THE RELATIONSHIP BETWEEN SCHOOL SIZE AND SCHOOL
ORGANIZATIONAL CLIMATE IN THE VANCOUVER,
B.C., CANADA, SCHOOL DISTRICT, 39

by

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ABSTRACT

Application after application of the Organizational Climate

Description Questionnaire (OCDQ) has revealed that the majority of urban

core school climates seemed to be "closed" rather than "open". Efforts

on the part of school administrators to alter the "closed", "unhealthy"

organizational climates in their systems to more "open", "healthy"

climates are premature because so little is actually known about how to

change a climate. Since "closed" climate conditions seem to be almost

synonomous with "large" school size, the purpose of this study has been

to contribute some small measure of knowledge as to how to change a school

climate by determining the relationship between organizational climate

measured by the eight OCDQ subtests--Disengagement, Hindrance, Esprit,

Intimacy, Aloofness, Production Emphasis, Thrust, Consideration--and four

objective organizational size characteristics--School Area, Staff Members,

Enrolment, and Human Density.

The impact of these size variables is examined based on data

obtained through a field study involving 20 schools and 116 teachers in the

Vancouver, British Columbia school system. The data were subjected to

factor analytic techniques. The results subsequently suggested that a five-

factor pattern of climate dimensions--Principal as Leader, Teacher "qua"

Teacher Group Perception, Non-Classroom Teacher Satisfaction, Working

Conditions, Hindrance V--was as suitable as an eight-factor pattern.

Consequently, the study design was expanded to accomodate the unanticipated

results.

In terms of its purpose, the study's findings can be briefly

summarized as follows: 1) Reduction of Enrolment may prove useful in

providing conditions related to the type of leadership behaviour--as described by the Principal as Leader dimension of school organizational climate--normally associated with a more "open", "healthy" climate. 2) Reduction of Staff Members may influence the Principal as Leader dimension of school organizational climate in much the same manner just described for Enrolment. Further investigation of this relationship could well reveal that the reduction of Staff Members, would increase Esprit for the remainder. A smaller staff with higher Esprit will tend more toward the "open", "healthy" climate; 3) There is a hint in the findings that the association between Density and Principal as Leader and Area's association with both Teacher "qua" Teacher Group Perception and Hindrance (V) is strong enough to justify further research; 4) There is little indication that manipulation of any of the four size variables will influence either the Non-Classroom Teacher Satisfaction or the Working Conditions dimension of a school's organizational climate.

Three basic implications are drawn from the findings and related empirical evidence provided by the literature: 1) Smaller schools are imperative if the principal's leadership is not to be smothered by too many pupils and teachers, 2) School size in terms of its Area and its Density, i.e., the number of square feet available to its occupants, may not have as much impact on the climate dimensions as a reduction in Enrolment and Staff Members, but nevertheless, sufficient evidence does exist to imply that altering Area and Density might prove useful in providing conditions similar to those which are normally associated with an "open" climate, 3) Even though considerably more research is required with respect to gaining much more

knowledge concerning the relationship between school size and school

climate, the difficulties encountered by this study and several others

reported in it, imply that the OCDQ itself should be subjected to

further refinement before continuing to subject it to such extensive

use.

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I   INTRODUCTION

Research Area of Interest

        The notion of planned change and innovation has become quite apparent

in educational organizations in the last decade or so and subsequently both

have been attempted at an ever increasing rate. There is little indication

of a reversal of this trend; indeed, if anything, increasing public

pressure is likely to escalate it even further. Change, when considered

as part of a growth strategy as Brown suggests, is a characteristic of

organizations.[1] Clearly related to this characteristic is the atmosphere,

or personality, or organizational climate--as it has come to be known--

which exists in an organization.

        According to Lawler, Hall & Oldham,[2] a considerable amount of the

recent organizational behavior literature has been concerned with the topic

of organizational climate. Although many of the studies of organizational

climate have used somewhat different definitions and a variety of measures

(of climate),aareview of the literature reveals at least the following:

(a) research on organizational climate has focused on a wide range of

variables and conceptualizations of the linkage between individual, structure-

process, climate, and outcome variables; (b) most studies seem to agree

that organizational climate can be viewed as an employee's subjective

impressions or perception of certain features of the organization (e.g., see

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[1]   A.F. Brown, "Research in Organizational Dynamics: Implications for
School Administration", The Journal of Educational Administration, I (May,
1967), p. 42.

[2]   E.E. Lawler III, D.T. Hall and G.R. Oldham, "Organizational Climate:
Relationship to Organizational Structure, Process and Performance",
Organizational Behaviour and Human Performance, XI (1974), pp. 139-155.

the list provided by Litwin & Stringer[3]); (c) climate has been shown to be

related to behavior; (d) climate has been variously considered as an

independent, intervening, or dependent variable, depending on the taste

continuum of the researcher and the set of relationships examined; (e)

a somewhat concerted effort has emerged to provide definitions that are

more operational than those of earlier studies; (f) continued effort to

develop a priori as well as empirical taxonomies of climate in both

industrial settings[4] and in other types of organizations[5]; (g) more

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[3] G.T. Litwin and R.A. Stringer Jr., Motivation and Organizational Climate (Boston: Division of Research, Harvard Business School, 1968).

[4] See W.M. Evan, "Conflict and Performance in R & D Organizations", Industrial Management Review, VII (1965), pp. 37-45. F. Friedlander and N. Margulies, "Multiple Impacts of Organizational Climate and Individual Value Systems Upon Job Satisfaction", Personnel Psychology, XXII (1969), pp. 171-183. R. Kahn, et al., Organizational Stress: Studies in Role Conflict and Ambiguity, (New York: Wiley, 1964). Lawler, Hall, and Oldham, Structure, Process and Performance. Litwin and Stringer, Motivation and Organizational Climate. H.H. Meyer, "If People Fear to Fail, Can Organizations Ever Succeed?", Innovation, VIII (1969), pp. 57-62. J.J. Morse, "Organizational Characteristics and Individual Motivation", in J.W. Lorsch and P.R. Lawrence (Eds.) Studies in Organization Design (Homewood, Ill.: Richard D. Irwin and The Dorsey Press, 1970). B. Schneider and C.J. Bartlett, "Individual Differences and Organizational Climate: Research Plan and Scale Development", Personnel Psychology, XXI (1968), pp. 323-333. R. Taguiri, "The Concept of Organizational Climate", In R. Taguiri and G.H. Litwin (Eds.), Organizational Climate, (Boston: Division of Research, Harvard Business School, 1968).

[5] For example, see A.W. Astin and J.C. Holland, "The Environmental Assessment Technique: A Way to Measure College Environments", Journal of Educational Psychology, LII (1961), pp. 308-316. E. Glatt, "Professional Men and Women at Work: A Comparative Study in A Research and Development Organization", Ph.D. dissertation, Case Institute of Technology, Cleveland, Ohio, June 1966. A.W. Halpin and D. Croft, The Organizational Climate of Schools (Chicago: University of Chicago Press, 1963). M.M. McCarrey and S.A. Edwards, "Organizational Climate Conditions for Effective Research Scientist Role Performance", Organizational Behavior and Human Performance, IX (1973), pp. 439-459. C.R. Pace and G.C. Stern, "An Approach to the Measurement of Psychological Characteristics of College Environments", Journal of Educational Psychology, IL (1958), pp. 269-277. R.W. Stephenson, B.S. Gantz, and C.E. Erickson, "Development Organizational Climate Inventories for Use in R & D Organizations", IEEE Transactions on Engineering Management, EM-XVIII (1971), pp. 38-50.

attempts to provide a rigorous validation of instruments[6], and (h) a concern

with tapping more comprehensive sets of the many different aspects of

organizational climate[7]. These considerations are also apparent from

several recent reviews of the organizational climate literature, which

provide further elaboration on the state of the art regarding the concept

of organizational climate[8].

In pragmatic terms, one issue of interest to administrators and

managers concerns (a) whether the climate exists in a state that is

receptive or amenable to the introduction of organizational change efforts,

and, (b) identifying relevant factors amenable to manipulation in order to

provide an impact on the existing climate. Too frequently, while realizing

that the organizational climate "is the first and most important concern in

initiating and sustaining change," they have incorrectly assumed that their

organizations were "open" or ready for change and the consequences have

ranged from chaotic to disastrous.[9] Efforts on the part of administrators

to change the "closed" organizational climate of those schools in their

systems which are trouble spots to more "open" climates while commendable,

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[6] R.J. House and J.R. Rizzo, "Toward the Measurement of Organizational Practices: Scale Development and Validation", Journal of Applied Psychology, LVI (1972), pp. 388-396.

[7] R.D. Pritchard and B.W. Karasick "The Effect of Organizational Climate on Managerial Job Performance and Satisfaction","Organizational Behavior and Human Performance, IX, (1973), pp. 126-146.

[8] J.P. Campbell, et.al., Managerial Behavior, Performance and Effectiveness, (New York: McGraw-Hill, 1970). D. Hellriegel and J.W. Slocum Jr., "Organizational Climate: Measures Research and Contingencies", Academy of Management Journal, XVII (1974), pp. 255-280. L.R. James and A.P. Jones "Organizational Climate: A Review of Theory and Research", Psychological Bulletin, LXXXI (1974), pp. 1096-1112. B. Schneider, "Organizational Climates: An Essay", Personnel Psychology, XXVIII (1975), pp. 447-479.

[9] E. D. Doak,"Organizational Climate : Prelude to Change", Educational Leadership, XXVII (February, 1970), p. 368.

are nonetheless premature, since "the blunt truth is that we do not yet know very much about how to change a climate. More research is needed before any of us can risk a headlong plunge into action programs in this area."[10]

Statement of Purpose

In suggesting areas urgently requiring further research, Halpin implies that one physical aspect contributing to the high proportion of "closed", "unhealthy" organizational climates might be the sheer size of some schools in today's systems or, more particularly, size as described by the number of students and staff in relation to available space.[11]

Accordingly, the specific research area of this thesis concerns the relationship between organizational climate (dependent variable) and several objective organizational characteristics—School Area, Staff Members, Enrolment, Human Density—(independent variables). The impact of the independent variables is examined based on data obtained through a field study involving 20 schools and 116 teachers of the Vancouver, B.C. school system. In light of the data available and a review of relevant literature, attention is also paid to the appropriateness of describing the climate of an organization as "open" or "closed" rather than in terms of data profiles reflecting dimensions of organizational climate.

Plan of this Thesis

Chapter II considers theoretical and empirical concepts relevant to the research area of interest. This includes a review of the literature, an outline of the design and development of the Organizational Climate Description Questionnaire, and the presentation of an operational conceptual

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[10] A.W. Halpin, "Change and Organizational Climate", The Journal of Educational Administration, V (May, 1967), p. 11.

