where

- $\sigma$ is standard deviation
- $\sum$ is the sum
- $X$ is any subtest score
- $N$ is the number of subtest scores.

2) Coefficients of correlation: All coefficients of correlation were worked out by the computer, using a UBC Computing Centre program, **TRIP**: Triangular Regression Package. This includes correlations between odd and even numbered respondents on the eight subtests, and

---

2. Ahmann and Glock, p. 128.
correlations between school subtest profiles and eight climate profiles (six Halpin and Croft profiles plus Independent Controlled and Independent Aloof).

The basic formula for these computations is:

\[
\rho = \frac{\sum \Sigma X \Sigma Y - \frac{\Sigma X \Sigma Y}{N}}{\sqrt{\left[ \sum \Sigma X^2 - \frac{(\Sigma X)^2}{N} \right] \left[ \sum \Sigma Y^2 - \frac{(\Sigma Y)^2}{N} \right]}}
\]

where

- \( \rho \) is the product-moment coefficient of correlation
- \( \Sigma \) is the sum
- \( X \) is any subtest score of one characteristic
- \( Y \) is any subtest score of the other characteristic
- \( N \) is the number of scores.\(^6\)

3) Climate Similarity Scores: The Halpin and Croft program also computes climate similarity scores:

We obtained a similarity score by computing the absolute difference between each subtest score in a school's profile and the corresponding score in the first prototypic profile, then in the second one, and so on. Thus, we compared the scores of each school with those of the six prototypic profiles. In each case we computed the sum of the absolute differences between the profile scores.\(^7\)

Similarity scores comparing each school profile with the Independent Controlled and Independent Aloof climates were computed in the same manner.

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\(^6\)Ahmann and Glock, p. 98.

\(^7\)Halpin and Croft, pp. 70-71.
APPENDIX D: "R" TECHNIQUE THREE-FACTOR ROTATIONAL SOLUTION FOR SUBTEST SCORES, BY SCHOOL
4) One further comment should be made. The two methods used to analyze similarities between school profiles and climates (similarity scores, p. 70, and product-moment correlations, Appendix E) are not totally satisfactory. The similarity scores give no basis for comparison, while the correlations, based as they are on an N of eight are not very reliable. However, both add to the interpretation of the data as long as their limitations are recognized.

A more refined technique for comparing profiles, "multiple discriminant analysis," is discussed in Cooley and Lohnes' *Multivariate Procedures for the Behavioral Sciences*. However, this procedure is too complex for the present study.

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See particularly chapters 6 and 7.
APPENDIX D

"R" TECHNIQUE
THREE-FACTOR VARIMAX ROTATIONAL SOLUTION FOR
SUBTEST SCORES, BY SCHOOL (N = 71)

<table>
<thead>
<tr>
<th>OCDQ Subtest</th>
<th>Profile Factors</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
<td>II</td>
<td>III</td>
</tr>
<tr>
<td>1. Disengagement</td>
<td>-.86</td>
<td>00</td>
<td>-.33</td>
</tr>
<tr>
<td>2. Hindrance</td>
<td>-.13</td>
<td>.50</td>
<td>.34</td>
</tr>
<tr>
<td>3. Esprit</td>
<td>.79</td>
<td>-.28</td>
<td>-.04</td>
</tr>
<tr>
<td>4. Intimacy</td>
<td>-.07</td>
<td>-.85</td>
<td>.22</td>
</tr>
<tr>
<td>5. Aloofness</td>
<td>.08</td>
<td>-.09</td>
<td>.80</td>
</tr>
<tr>
<td>6. Production Emphasis</td>
<td>-.16</td>
<td>.76</td>
<td>.02</td>
</tr>
<tr>
<td>7. Thrust</td>
<td>-.64</td>
<td>.08</td>
<td>-.47</td>
</tr>
<tr>
<td>8. Consideration</td>
<td>.02</td>
<td>-.07</td>
<td>-.85</td>
</tr>
</tbody>
</table>

| Factor Value                 | 1.83 | 1.65 | 1.86   |
| % Variance                   | .23  | .21  | .23    | 67%     |

The underlined figures identify those loadings which most characteristically define the three major patterns of subtest scores.