[11] Ibid., p. 1-3.

framework. The chapter concludes with a statement of four hypotheses.

In Chapter III, detailed consideration is given to the study design and methodology. Based on the methods of analysis employed it is suggested that a five-factor pattern of climate dimensions may be as appropriate as the eight-factor solution suggested in some other studies. Consequently, four additional hypotheses are formulated.

The study's findings are presented in Chapter IV. Subsequently, Chapter V provides a discussion of the findings with respect to related findings available in the literature. Finally, Chapter VI gives consideration to a number of implications drawn from the two preceding chapters.

II THE PROBLEM

Part of the administrator's problem of "guessing" whether his or her

organization is ready for planned change or innovation may have been elimin-

ated as a result of Halpin and Croft's attempt to develop a method of

measuring the organizational climate of schools.[12] Unfortunately though,

subsequent use of this instrument known as the Organizational Climate

Description Questionnaire (OCDQ), has indicated that the vast majority of

urban core school climates are "closed", not "open". For example, in sum-

marizing several studies which have utilized the OCDQ, Halpin writes that,

> one finding stands out . . . . The data from schools
> located in urban core areas show that a preponderant
> number of these schools are marked by "closed" climates.[13]

Moreover, in discussing the OCDQ's development and their use of

adjectives such as "healthy" and "unhealthy" to describe the "open" and

"closed" organizational climate respectively, Halpin and Croft point out

such labeling is done

> with no intent to either praise or damn the climate of
> a particular school. Obviously we believe that a closed
> climate is undesirable, that it is crippling for both the
> faculty and students. Yet we prefer to view a closed
> climate as unhealthy or sick—not as evil.[14]

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12 A.W. Halpin and D.B. Croft, The Organizational Climate of Schools
(Chicago: Midwest Administration Center, The University of Chicago,
1963).

13 Halpin, "Change and Organizational Climate", p. 8.

14 A. W. Halpin, Theory and Research in Administration (New York: The
MacMillan Company, 1966), p. 137. (Chapter 4 of this reference is an
abridged version of the original monograph referenced in footnote 12).

Bearing the evident preponderance of "closed" climates and their undesirable, "unhealthy" connotation in mind, does it not logically follow that when an application of the OCDQ to a school does reveal a "closed", "crippling" climate, then every effort should be exerted to change that condition prior to attempting any other type of change? Why risk almost certain failure of a planned change or innovation scheduled for a school that is "sick"? Would it not be prudent to determine those apparent causes underlying the undesirable climate and subsequently take such steps as may be necessary to change it from its "closed", "unhealthy" state into an "open", "healthy" one?

Should the research of the present study indicate that a significant relationship does indeed appear to exist between certain specific aspects of school size and school climate the potential ramifications with respect to the problem of changing a climate are obvious. For example, any action program which is designed to replace an "unhealthy" climate with an "open", "healthy" one could ill afford to ignore the size variables of the school involved. Furthermore, if the relationship is significant, then altering some of the variables related to school size in such a way as is likely to engender conditions more conducive to an "open", "healthy" climate might prove to be of considerable value in the subsequent successful implementation of planned change or innovation in the school.

Importance of the School Size-Climate Relationship

A review of the literature pertaining to the OCDQ and the effects of an organization's size in terms of the problem addressed by this study will lead to at least two substantive reasons why it is important to begin to systematically study the size-climate relationship.

The first, and perhaps the most obvious reason has already been touched upon: that is, the evident preponderance of "closed" climates in schools. Indeed, one central theme emerges from the OCDQ literature concerned with school size and organizational climate--a large school is generally synonomous with a "closed" climate. Irrespective of what size variable, or variables, are employed to define "large", the findings are almost invariably the same--large schools equal "closed climate conditions".

For example, during the course of an investigation of the relationship between the psychological distance of school principals and selected dimensions of organizational climate, Watkins has noted that thirteen of thirty-six schools were "closed"[15]. He was so perturbed by the preponderance of "closed" climates in his study that he subsequently questioned the validity of the OCDQ for use in secondary schools; for support he cites an investigation designed by Morris to classify 146 Alberta, Canada, elementary and secondary schools on the basis of their organizational climates.[16] In both studies--Watkins' and Morris.'-- there does appear to be a greater tendency for secondary schools to be characterized by "closed" climates than is the case for elementary schools. It is on this basis that Watkins apparently chooses to ignore validity studies conducted by Andrews[17]

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[15] J.F. Watkins, "The OCDQ--An Application and Some Implications", Educational Administration Quarterly, IV, No.2 (Spring, 1968), pp.47-60, for a description of the actual study and discussion of the findings refer to pages 93-94 of this text.

[16] D.V. Morris, "Organizational Climate of Alberta Schools", Canadian School Administration Bulletin, III (June, 1964) cited in J.F. Watkins, Ibid., pp. 54-55.

[17] J.H. Andrews, "School Organizational Climate: Some Validity Studies", Canadian Education and Research Digest, V (December, 1965), pp. 317-333.

and instead concludes that the OCDQ is not a valid instrument for measuring the organizational climate of "large" secondary schools.[18] Why this conclusion is reached rather than one which considers that it is probably more difficult for the larger secondary schools to obtain an "open" climate rating simply because of the actual nature of the problems they must confront as a result of increased size is not clear. The findings from both studies, his own and Morris', would seem to support this latter conclusion as much as the former.

Carver and Sergiovanni consider Andrews' validity studies, but note that an investigation which they conducted in thirty-six Illinois secondary schools found twenty-six "closed" climates.[19] Owing to the similarity between their findings and the results obtained by both Watkins and Morris they decided to compare the distribution of climate types between Halpin and Croft's elementary schools, Andrews' secondary schools (average of twenty-five teachers), and Watkins' (average of fifty-two teachers) with those schools in their own sample (average of ninety-three teachers); like Watkins, they conclude that the OCDQ is not a valid instrument for use in large secondary schools.[20]

They propose three alternative suggestions for their findings:

1. The OCDQ does not validly measure climate in "large" secondary schools,
2. "large secondary schools" by nature have Closed Climates; or,
3. gross sampling error.[21]

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[18] Watkins, "Application and Implications", p. 56.

[19] F.D. Carver and T.J. Sergiovanni, "Some Notes on the OCDQ", The Journal of Educational Administration, VI, No. 1 (1969), pp. 78-81.

[20] Ibid., p. 79. "Large" is defined as a school whose mean teacher size is greater than twenty-five to thirty.

[21] Ibid.

and then proceed, for some unexplained reason, to reject alternatives two and three". . . . out of hand".[22]

The mysterious rejection of two potentially valid postulates "out of hand" in favour of an equally untested third alternative is further complicated by noting that a majority of the teachers in eighteen out of the twenty six "closed" climates under consideration by Carver and Sergiovanni clearly perceived their assigned school climate as "closed".[23] Coupling Andrews' statistically based conclusion that the OCDQ is a valid test instrument in secondary schools with the preponderance of closed elementary school climates previously noted by Halpin (cited on page 6) it might be more logical--though admittedly equally as unobjective--to conclude that large secondary schools have, by virtue of their size, "closed" climates.

Further evidence of the "closed" climate in large secondary schools is available. A study by Hartley and Hoy used the OCDQ responses of almost 3000 teachers and administrators in forty-five New Jersey high schools in an effort to determine the relationship between the "openness" of school climate and alienation of high school students.[24] They encountered some difficulty in analysing the data in ".... that extremely "open" secondary schools were not found in the sample.... Indeed, it appears extremely difficult to find larger high schools with a clearly "open" climate".[25] However, they were

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[22] Ibid.

[23] Ibid., p. 80.

[24] M.C. Hartley and W.K. Hoy, "Openness of School Climate and Alienation of High School Students", California Journal of Educational Research, XXIII, No. 1, pp. 17-24.

[25] Ibid., p. 23.

relatively unconcerned in that their results were consistent with those of

Kolesar who had previously found that large "punishment-centered" or

"closed", bureaucratic high schools seemed to lead to a greater degree of

alienation than was the case in high schools with a "representative", or

"open" organizational structure.[26]

From the foregoing it is indeed apparent that the relationship

between "large" schools and "closed" climate conditions described by the

OCDQ literature is in general accord: "large" schools are generally synon-

ymous with "closed" climates. Certainly they are conducive to "closed"

climate conditions. Unfortunately, the prognosis for implementing planned

change or innovativative methods in "large" schools with "closed","unhealthy"

climates is not good. This being the case, the preponderance of this kind

of climate does dramatize as well as lend some impetus to the importance of

studying the size-climate relationship with a view of isolating those

physical size variables, if any, which may contribute to "sickness".

A second reason which tends to stress the importance of the need to

study the size-climate relationship may be extracted from published material

pertinent to the environmental design of schools. As a matter of fact,

there does seem to be a substantial degree of agreement among environmental

psychologists that a school's "built-environment", i.e., its physical

features and layout, inclusive of its size, probably has a profound

influence not only upon the teaching and learning processes, but also upon

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[26] _Ibid._, Hartley and Hoy cite Henry Kolesar "An Empirical Study of Client
Alienation in the Bureaucratic Organization", Edmonton, Canada: University
of Alberta, unpublished doctoral dissertation, 1967.

social interaction as well.[27]

Getzels, for example, has stressed this point strongly in his comments on the evolution of the conception of the learning process, from a) one which sees the learner as an empty organism who learns through a series of rewards and punishments at the command of the teacher, to b) an active organism solving problems to satisfy individual needs, to c) a social organism who learns through interactions with others, and finally, on to d) a stimulus-seeker learning because, intrinsically, he has to do so.[28] He traces the changes in arrangements and useage of school space corresponding to each epoch of the evolutionary process and notes that, as an expression of human nature, it is the physical, or "built-environment" which irresistably works to tell "....us who we are and what we must do".[29] In order to emphasize this contention that, "Our habits impel our habitations and the habitations impel our lives", he cites Winston Churchill's observation, "We shape our buildings and afterwards our buildings shape us."[30] If in actual fact Getzels is correct, and the "built-environment" does indeed exercise such a profound effect upon the teaching and learning processes, then it most certainly does underscore the need

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[27] See R.H. Moos and P.M. Insel (Eds.), _Issues in Social Ecology: Human Milieus_ (Palo Alto, Calif.: National Press Books, 1974). In particular, Part 4: Man-Made Designs and Psychosocial Consequences, pp. 180-238, and Part 5: Behavior Settings and Psychosocial Interactions, pp. 255-302, are both relevant to the topic under consideration here.

[28] J.W. Getzels, "Images of the Classroom and Visions of the Learner", _School Review_, LXXXII (August, 1974), pp. 527-538.

[29] _Ibid._, p. 536.

[30] _Ibid._

to study what some of the effects may be.[31]

Coupling the notion that schools--obstensibly at least--are built to facilitate both of these processes, with the reality that the management of school space is usually thought to come under the principal's purview, one of the more obvious relationships for research is the effect of the school's group size--teachers, learners and principal--on the school's organizational climate. Getzels' argument is quite convincing. It is not particularly difficult to visualize how school "crowding" or "density" could easily "shape" a school's climate conditions.

In a similar vein, yet another reason to consider the school size-climate relationship as far as implementing planned change is concerned, stems from the recognition that education is a dynamic and changing process; thus, it is unrealistic to expect it to occur, or to be "shaped" in static, immutable places. Green argues that environmental management, which he has defined as ".... the appropriate disposition and use of space to meet current educational organization and processes", is absolutely essential if teachers, principals and students are not to be ".... thwarted by mismatches between the place and the instructional processes".[32] It is unlikely that the kind of environmental management Green envisions could be judged successful unless some research developed criteria with respect to the effects of

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    In a sense, Thomas David has taken the opposite point of view: he seriously questions whether or not the existing conception of the physical environment's role in education has kept pace with changing notions about learning. He is careful to note, however, that the "manner in which the "built-environment" is structured "will likely influence social or interpersonal variables". See Thomas David, "On Learning in Trees and Classrooms", School Review, LXXXII (August, 1974), p. 523.

32
    A.C. Green, "Planning for Declining Enrollments", School Review, LXXXII, (August, 1974), pp. 598-99.

school size upon school inhabitants has been obtained for use as a standard.

In addressing the problem of the development and design of effective environments, i.e., "polar paradigms" for observing what kind of behavior can be elicited from exceptional children as a direct result of their physical setting, Spivack is evidently in wholehearted agreement with Green's thesis:

> Without much extra effort we may become alert for indications that the environment is or is not supporting the behavioral or other needs of the population with whom we work. Remaining alert to these interactions is a basic skill that is an essential part of the professional tools and training of anyone in a care-giving or educational role.... Professional life in these domains should include a continuing dialogue about the environment, the architecture and the fittings, the furniture, lighting, and acoustics--a diologue about the whole setting.[33]

Spivack even goes so far as to state that those individuals responsible for environmental management are unable to perform adequately, i.e., avoid mismatches between the place and behavioral process, because "it is a vital missing element in the training and practice of administrators who direct institutions concerned with education...."[34] In fact, though, like Green's lack of judgemental criteria, Spivack's "missing element" will likely remain "missing" until practical field research is able to fill some of the gaps with respect to what influence the physical space actually may have upon organizational behavior.

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[33] Mayer Spivack, "The Exceptional Environment: Strategies for Design", School Review, LXXXII, (August, 1974), p. 648.

[34] Ibid.

Proshansky emphasizes the need for comprehensive theoretical reasoning with regard to research related to the "built-environment".[35] One of the areas he suggests for research, which conceivably could lead to the development of appropriate descriptive concepts, is the ".... need to establish those physical dimensions which actually foster, shape, and underlie the complex human activities which go on in complex settings."[36]

The task Proshansky is suggesting is not a simple one. The influence which the physical dimensions may have upon different individuals is likely to fluctuate substantially. Fitt has noted, for example, that an individual's use of space may vary considerably depending upon his or her particular lifestyle.[37] Some people quite naturally seem to require a considerable degree of "spaciousness" to feel comfortable while others will characteristically function better in smaller, more "cramped" areas: most people probably vary between the two extremes. Whether the people in question are in a school to teach, to learn or to administer the teaching-learning processes, is not as material to her argument as is the notion that—"spacious" or "cramped" lifestyles notwithstanding—the type of social interaction which will take place in the environment can not help but be effected.[38]

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[35] H.M. Proshansky, "Theoretical Issues in Environmental Psychology", School Review, LXXXII, (August, 1974), pp. 540-55.

[36] Ibid., p. 552.

[37] S. Fitt, "The Individual and His Environment", School Review, LXXXII, (August, 1974), pp. 617-20.

[38] Ibid., p. 620. Fitt also decries the fact that little research has been done on the interaction between individual style and environmental structure.

Perhaps the lack of comprehensive theory and descriptive concepts related to the "built-environment" may be attributed to the apparent fact that, according to Propst, ".... little attention has been paid to the physical environment because of overfamiliarity with its overt character- istics.... and the tendency of physical arrangements to static formality."[39] Propst firmly believes that in spite of the evidence that school environments have become "design stereotypes", they ".... still compel behavior and influence social interaction..."[40] In support of his contention that this lack of attention requires rectification, he cites Farson's rather com- pelling reason for studying environments as a potential change agent for people themselves:

> I spent my life as a psychologist, trying to figure
> out ways in which I could change people or enable
> them to change....I found that you can't really
> change people....as individuals or as groups you
> have to understand whole organizations. So I became
> interested in organizations. Finally, I got interested
> in environments, because no matter what scale you
> work on, you can't reform people, you can only create
> new forms. But people do change. They change almost
> entirely according to the situation in which they
> find themselves. It is not trimming people need--it's
> liberating and environments can beryerybliberating...
> Let's go into the institutions and organizations and
> see if we can't arrange the kind of social architecture
> that would...enable people to become what they want
> to be in everyday situations.[41]

In a very narrow sense, Farson's reason for studying environments is also the crux for this study: if the physical school space--the "built-

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[39] R. Propst, "Human Needs and Working Places", School Review, LXXXII, (August, 1974), p. 609.

[40] Ibid., p. 613.

[41] R. Farson, "The Greatest Realization", Environmental Planning and Design, VIII, (September, 1970), as cited by Propst, Ibid., p. 610.

environment"--can be altered in any way which will cause or enable people to change in a manner more likely to engender an "open" climate all concerned might reasonably be expected to benefit. In a substantially broader sense, though, Farson's reason for studying environments really transcends merely changing organizational climate. According to Propst,

> It is, in fact, a new level of agreement permitting the individual to implement a broader spectrum of changes at his discretion. In a curious way, it is agreement that managers may also manipulate the work environmental to meet the dynamic needs of contemporary organizations.[42]

In any case the apparent profound influence of the physical environment upon the teaching and learning processes, and upon the social interactions, when coupled with the importance of adequately managing school space in order to meet the needs of all concerned, certainly does seem to stress the importance of studying the physical size-climate relationship in schools. However, until considerably more concrete knowledge concerning this relation-ship becomes available it is unlikely that Farson's thesis can be modestly tested in its narowest sense, let alone in its considerably broader scope as envisioned by Propst.

Review of Relevant Concepts and Related Literature

Terms such as "planned change" or "innovation" or manipulating "variables" to improve school health are, of course, predicated on the assumption that any particular organizational occurrence takes place within a system of highly interdependent forces. Examination and analysis of the various effects each force may have upon the remainder will require an adequate definition of organizational climate, a relatively clear-cut

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[42] Ibid., p. 612.

notion or theoretic perspective of the school as a social system and an

operational concept of the organizational climate of a school.

Definition of Organizational Climate

Halpin and Croft quite frankly admit that there are numerous factors

which conceivably could define a school's 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 toward
> the school; the school's physical plant; the
> teacher's salary schedule; the educational and
> administrative policies of the school district; the
> location of the school; ...the social interactions
> that occur between the teachers and the principal.[43]

In fact, they list these eight factors as the very minimum which would have

to be taken into account in order to obtain a global assessment of organiza-

tional climate. They recognized that all of these facets could not be handled

simultaneously and yet wishing to start somewhere, Halpin and Croft selected

the "social component"--the social interactions that occur between the

teachers and the principal--as a departure point. Some justification for

selecting this particular component to define organizational climate to begin

with does exist if there is any validity to Halpin and Croft's suggestion that

the social interaction between school group membership is determined to some

degree by the "external" factors just listed; therefore their effect is at

least indirectly tapped by the OCDQ.

Theoretical Perspective of the School as a Social System

A theoretic model germane to the research area of interest of this

thesis has been formulated by Jacob Getzels; his model attempts to map a

pattern of relationships within the school as a social system while indicating

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[43] Halpin and Croft, _Organizational Climate of Schools_, p. 7.

organizational effectiveness in terms of goal achievement.[44] He postulates

two dimensions: the "idiographic" and the "nomothetic". The former

comprises those individuals, inclusive of personality and needs dispositions,

within the school organization while the latter is an institutional dimension

which consists basically of roles and the expectations which the organization

holds for those individuals who occupy these roles. These original dimensions

have been underlined in Figure 1, page 20.

Since organizational behavior is seldom, if ever, solely idiographic

or nomothetic, most goal oriented behavior may be described as a result of

interactions between the dimensions on three levels: institution with

individual, role with personality, and role expectations with needs-

dispositions. Obviously, conditions contributing to psychological tension

and conflict will arise when institutional demands are contrary to individual

demands and needs. However, if the dimensions are integrated, or congruent,

a state of zero tension exists, i.e., a state of satisfaction presumably

exists, and organizational goals may be achieved.

Other interactions from without occur which affect the organizational

behavior of the school as a social system. Getzels and Thelen added two

dimensions to the original model to account for the influence of environment-

al variables.[45] The first of these additional dimensions is anthropological

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[44] J.W. Getzels, "Administration as a Social Process", in A.W. Halpin
(Ed.), Administrative Theory in Education, (New York: The MacMillan Company,
1958), p. 156, for the two dimensional General Model initially developed
and underlined in Figure 1. See Jacob W. Getzels and Herbert A. Thelen,
"The Classroom as A Unique Social System", Chapter IV in Nelson B. Henry
(Ed.), The Dynamics of Instructional Groups, The Fifty-ninth Yearbook of
the National Society for the Study of Education, Part II, (U. of Chicago
Press, 1960), pp. 53-80, for later refinements added to the model
illustrated in Figure 1.

[45] Getzelss and Thelen, "The Classrooms as A Unique Social System",
pp. 53-80.

Anthropological Dimension — Ethos — Mores — Values

Nomothetic Dimension — Institution (b) — Role — Expectations

The School (a) as a Social System

General Dimension — Group — Climate — Intentions

Rationality

Identification

Idiographic Dimension — Individual (b) — Personality — Needs Dispositions

Biological Dimension — Organism — Constitution — Potentialities

Belongingness

Goal Behavior

FIGURE 1.   THE SCHOOL AS A SOCIAL SYSTEM*

a   The model specifically describes the class, but it generally applies to the school as well.

b   Getzels original two dimensional model has been underlined.