Halpin and Croft, p. 129.
APPENDIX E: CORRELATIONS BETWEEN SCHOOL SUBTEST PROFILES
AND CLIMATE PROFILES
## APPENDIX E: CORRELATIONS BETWEEN SCHOOL SUBTEST PROFILES AND CLIMATE PROFILES

<table>
<thead>
<tr>
<th>School</th>
<th>Open</th>
<th>Autonomous</th>
<th>Controlled</th>
<th>Familiar</th>
<th>Paternal</th>
<th>Closed</th>
<th>A</th>
<th>B</th>
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<tr>
<td>1</td>
<td>-0.154</td>
<td>0.363</td>
<td>-0.144</td>
<td>0.009</td>
<td>0.395</td>
<td>0.257</td>
<td>0.722</td>
<td>0.231</td>
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<td>2</td>
<td>-0.375</td>
<td>0.229</td>
<td>0.274</td>
<td>-0.365</td>
<td>-0.301</td>
<td>0.317</td>
<td>0.735</td>
<td>0.618</td>
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<tr>
<td>3</td>
<td>-0.140</td>
<td>-0.171</td>
<td>0.518</td>
<td>-0.553</td>
<td>-0.358</td>
<td>0.005</td>
<td>0.781</td>
<td>0.140</td>
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<td>0.374</td>
<td>-0.404</td>
<td>-0.603</td>
<td>0.020</td>
<td>0.430</td>
<td>0.728</td>
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<tr>
<td>5</td>
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<td>-0.566</td>
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<td>6</td>
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<td>0.837</td>
<td>0.223</td>
<td>-0.133</td>
<td>-0.817</td>
<td>-0.499</td>
<td>0.217</td>
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<tr>
<td>7</td>
<td>-0.899</td>
<td>-0.516</td>
<td>0.311</td>
<td>-0.539</td>
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<td>0.790</td>
<td>0.775</td>
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<td>8</td>
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<td>0.258</td>
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<td>0.501</td>
<td>0.933</td>
<td>0.049</td>
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<tr>
<td>9</td>
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<td>0.108</td>
<td>0.072</td>
<td>-0.232</td>
<td>-0.282</td>
<td>0.429</td>
<td>0.906</td>
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<tr>
<td>10</td>
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<td>-0.334</td>
<td>0.300</td>
<td>-0.487</td>
<td>-0.200</td>
<td>0.553</td>
<td>0.892</td>
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<tr>
<td>11</td>
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<td>0.008</td>
<td>0.162</td>
<td>-0.351</td>
<td>-0.343</td>
<td>0.454</td>
<td>0.909</td>
<td>0.058</td>
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<tr>
<td>12</td>
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<td>0.788</td>
<td>-0.049</td>
<td>0.216</td>
<td>-0.449</td>
<td>-0.560</td>
<td>-0.254</td>
<td>0.815</td>
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<tr>
<td>13</td>
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<td>0.680</td>
<td>-0.780</td>
<td>-0.454</td>
<td>0.270</td>
<td>0.745</td>
<td>0.385</td>
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<tr>
<td>14</td>
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<td>-0.093</td>
<td>-0.547</td>
<td>0.396</td>
<td>0.226</td>
<td>0.357</td>
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<td>-0.583</td>
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<tr>
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<td>-0.511</td>
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<tr>
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<td>0.317</td>
<td>-0.464</td>
<td>-0.532</td>
<td>0.473</td>
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<td>0.548</td>
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<tr>
<td>17</td>
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<td>-0.787</td>
<td>-0.126</td>
<td>0.375</td>
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<tr>
<td>18</td>
<td>-0.050</td>
<td>0.345</td>
<td>0.355</td>
<td>-0.278</td>
<td>-0.340</td>
<td>-0.133</td>
<td>0.091</td>
<td>0.793</td>
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<td>0.315</td>
<td>0.634</td>
<td>-0.605</td>
<td>-0.642</td>
<td>-0.261</td>
<td>0.487</td>
<td>0.685</td>
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<tr>
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