*   J.W. Getzels and H.A. Thelan. "The Classroom as A Unique Social System", in N.B. Henry (Ed.) The Dynamics of Instructional Groups, (University of Chicago Press: Chicago, Illinois, 1960), Chapter IV.

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and, as shown in Figure 1 consists of the cultural ethos, mores and values of the larger social system, i.e., environment, in which the school is embedded. Interaction between this anthropological dimension and the institutional dimension will determine the organizational behavior. The second dimension is biological and, as shown in Figure 1 consists of the organism, its constitution and its potentialities. Interaction between the biological dimension and idiographic dimension will determine the individual behavior.

Finally, another general dimension was ultimately added in order to relate the interactions between the original nomothetic and idiographic dimension. As shown in Figure 1, this third additional dimension consists of the group, which is a result of interaction between the institution and the individual; the climate which is a result of the interaction between role and personality; and the intentions of the role incumbents which is a result of the interaction between role expectations and needs-dispositions of the individuals comprising the group.

Ultimately it is the interaction between the anthropological and nomothetic dimensions which provide the rationale for the organization's goal directed behavior, while the interaction between the biological and idiographic dimensions provide the individual with a means of identification with the organization and its goals. Belongingness acts as a blanket force drawing the dimensions together toward achievement of suitable goal directed behavior.

Can Getzels' and Thelan's social system model illustrated in Figure 1, page 20, provide an adequate, theoretic explanation of the apparent preponderance of "closed" climates which seemingly does pervade "large" schools? It is simple enough to visualize the size of the group on the

general dimension as a function of the Institution on the nomothetic axis
and the number of Individuals on the idiographic axis. But why is the
climate usually "closed" if the size of the group is "large"? What is
happening within the social interaction between the nomothetic principal's
Role and the idiographic teachers' Personality when the group is "large"?
The social system model evidently can account for organizational climate--
"open" or "closed"--but it apparently will not adequately account for the
accordant relationship between "closed" climate and "large" schools.

Indik has proposed a psycho-sociological paradigm which would seem
to be capable of accounting for the fairly consistent relationship between
"closed" climates and "large" schools. His suggestion, illustrated in
Figure 2 is that an increase in organizational or group size generates a need
for an increase in the coordinative and supervisory function owing to the
need to facilitate the functions related to the group member's tasks.[46]

Size - - - - - - - - - - ➤ Supervisory - - - - - - - - - ➤Bureaucratization
                           Coordination

                           Impersonal - - - - - - - - - - ➤Attraction to
                           Control   the Organization
                                                           (Attitudinal)

                           Absence
                           Turnover
                           (Behavioral)
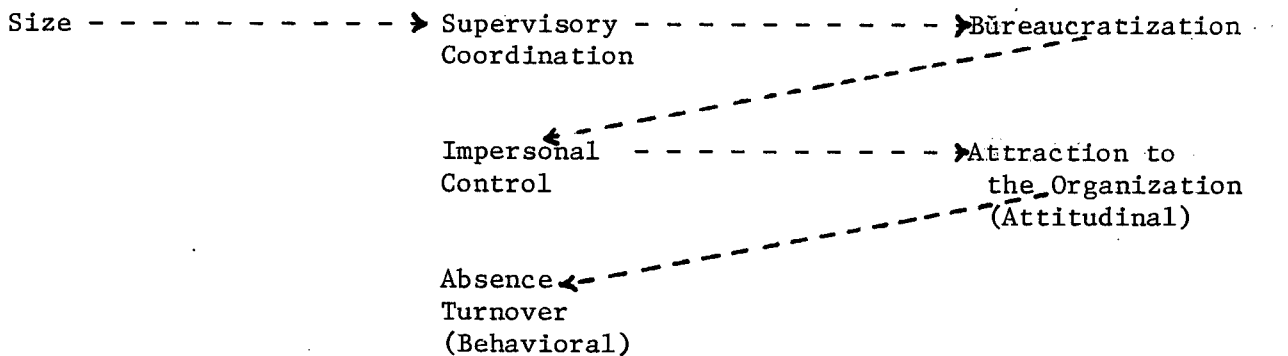
Figure 2 Paradigm - Effect of Structure on
Function and Influence of Function on Structure*

*Abstracted from B.P. Indik,"Some Effects of Organization Size on Member
 Attitudes and Behaviour",Human Relations, XVI, (1963), p.378.

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[46] B.P. Indik, "Some Effects of Organizational Size on Member Attitudes
and Behaviour", Human Relations, XVI, (1963), pp. 369-384.

This increased need for coordination and supervision in turn leads to Bureaucratization, which, in its turn, will tend to the use of Impersonal Controls; Impersonal Controls are likely to be less effective than affective interpersonal controls in attracting members to the organization (especially those individuals who seem to need primarily affectual--not impersonal-- controls); the less attractive the members find the organization the more likely they are to fail to actively participate which may be indicated by leaving the organization both temporarily (absence) and permanently (turn- over); consequently, the larger the organization the greater the individual absence and individual turnover is likely to be.[47]

Indik's psyco-sociological paradigm conceivably could complement Getzels' and Thelan's social system model in that the latter cannot adequately account, or explain theoretically, the concept that organizational climate on the general axis of Figure 1 may not be a direct result of the interaction between the Roles and Personalities of the Principal and Teachers. It may, however, be an indirect result of at least two mediating variables, that is, an organizational, or nomothetic process, e.g., control, and a psychological, or idiographic process, e.g., participation rate, both of which, in turn, are a result of the size of the group.

In support of his paradigm with respect to educational organizations, Indik cites a study which has indicated that as school district size increases--elementary districts, high school districts, or unified districts-- the percentage of members in the coordinative and supervisory component also tends to increase; but the increase in the latter is at a greater rate in

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[47] Ibid., pp. 377-378.

order to facilitate those functions related to the organizational members tasks.[48]

Furthermore, Carver and Sergiovanni intuitively seem to recognize this increase in the administrative component at the secondary school level when they conclude that to be effective the OCDQ measurement of climate in large secondary schools would likely require a shift in the point of reference from the school as a unit to a sub unit such as department chairmen who may be ".... more within the cognitive and effective limitations of interpersonal interaction for respondents."[49]

Operational Concept of School Organizational Climate

Stemming as it does from social systems theory, Getzels and Thelen's model can be adopted as representative of a theoretical framework from which an operational concept of the organizational climate of a school can be derived. Indeed, Lonsdale, who treats the terms task-achievement dimension and need-achievement dimension synonomously with the nomothetic and idiographic dimension respectively, has been cited as follows:

> Organizational climate might be defined as the
> global assessment of the interaction between the
> task-achievement dimension and the need-satisfaction
> dimension within the organization, or in other words,
> of the extent of the task-needs integration.[50]

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[48] F.W. Terrien and D.L. Mills, "The Effect of Changing Size Upon the Internal Structure of Organizations", American Sociological Review, XX, (1955), p. 11-14, cited in B.R. Indik, Ibid. p. 318.

[49] Sergiovanni and Carver, "Notes on the OCDQ", p. 81.

[50] T.W. Wiggins, "Principal Behavior in the School Climate: A Systems Analysis", Educational Technology, (September, 1971), p. 57. Citing from R.C. Lonsdale "Maintaining the Organization in Dynamic Equilibrium", in D. Griffiths (Ed.) Behavioral Science and Educational Administration, 63rd Yearbook of the NSSE, Part II, (Chicago: University of Chicago Press, 1964), p. 166.

Conceptually, then, the general dimension of the model which relates the interaction between the nomothetic and idiographic dimension does describe the organizational climate in terms of the interaction that occurs between organizational or group members who are acting within their prescribed roles while satisfying their particular needs. Operationally, this concept of organizational climate may be placed in terms of school organizational climate by referring to the state, or condition, which ordinarily results from the various social interactions normally taking place between the teachers and principal as they attempt to fulfill their prescribed roles while satisfying their individual needs.[51]

Development of the OCDQ

Having defined organizational climate as the social interactions that occur between teachers and the principal, Halpin and Croft began to concentrate on the central question of determining what new dimensions might be constituted to deal with this particular concept. Subsequently, an examination of available literature on leadership and group behavior led to a variety of classifications related to the attributes of either the leader, or the group, or both. Halpin and Croft have identified the following three schemata, which they feel effectively reduces the various taxonomies to a manageable form: 1) the locus or source from which inter-actions stemmed, 2) the "effectiveness", or vice verse, of the group or organization, and 3) the relationship between an individual's own social group needs as opposed to the social control imposed upon the individual

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[51] An illustration of this concept in operation has been provided by Guba and is cited on page 81 in conjunction with the discussion of the principal's leadership.

as a price of being a group member.[52]

The first of these three themes--group interactions--may be categorized as those determined primarily by the leader's behavior, or those attributable to characteristics of the group "qua" group and individual "qua" individual. Other interactions might also stem from, or be determined by procedures, i.e., actions of an executive hierarchically superior to the group leader.[53]

The second theme–group, or organizational "effectiveness"--may be classified into four "ideal types" which deal with the "Effective", the "Social-needs-oriented", the "Task-oriented" and the "Ineffective" organization.[54] An effective group is defined as one which ".... must provide satisfaction to group members in two major respects.... a sense of task accomplishment, and.... social satisfaction...."[55]

The Third scheme--social needs "versus" social control--deals with the balance which must be maintained between an individual's social need satisfaction and the organizational requirement to submit to such group discipline as required for membership, e.g., the "nine 'til five" routine.[56]

Halpin and Croft deliberately built the OCDQ around a collection of 1000 items which would representatively reflect all the categories posited by the three schemes described. Correlation, content and cluster-analysis

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[52] Halpin and Croft, Organizational Climate of Schools, p. 16.

[53] Ibid.

[54] Ibid., pp. 16-17. "Ideal types" refers to pure, theoretical types, not necessarily to an exemplary "ideal".

[55] Ibid.

[56] Ibid., p. 8.

procedures were systematically applied to these items until 600 remained.

Four similar OCDQ (150 item) versions were designed and tested through Form

I, Form II, and Form III using the responses from 1151 individuals represent-

ing 71 elementary schools until 80 items remained. Each respondent was asked

to rank on the following four point scale, the extent to which each item

statement characterized his or her school:

        1. Rarely occurs,

        2. Sometimes occurs,

        3. Often occurs, and

        4. Very frequently occurs.

Correlation, content and cluster analysis procedures were again applied.

Sixteen items were eliminated and the 64 items remaining constitute the OCDQ-

Form IV. Each of the items was assigned to one of eight subtests, with each

subtest presumably measuring a dimension of organizational climate.[57]

The first four of these subtests (described in Table I, page 28)

pertain primarily to the behavior of the teachers and are designed to assess

the climate dimensions defined in Table IA, page 30.

The remaining four subtests, described in Table II, page 29, pertain

primarily to the behavior of the principal. Table IIA, page 31 provides

definitions of the corresponding climate dimensions.

By using these definitions and descriptions the conceptual relation-

ship between group interactions and group or organizational effectiveness,

as well as social needs and social control, may be illustrated in Figure 3,

see page 32.

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[57] Factor analytic techniques applied to the 64 x 64 item intercorrelation
matrix did tend to justify the manner in which the items had been assigned
to the subtests on the basis of content and cluster analysis. See Data
Analysis Procedures, pages 47-49 for further more detailed discussion of
this aspect of the OCDQ development.

TABLE I

ITEMS THAT COMPOSE FOUR SUBTESTS: TEACHERS' BEHAVIOR**

I - DISENGAGEMENT

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

II - HINDRANCE

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

III - ESPRIT

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

IV - INTIMACY

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

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

**Adapted from A.W. Halpin and D.B. Croft, The Organizational Climate of Schools, (Chicago: Midwest Administration Center, The University of Chicago, 1963), p. 30.

Roman numerals in parenthesis define the items that compose five subtests for the Vancouver data. See Table V, pp. 54-55.

TABLE II

ITEMS THAT COMPOSE FOUR SUBTESTS: PRINCIPAL'S BEHAVIOR**

V   - ALOOFNESS

     *34. Staff meetings are organized according to a strict agenda. (IV)
      35. Staff meetings are mainly principal-report meetings.   (IV)
      36. The principal runs the staff meetings like a business conference. (IV)
      37. Teachers leave the grounds during the school day. (II)
      38. Teachers eat lunch by themselves in their own classrooms. (III)
      39. The rules set by the principal are often questioned. (II)
      40. Teachers are contacted by the principal each day. (I)
      41. School secretarial service is available for teachers' use. (I)
      42. Teachers are informed of the results of a principal's inspection. (I)

VI - PRODUCTION EMPHASIS

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

VII - THRUST

     *50. The principal goes out of his way to help teachers. (I)
      51. The principal sets an example by working hard himself. (I)
      52. The principal uses constructive criticism. (I)
      53. The principal is well prepared when he speaks at school functions. (I)
      54. The principal explains his reasons for criticism to teachers. (I)
      55. The principal looks out for the personal welfare of teachers. (I)
      56. The principal is in the building before teachers arrive. (I)
      57. The principal tells teachers of new ideas he has run across. (I)
      58. The principal is easy to understand. (I)

VIII- CONSIDERATION

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

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

**Adapted from A.W. Halpin and D.B. Croft, The Organizational Climate of Schools,
  (Chicago: Midwest Administration Center, The University of Chicago, 1963), p. 31.

Roman numerals in parenthesis define the items that compose five subtests for
   the Vancouver data. See Table V, pp. 54-55.

TABLE IA

THE FOUR DIMENSIONS OF ORGANIZATIONAL CLIMATE

RELATING TO TEACHERS' BEHAVIOR*

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

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

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

4. <u>Intimacy</u> refers to the teacher's enjoyment of friendly social relations
   with each other. This dimension described a social-needs satisfaction
   which is not necessarily associated with task-accomplishment.

* Adapted from A.W. Halpin and D.B. Croft, <u>The Organizational Climate of
Schools</u>, (Chicago: Midwest Administration Center, The University of Chicago,
1963), p. 29.

TABLE IIA

THE FOUR DIMENSIONS OF ORGANIZATIONAL CLIMATE

RELATING TO PRINCIPAL'S BEHAVIOR*

1. 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 universal-

   istic rather than particularistic; nomothetic rather than idio-

   syncratic. To maintain this style, he keeps himself--at least

   "emotionally"--at a distance from his staff.

2. Production Emphasis refers to behavior by the principal which is

   characterized by close supervision of the staff. He is highly directive,

   and plays the role of a "straw boss". His communication tends to go in

   only one direction, and he is not sensitive to feedback from the staff.

3. 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 favourably by the teachers.

4. 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 for them in human terms.

* Adapted from A.W. Halpin and D.B. Croft, The Organizational Climate of
Schools (Chicago: Midwest Administration Center, The University of Chicago,
1963), p. 32.

GROUP   LEADER

Dimensions associated primarily with social needs satisfaction	IV Esprit Intimacy	I Thrust Consideration
Dimensions associated primarily with aspects of social control	III Disengagement Hindrance	II Production Emphasis Aloofness

FIGURE 3

EIGHT DIMENSIONS OF THE OCDQ: FORM III (80 Items)*

* Abstracted from A.W. Halpin and D.B. Croft, The Organizational Climate of Schools, (Chicago: Midwest Administration Center, The University of Chicago, 1963), p. 27.

T   The dimensions contained in quadrants I, Thrust and Consideration, and IV, Esprit and Intimacy, are primarily associated with satisfaction of social needs, while the dimensions contained in quadrants II, Production Emphasis and Aloofness, and III, Disengagement and Hindrance, are generally associated with social control. Quadrants I and II of Figure 3 are basic to the behavior exhibited by group leaders, while quadrants III and IV are normally related to group or group behavior.

From a theoretical point of view, quadrant I in Figure 3 may be said to define an "ideal-effective" situation in that both a feeling of task accomplishment and a satisfaction of social needs exists.[58] Quadrant III describes an "ideal-ineffective" situation because the group is neither experiencing a sense of task accomplishment nor adequate satisfaction of

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[58] Halpin and Croft, Organizational Climate of Schools, p. 27

social needs.[59] Quadrant II is highly "task-oriented", but lacks a

balance with social need satisfaction, whereas precisely the opposite

situation is indicated in quadrant IV. Neither the "task oriented" nor

the "social-needs oriented" situation should necessarily be considered a

"good"model for an organization to follow. However, both are likely to

be considered more desirable than Quadrant III in that each situation does

provide at least a portion of task accomplishment or social needs satis-

faction respectively.[60]

Climate Profiles

Since the major purpose of Halpin and Croft's work was to describe

the organizational climate, i.e., "personality" of schools--at least as it

is perceived by their respective staffs--a climate profile was obtained for

each of the 71 schools based on scores from the eight subtests.[61] Factor

analysis of these profiles extracted three factors with six major patterns

of loadings. An average profile was computed for those schools within the

set which were distinguished by a high loading on only one of the three

profile factors. Then, on the basis of this analysis, six climates were

conceptualized along what was construed as a continuum ranging from the

"open" climate at one end to the "closed" climate at the other. An

abbreviated description of Halpin and Croft's six organizational climates

is presented in Table III, page 34.

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[59] Ibid.

[60] Ibid.

[61] The climate profile obtained for each of the 20 Vancouver schools based on these scores may be found in Appendix E.

TABLE III
THE SIX ORGANIZATIONAL CLIMATES*

1. The Open Climate describes an energetic, lively organization which is moving toward its goals, and which provides satisfaction for the group members' social needs. Leadership acts emerge easily and appropriately from both the group and the leader. The members are preoccupied disproportionately with neither task nor social-needs satisfaction; satisfaction on both counts seems to be obtained easily and almost effort-lessly. The main characteristic of this climate is the "authenticity" of the behavior that occurs among all the members.

2. The Autonomous Climate is described as one in which leadership acts emerge primarily from the group. The leader exerts little control over the group members; high Esprit results primarily from social-needs satisfaction. Satisfaction from task achievement is also present, but to a lesser degree.

3. The Controlled Climate is characterized best as impersonal and highly task-oriented. The group's behavior is directed primarily toward task accomplishment, while relatively little attention is given to behavior-oriented or social-needs satisfaction. Esprit is fairly high, but it reflects achievement at some expense to social-needs satisfaction. This climate lacks openness, or "authenticity" of behavior, because the group is disproportionately preoccupied with task achievement.

4. The Familiar Climate is highly personal, but undercontrolled. The members of this organization satisfy their social needs and pay relatively little attention to social control in respect to task accomplishment. Accordingly, Esprit is not extremely high simply because the group members secure little satisfaction from task achievement. Hence, much of the behavior within this climate can be construed as "inauthentic".

5. The Paternal Climate is characterized best as one in which the principal constrains the emergence of leadership acts from the group and attempts to initiate most of these acts himself. The leadership skills within the group are not used to supplement the principal's own ability to initiate leadership acts. Accordingly, some leadership acts are not even attempted. In short, little satisfaction is obtained in respect to either achievement or social needs; hence, Esprit among the members is low.

6. The Closed Climate is characterized by a high degree of apathy on the part of all members of the organization. The organization is not "moving"; Esprit is low because the group members secure neither social-needs satisfaction nor the satisfaction that comes from task achievement. The members' behavior can be construed as "inauthentic"; indeed, the organization seems to be stagnant.

* Abstracted from J.B. Kenny and R.R. Rentz, "The Organizational Climate of Schools in Five Urban Areas", The Elementary School Journal, (November, 1970), pp. 62-63.

Figure 4, page 36, denotes and compares the basic characteristics of the most "open" with the most "closed" organizational climates found by Halpin and Croft.

The "Open" Climate. Clearly, in the "open" climate as it is depicted in Figure 4, Disengagement and Hindrance are both relatively low in that the organization's members apparently are able to work reasonably well together with a minimum of squabbling and griping. Meanwhile, the leader's policies and related procedures do not particularly seem to hinder or burden them with numerous meetings and routine reports. Esprit is high, but the group members, while friendly, evidently feel little need for a great deal of intimacy. As a rule, they are likely to be pleased with their organization as well as their job within it, and as a result they probably are sufficiently motivated to work out problems and difficulties in order to keep the organization "going".

The leader is neither impersonal nor aloof in either manner or rules and procedures. It would seem that he does not necessarily need to emphasize production owing to the relatively subtle direction and control provided by his policies and regulations. Indeed, Figure 4 would indicate that Production Emphasis is low; thus, while maintaining complete control, the organization's leader is apparently able to permit the emergence of certain acts of leadership on the part of appropriate group members. Furthermore, he normally seems to set an excellent example through his own hard work, i.e., high Thrust, and thereby places himself in a position to legitimately criticize certain actions as necessary or show relatively high degree of Consideration in assisting group members as required.

The "Closed" Climate. Whereas the leader in the "open" climate may be labelled "effective", i.e., he directs his organization and his group

CHARACTERISTICS OF THE GROUP   BEHAVIOUR OF THE LEADER

Disengagement   Hindrance   Esprit   Intimacy   Aloofness   Production   Thrust   Consideration
                                                                     Emphasis
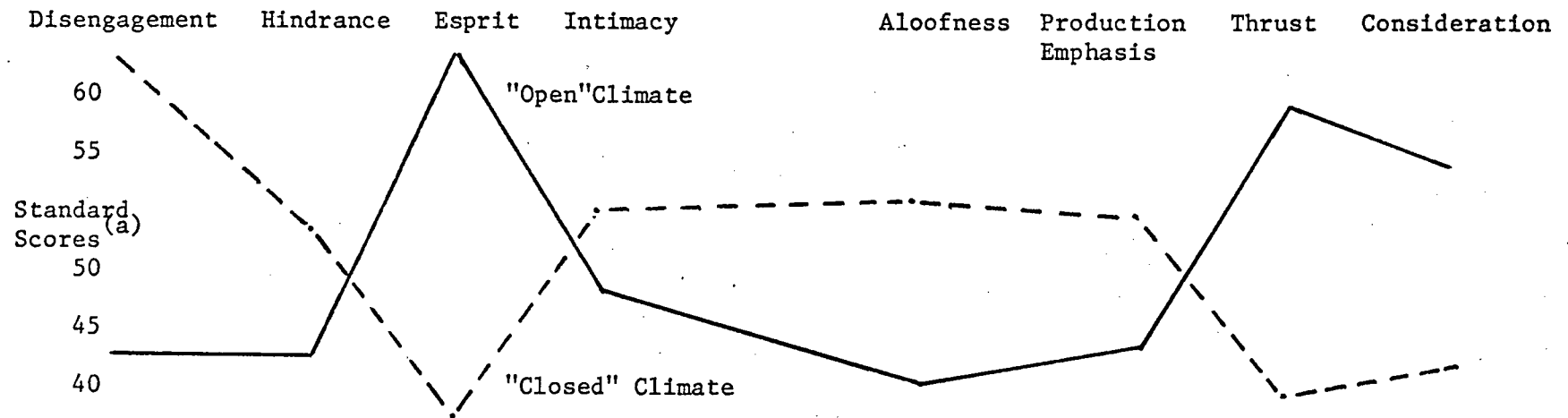
(a) Standard scores with a mean of 50 and a standard deviation of 10.

FIGURE 4.

COMPARISON OF AN OPEN AND A CLOSED ORGANIZATIONAL CLIMATE ON THE EIGHT SUBTESTS OF THE ORGANIZATIONAL

CLIMATE DESCRIPTION QUESTIONNAIRE (FORM IV)

Source: Halpin and Croft, The Organizational Climate of Schools, (Chicago: Midwest Administration Center,
         The University of Chicago, 1963),p.3

members' activities while taking some interest in their individual welfare as well, the opposite is generally the case in the "closed" climate. The leader is "ineffective". He neither successfully directs nor does he seem to take any particular interest in the group members personal welfare. As a result, the membership seems to be unable to work well together, Figure 4 indicates that they are Disengaged. Consequently any sense of task achievement is probably obtained through attendance at numerous meetings and completion of a seemingly endless variety of routine reports. Unfortunately even this sense of achievement is likely to be dulled as a result of the leader's policies and procedures which may best be described as the locus or source of a high degree of Hindrance. Lacking both task and social need satisfaction, Esprit is low. Nevertheless the group members are reasonably friendly with one another as depicted by the average to slightly above average degree of Intimacy in Figure 4.

The leader in a "closed" climate is likely to be impersonal in both manner and procedures. A fairly high degree of inflexibility is probably noticeable in the Aloof methods with which he attempts to control and direct the organization. As a result, Production Emphasis, while relatively high, is somewhat meaningless in that the personal example, or Thrust, evidenced by the leader is poor. In fact, what he says and what he actually does are likely to be two different things. On one hand, he seems to expect diligence, hard work and the emergence of initiative or leadership acts from his people, while on the other hand, he seems incapable of providing the freedom for any such performance to occur. Furthermore, he usually fails to provide adequate leadership for the group and therefore places himself in a position whereby criticism is resented. Perhaps the resentment may be attributed to his evident lack of concern for the group members' social

needs. There is little motivation to work out problems. The organization

becomes almost stagnant. In fact both Consideration and Thrust are likely

so low in the "closed" climate that the leader is probably not perceived as

"legitimate". To the contrary, he is more likely to be regarded as a

"phoney" by the group.

Use of Climate Continuum "versus" Use of Climate Subtests

The OCDQ has been subject to some relatively severe criticism as to

the desirability of extending the data results so far as to develop an "open-

closed" climate continuum rather than simply rely upon the subtest scores

obtained as an adequate indicator of organizational climate.

Generally speaking, only one argument favouring the continuum

concept—other than Halpin and Croft's, of course—seems to have been put

forward. Brown has attempted to replicate the original OCDQ analysis using

81 schools in the Saint Paul-Minneapolis area.[62] He found that the inter-

correlation pattern among the subtest scores was generally similar to the one

originally obtained.[63] However, Brown's profile analysis of the data

ultimately seemed somewhat more suitable for a four factor solution; thus

leading him to conclude that eight organizational climates, not six, could

be defined.[64]

Which is correct? Brown answers that "since identical procedures

were used in the two cases it is impossible to say that one set of climates

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[62] R.J. Brown, "Identifying and Classifying Organizational Climates in Twin Cities Area Elementary Schools", paper presented at the Chicago meeting of Educational Research Association, February 1965. Cited in Halpin, "Change and Organizational Climate", p. 7.

[63] Ibid.

[64] Ibid.

is correct and the other is not."[65] Liberally speaking, he agrees that even though it may be possible to identify a continuum divisible into either six or eight discrete climates, conservatively speaking, he believes its use would best be left for developing research hypotheses.[66]

In yet another case, an argument against the development and subsequent use of any climate continuum whatsoever has been formulated by Andrews, who, in an effort to validate the OCDQ as a test instrument through a sample of 165 Alberta schools, untimatly concludes that ".... the OCDQ possesses good construct validity", and ".... the eight subtest scores are a good measure of the concepts they purport to measure", but the overall climate does not predict anything that is not better predicted by the subtest.[67]

A plausible explanation accounting at least in part for the controversy surrounding the use of climate continuum "versus" subtest results may have been provided by Hodgkinson's use of the OCDQ in his study of organizational influence on value systems using a sample of 40 schools in the Greater Vancouver Metropolitan area.[68] While analysing his data, Hodgkinson began to have some serious reservations regarding some of the statistical techniques employed by Halpin and Croft to initially develop the climate continuum.[69] In brief, the school profiles were formed by standardizing the raw scores normatively (across the 71 schools sampled) and

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[65]   Ibid.

[66].   Ibid.

[67].   J.H.M. Andrews, "School Organizational Climate"., p. 333.

[68].   C. Hodgkinson, "Organizational Influence on Value Systems", Educational Administration Quarterly, III, No. 3 (Autumn, 1970), pp. 46-55.

[69].   Ibid., p. 51.

ipsatively (across each of the subtest scores for each school).[70] Accordingly, Halpin and Croft state, "The standardized scores now told us two things .... a score above 50 on a particular subtest indicated, first, that the given school scored above the mean of the sample on that subtest, and second that the score on that subtest was above the mean of the school's other subtest scores ...."[71] The idea, according to Halpin and Croft, is to avoid confounding the interschool variance and the intraschool variance. However, Hodgkinson argues .... "that this is the very confusion which is confounded. Not only in this process of double standardization will the second normalization destroy the first, but the effect of the first (normative) standardization is to remove the capability of ipsative comparison."[72] Finally, Hodgkinson argues, what is the point of either a single or double normalization in the first place? There is no need for either of them since the original raw scores will suffice for factor analytic purposes.[73]

Like both Brown and Andrews, Hodgkinson's criticisms are directed toward the climate continuum, not toward the climate subtests themselves.[74]

In response to the discrepancy between six or eight discrete climates which a continuum may be said to obtain, Halpin has noted that, as Brown's study suggests, the climates are not only not sacrosanct, but also ".... that the continuum of the six climates that Croft and I conceptualized

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70. Ibid.

71. Ibid., Hodgkinson is citing from Halpin and Croft, Organizational Climate of Schools.

72. Ibid., p. 52.

73. Ibid.

74. Ibid.

is not so clear-cut as we had thought originally."[75] At the same time he

agrees that he would not care to quibble with Andrews' expressed desire to

deal with OCDQ data at the subtest level rather than with the six postulated

climates.[76]

As yet, neither Halpin nor Croft appear to have made any effort to

respond to the criticisms Hodgkinson has brought forward regarding the

statistical techniques employed to develop the climate continuum.

In any event, the findings of the three studies just cited are

germane to this investigation in that they cast considerable doubt on the

statistical validity of developing and describing an organizations' "health"

by a climate continuum. In fact, doing so apparently would refine the

results considerably further than the data would seem to warrant. Consequent-

ly, in spite of the obvious advantage of dealing simply with a single "open"

or "closed" climate as illustrated in Figure 4, this investigation must

necessarily limit the use of its data to the subtests and their relation-

ship, if any, with school size.

Hypotheses – The Relationship Between School Size and Organizational Climate

With respect to appropriate measures of school size, there is general

agreement in the literature that objective indicators are obtained by assess-

ing size in terms of: number of Staff Members; School Area expressed in

square feet; Enrolment; and Human Density, expressed in terms of the amount

of available square feet for students, teachers and administrators.

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75. Halpin, "Change and Organizational Climates", p. 8

76   Ibid.

In order to examine the relationship between school organizational climate (as assessed by the OCDQ subtests) and the four school size variables, the following null hypotheses were formulated:

Null Hypothesis 1: School size in terms of School Area expressed in square feet is not significantly correlated with the eight organizational climate subtest scores as measured by the Organizational Climate Description Questionnaire.

Null Hypothesis 2: School size in terms of the number of Staff Members employed therein is not significantly correlated with the eight organizational climate subtest scores as measured by the Organizational Climate Description Questionnaire.

Null Hypothesis 3: School size in terms of Enrolment is not significantly correlated with the eight organizational climate subtest scores as measured by the Organizational Climate Description Questionnaire.

Null Hypothesis 4: School size in terms of Human Density, is not significantly correlated with the eight organizational climate subtest scores as measured by the Organizational Climate Description Questionnaire.

Level of Significance: These hypotheses will be tested at a 0.05 level of significance.

III DESIGN AND METHODOLOGY

The OCDQ Form IV which was used to obtain data for this study, is, for all intents and purposes, identical to the instrument originally developed and published by Halpin and Croft in 1963. For a brief description of minor word alterations which have been made to place a few of the items developed in the United States in a Canadian context, the reader is referred to Appendix B. The purpose, design and development of the instrument has been discussed and described in some detail within the conceptual framework presented in the preceding chapter.

Definition of Variables

In addition to the general definitions pertaining to the description of teacher behavior (Table I, page 28, and Table I-A, page 30), principal behavior (Table II, page 29, and Table IIA, page 31), and the six climates (Table III, page 34), there are other variables that need to be defined in light of the hypotheses stated in Chapter II. Namely, these are school area, staff members, enrolment and human density. The following operational definitions were used to provide indicators for these four variables of school size:

School Area: The aggregate total area of a school (inclusive of wood portables, where applicable) is defined as the school area. It refers to outside measurement as expressed in terms of square feet and coincides with the total area per school indicated in the contractual agreement between the Vancouver Board of School Trustees and the Canadian Union of Public Employees representing District 39 janitors.

Staff Members. The total number of full time teachers employed in each school has been obtained from the 1970-71 "Directory of Teaching Staff

by Schools" produced by the Vancouver Board of School Trustees. In addition,
each school's principal has also been included as an element within the
school's staff member set. All other school personnel have been excluded.

.Enrolment. Enrolment is defined as the number of elementary
school students registered in kindergarten through grade seven with the
Vancouver Board of School Trustees, District 39, Department of Research
and Special Services, as of September 30, 1970. Special classes have been
excluded.

Human Density. The amount of school area expressed in square feet
which is available to each individual student, full time teacher and
principal is defined as density, or more particularly, as human density.
It may be obtained simply by dividing the total School Area by the sum of
the Enrolment and Staff Members. Obviously, the larger the numeric value
so obtained the more "expansive", i.e., more square feet per individual,
the human density. Conversely, a small numeric value expresses "compact"
or "crowded" conditions, i.e., relatively few square feet per individual.

School District Sampling Procedures

Twenty-four of the seventy elementary schools in the Vancouver School
District have one or more annexes which are associated with them. Even
though the annex is under the jurisdiction of the school's principal much
of the "over-seeing" is apparently delegated to the vice-principal or, in
some instances, a leading teacher. Consequently, entire schools having one
or more annexes were eliminated from consideration in this investigation
in order to avoid the possibility of "dual leadership" contaminating the
organizational climate of either the school or the annex.

The forty-six remaining schools are geographically distributed in a relatively even fashion, ranging from a minimum of four to a maximum of nine, across eight zones in the Vancouver District. They average just under six schools per zone. Twenty-one of forty-six schools were selected at random for consideration in this study. Two or three schools—depending upon the zone's size—were then randomly selected from each zone. The objective of the sampling procedures was to obtain a relatively composite, cross sectional picture of the Vancouver School District without having to survey every school.

Participating Teacher Sampling Procedures

A letter, which outlined the study's purpose and requested the principal's authorization to include his school in it, was directed to each of the sample schools. (Refer to Appendix A). A copy of the OCDQ was included in the letter so every principal would be alerted to the fact that to some extent his teachers would be "rating his leadership", i.e. at least rating it as they perceived it. (Refer to Appendix B).

Where authorization was granted, as it subsequently was in 20 of the 21 schools randomly selected from the 46 under consideration, each principal was contacted personally. He was given a package containing a list of his entire full time teaching staff in order of random selection and sufficient Questionnaires for approximately one-third of that staff. He was asked to query each staff member in the sequence listed with respect to his or her willingness to participate in the study. Those individuals responding affirmatively were given a copy of the OCDQ along with a pre-stamped return mail envelope. In this manner it was hoped that a high degree of cooperation might be obtained without severely reducing the desired school sample size. Indeed, 120 out of 128 questionnaires were returned. One hundred and sixteen were eliminated because

of them were usable: four were eliminated because the respondants failed to indicate their particular school's name in the place provided for that purpose.

Study limitations

In addition to a "parsimony-imposed" limitation related to selecting a manageable number of school size variables, this study also has certain basic methodological limitations inherent within it. Namely, the development of the instrument, the nature of the data, sample information realiability, and uniqueness.

Development of the Instrument. The first of these four limitations is related to the development of the instrument itself. The dimensions of organizational climate have been identified by devising taxonomies. Unfortunately, a taxonomy does not readily lend itself to proof, or for that matter, verification. Halpin and Croft do not feel that this is a serious matter. They contend that even though it is difficult, if not wholly irrelevant, to question a taxonomy's validity its heuristic value outweights this limitation.[77]

Nature of the data. The second limitations is a direct result of the fact that the data supplied by group members describe the leader's behavior as each individual perceived it. Obviously, this may or may not necessarily describe how he actually does behave. This limitation is not serious as long as the assumption is correct that how the leader is perceived to behave may have much more influence on the group member's behavior than how the leader actually does behave.

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[77] Halpin and Croft, Organizational Climate of Schools, p. 9

Sample Information Reliability. Information based on a sample obviously represents only a part, or parcel, of the general population under consideration. As a result such information does not necessarily provide precise data pertaining to the actual characteristics of the population in question. Nevertheless, certain generalizations regarding the population may be extrapolated from information obtained by random sampling techniques. The degree of confidence that such extrapolations reliably represent the actual statistical characteristics of the population in question may be arithmetically calculated.

Tables indicating the degree of confidence in the reliability of the sample results obtained for each of the five subtests from each school included in this investigation have been calculated and are included in Appendix C. Generally speaking, the sample information does seem to reveal a relatively high degree of reliability in the sense that the sample results pertaining to the climate subtest of each school seem to adequately approximate the same score which might have been obtained if every teacher in each school had been included in the survey.

Uniqueness. Although the information obtained by sampling may be generalized to apply to a school, the sample results pertinent to any particular school are unique to that school. Subtest scores are limited to the schools in question and as such should neither be generalized to any other schools nor thought of as indicative of norms in the Vancouver School District.

Data Analysis Procedures

In Halpin and Croft's analysis of the original data (n=1151), the procedure involved a principal component factor analysis of the 64 x 64 item

intercorrelation matrix, from which eighteen factors with eigenvalues above

1.00 were extracted. An eigenvalue represents the sum of the squared factor

loadings for each factor when the communalities of the variables are 1.00:

it indicates a factor's importance because it describes the amount of

variance accounted for by the factor. A factor loading will indicate the

extent to which each factor or dimension participates in the climate concept

as illustrated in Figure 3.

Halpin and Croft then departed from the "orthodox rules" for factor

analysis and generated a varimax rotational solution for the first eight of

the eighteen factors which had been extracted from the item intercorrelation

matrix.[78] The basis for this departure stemmed from the premise that by

successfully choosing the eight dimensions which would account "best" for

the variance in the sixty-four items, then those items within each subtest

would yield a high loading on one factor and load near zero on the other

seven. Furthermore, they felt that if each item loading was high on the

same factor as other items in the same subtest, then it would be safe to

conclude that each item could be presumed to be measuring the same general

type of social interaction as were the others within the set.

In the original study this indeed is the case as may be seen in

Appendix D. After forcing an eight-factor varimax rotation structure, Halpin

and Croft found the factor pattern to indicate that most of the items in the

eight subtests loaded heavier on the same factor, and that each item within

each subtest loaded high on the same factor as do the other items from the

same subtest: therefore, each subtest would seem to be relatively in-

dependent. Moreover, its score may be construed as representing a factor.

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[78] Halpin and Croft, _Organizational Climate of Schools_, page 33.

From an examination of Appendix D, it is apparent that factors 2,5,7, and 3 represent Disengagement, Hindrance, Esprit, and Intimacy, respectively. Factors 8,4,1, and 6, represent Aloofness, Production Emphasis, Thrust and Consideration, respectively.

Replication of Original Procedures. The data obtained from the twenty Vancouver Schools (n=116) was analyzed by generating a principal-component factor analysis of the 64 x 64 item intercorrelation matrix. Fourteen factors with eigenvalues above 1.00 were extracted from this matrix. Then, following Halpin and Croft's procedures, a varimax rotational structure was subsequently generated for the first eight of the eighteen factors. These procedures yielded the factor pattern shown in Table IV, pages 52-53.

Although the original study does, in fact, yield a relatively pure loading for each item in the appropriate subtest corresponding to a particular factor, no such clean-cut array emerged for the factor pattern in this study. As a matter of fact, even the most casual comparison of the factor pattern shown in Appendix D with that of the present study (Table IV), reveals more discrepancies than similarities between the two sets of data. For example, three of the four subtests which describe teacher's behavior--Hindrance, Esprit and InIntimacy--fail to show more than one item loading at 0.50. Moreover, in Table IV, Item 3 in the Disengagement subtest, i.e., Teachers exert group pressure on non-conforming staff members, is the only item which loads significantly on the factor. Obviously the subtests which generally load as expected on the four dimensions presumably measuring teacher's behavior in the original study do not load in any such similar manner in a sample of 20 Vancouver elementary schools.

Furthermore, a similar conclusion may be drawn regarding the four

subtests pertaining to the Principal's Behavior. The loadings in Table IV

for the Production Emphasis and Consideration subtests, for example, are

unimpressive in the Vancouver schools sampled. Aloofness has only one item

showing any strength and Thrust, even with three items showing some degree

of association, does not load very heavily on the remaining five subtest

items.

Since the factor pattern obtained by following the original procedures

with the Vancouver data differs so radically from Halpin and Croft's eight

dimensions, it is not illogical to conclude that the eight sets of item

groups which they had chosen from their large sample simply do not "fit"

when the smaller Vancouver sample data is substituted. As a matter of fact,

in the words of Halpin and Croft:

> If we had obtained a factor pattern in which most
> of the items in a given subtest had failed to load
> on the same factor, then we would have been forced
> to conclude that we had not chosen the "best" eight
> sets of item groups.[79]

What choice would constitute the "best" set or sets of item groups for the

Vancouver data? What dimensions would account "best" for the variance in

the sixty-four items? Which items within each subtest would describe a

dimension yielding a relatively high loading on one factor while loading

near zero on other factors? Since the answers to these questions evidently

do not lie in a replication of the original procedures with the Vancouver

data another factor pattern must be considered.

Five Factor Pattern. Accordingly, in addition to following Halpin

and Croft's methodology, i.e., forcing eight factors, the Vancouver data

were simply subjected to standard factor analytic procedures. (The resultant

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[79] Ibid., p. 33.

five factors are shown in Table V, pages 54-55). The characteristics of the group and the leader merge to a considerable extent, but with the exception of those items pertaining to Aloofness, which spread across three of the five factors, the five dimensions basically contain the merged subtests as a whole. Thrust and Consideration, for example, load entirely on Factor I. Esprit also loads on Factor I for all intents and purposes.[80] Factor II contains all the items pertinent to Disengagement plus the item related to the principal talking too much.[81] Factor III, is, for all intents and purposes, simply Halpin and Croft's Intimacy Subtest with the addition of a) an Esprit item related to the amount of Teachers' laughter at informal gatherings, and b) the Aloofness item related to teachers eating lunch alone. Factor IV contains most of the items related to the Production Emphasis subtest plus those Aloofness items which could be considered to relate to working conditions. Factor V is, for all intents and purposes, the original Hindrance subtest, with a negative loading value on all items except Item 14, i.e. Administrative paper work is burdensome; apparently administrative reports do take up too much of the teacher's time.

Naming the Five-Factors. A plausible explanation for the merged five-dimensional OCDQ result as opposed to the original eight dimensional structure may have been provided by Kenny and Rentz, who have categorically

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[80] Item 23, i.e., There is considerable laughter when teachers gather informally, is the only item from the Esprit subtest which fails to load on Factor I but it does seem more appropriate for Factor III which apparently has more in common with situations encountered outside the classroom.

[81] It is interesting to note that this is the only item related to principal's behavior which loads on what is obviously a "teacher group" factor; that is all other items are generally related to how the teacher perceives the teacher group. It is conceivable that under certain circumstances the principal is considered as a group member rather than group leader.

TABLE IV

ROTATED ITEM FACTOR MATRIX FOR 64 ITEMS OF THE OCDQ, FORM IV,
8 FACTOR PATTERN
Vancouver Sample (n=116)

OCDQ Subtest Item	1	2	3	4	5	6	7	8	h^2
				FACTORS					
					Disengagement				
1.	*50	-11	29	-03	37	-12	-13	-22	58
2.	-02	-02	*64	-07	08	-08	-02	-03	43
3.	00	*54	-12	05	-26	21	-05	11	44
4.	-01	331	15	-15	-22	01	07	06	20
5.	-21	-10	12	11	16	-05	04	-10	73
6.	16	17	-13	12	-18	-02	22	24	23
7.	02	-02	-06	*-41	09	-01	13	-10	21
8.	-34	-30	14	10	-00	01	-18	-12	28
9.	*-52	26	28	21	-04	-12	08	-03	49
10.	-23	-13	*40	04	07	-06	-08	07	26
					Hindrance				
11.	01	*61	08	-09	09	03	-07	15	42
12.	20	39	06	21	-28	30	19	04	44
13.	16	10	01	-15	00	06	25	41	29
14.	-14	-24	24	03	22	17	*-43	-20	44
15.	-03	*50	-34	08	-11	15	25	-01	47
16.	-10	13	*45	-02	-16	11	02	*-41	43
					Esprit				
17.	*-43	-14	14	-01	29	00	-11	-29	40
18.	-10	13	*69	-07	16	06	-02	-12	55
19.	-18	06	34	-11	35	-12	-14	*-49	55
20.	10	*56	06	-29	-17	09	09	-05	47
21.	04	-36	08	12	15	16	-33	01	31
22.	26	24	-18	10	-34	-09	06	09	30
23.	-14	59	13	-11	-09	00	02	-15	42
24.	*-45	-18	19	00	*39	-20	-24	-09	53
25.	*-48	-00	19	29	00	03	22	-20	44
26.	-07	*-48	110	-01	-08	10	-05	-14	29
					Intimacy				
27.	02	-20	13	14	26	-07	-27	*-42	39
28.	*-42	-07	11	-11	10	-22	-10	08	28
29.	*43	14	07	*-47	-07	224	-00	21	54
30.	*-42	-29	10	-06	24	12	-10	-11	37
31.	-10	34	-18	12	-33	24	15	-22	41
32.	-24	-04	02	-15	-00	15	-56	06	42
33.	-39	-02	01	-18	-16	-03	-17	-01	24

TABLE IV (Continued)

OCDQ Subtest Item	1	2	3	4	5	6	7	8	h^2
					Aloofness				
34.	-07	22	-02	09	*-46	15	04	01	30
35.	-18	-00	18	-23	-01	16	07	-68	61
36.	33	29	-07	-22	-35	-05	-14	-13	40
37.	31	06	02	07	-18	22	26	06	26
38.	13	06	-06	-19	*-65	02	15	04	51
39.	-05	10	06	-16	00	*65	-10	01	47
40.	-32	03	21	16	03	-04	11	-31	29
41.	*71	10	21	05	04	-13	01	-11	60
42.	-25	-18	11	-07	06	14	01	16	13
				Production	Emphasis				
43.	-05	02	05	-09	09	12	*55	05	34
44.	*-59	21	27	15	00	-07	08	04	51
45.	08	00	-03	-09	-23	12	-11	-17	13
46.	*-68	-19	01	12	03	-00	-07	00	52
47.	*-41	06	-07	13	22	*-49	-03	-07	48
48.	*-71	08	-10	-11	-13	-07	-06	-16	57
49.	-19	-09	11	09	19	01	-33	-22	26
					Thrust				
50.	-35	16	-04	-00	12	12	-16	-08	21
51.	25	21	04	*-50	-24	-04	13	-06	44
52.	11	002	-07	-09	-02	*63	00	-04	42
53.	-06	13	07	*-59	-05	09	-22	-02	43
54.	*-65	-01	02	01	12	11	-14	-08	47
55.	*-73	-08	-06	-02	-02	-10	08	05	56
56.	-25	07	-11	-04	*46	26	18	-08	40
57.	*-76	-05	-12	-06	33	-02	-04	-17	74
58.	04	14	04	06	-02	20	00	24	12
					Consideration				
59.	*-62	-21	17	01	*40	-12	-06	-09	65
60.	-33	25	25	03	35	-01	11	-22	42
61.	-08	-18	*56	04	-08	18	-03	-31	49
62.	-35	14	-11	-20	-23	13	-03	-05	27
63.	04	03	09	*-63	-00	15	01	05	44
64.	*-50	10	09	20	01	10	-14	-08	34
Eigenvalue[a]	10.56	4.23	3.11	2.11	1.82	1.55	1.36	1.29	2603/64= 41
Cumulative proportion of total variance	0.17	0.23	0.28	0.31	0.34	0.37	0.39	0.41	

[a] These values were computed from the original unrotated factors.

TABLE V

ROTATED ITEM FACTOR MATRIX FOR 64 ITEMS OF THE OCDQ, FORM IV
5 FACTOR PATTERN
Vancouver Sample (n=116)

	FACTORS					
OCDQ Subtest Items	I	II	III	IV	V	h^2

Principal as Leader

OCDQ Subtest Items	I	II	III	IV	V	h^2
50.	*69	-02	05	1̶5	03	50
52.	*69	-13	02	09	-03	50
51.	*64	-08	-02	-01	-03	42
54.	*63	-08	09	01	-01	41
57.	*59	-01	05	-04	-04	36
58.	*55	-12	07	20	03	36
17.	*54	-24	24	17	12	45
53.	*51	-09	-07	-02	03	28
19.	*47	-29	35	10	06	44
16.	*46	-18	07	-16	̗12̗	28
24.	*45	-16	18	-19	-01	29
18.	*44	-33	229	00	10	40
22.	*44	-15	07	-02	12	24
55.	*44	-05	05	-00	-01	20
64.	*42	10	04	04	15	21
56.	38	-08	01	-13	-03	17
61.	38	13	09	-13	-00	19
60.	37	20	32	08	-00	29
40.	36	-04	12	-10	01	16
47.	36	04	02	-32	-02	24
62.	35	14	11	-08	-02	17
25.	34	-14	09	-07	13	16
42.	34	00	07	-20	05	17
59.	33	18	23	00	01	19
20.	28	-18	05	-09	06	13
26.	28	-08	21	-09	-00	14
41.	27	00	01	-07	14	10
21.	25	-21	24	03	00	16
63.	21	-02	19	09	01	09

Teacher "qua" Teacher Group Perception

OCDQ Subtest Items	I	II	III	IV	V	h^2
7.	-08	*52	02	06	-07	28
6.	-05	*50	-02	04	-02	25
5.	02	*49	12	11	-04	27
1.	-09	*47	-10	-00	-07	25
2.	-03	*44	-07	-07	-05	21
10.	-10	*44	-01	-11	04	21
3.	-05	*42	-00	-16	01	21
4.	-03	*42	06	-03	-11	20
9.	-26	32	-03	-21	-16	24
49.	-11	30	13	-17	-11	16
8.	-05	23	-23	-12	-10	13
39.	04	17	04	-06	-04	04
37.	-04	15	05	-07	-04	03

TABLE V   (Continued)

OCDQ Subtest Items	I	II	III	IV	V	h^2
			FACTORS			

Non-Classroom Teacher Satisfaction

Item	I	II	III	IV	V	h^2
28.	08	-02	*51	-05	05	27
23.	17	-00	*49	14	-04	29
30.	02	13	*45	-05	00	22
29.	05	-03	*44	-01	-01	19
27.	08	00	*43	-06	00	19
31.	08	11	*40	08	-02	18
32.	24	05	27	-13	02	15
38.	02	07	-14	-04	-13	04
33.	-02	-05	-13	-07	-11	04

Working Conditions

Item	I	II	III	IV	V	h^2
48.	19	-07	08	-21	-01	09
35.	-23	12	-06	-30	-07	17
34.	09	04	-06	-36	-15	17
36.	18	-02	-10	-37	-08	19
44.	-05	06	00	-38	-08	15
43.	-05	16	-06	*-40	-03	19
45.	36	10	01	*-41	05	31
46.	18	13	06	*-42	-08	23

Hindrance

Item	I	II	III	IV	V	h^2
15.	27	-03	08	-02	37	22
12.	-05	12	05	-12	*-46	25
13.	-01	12	-05	-09	*-51	28
14.	01	09	00	-10	*-54	31
11.	-10	15	01	-08	*-60	40

1471/64= 23

Eigenvalues[a]	7.44	3.02	1.80	1.31	1.10
Cumulative proportions of total variance	0.12	0.16	0.19	0.21	0.23

[a]   These values were computed from the original unrotated factors.

OCDQ subtest items are shown in Table I and Table II, pp. 28-29.

TABLE VI

FOUR FACTOR VARIMAX ROTATIONAL SOLUTION FOR 64
ITEMS OF THE OCDQ, FORM IV,
KENNY AND RENTZ SAMPLE (n=2047)

Principal as Authority		Teacher "qual" Teacher Group Perception		Non-Classroom Teacher Satisfaction	
SUBTEST	ITEM	SUBTEST	ITEM	SUBTEST	ITEM
50.	70	6.	58	30.	59
51.	66	7.	57	32.	55
55.	64	2.	56	29.	54
52.	60	4.	55	28.	47
53.	58	5.	55	27.	35
57.	58	1.	51	25.	33
58.	58	10.	51	26.	-24
59.	58	3.	46	21.	-41
62.	57	18.	40	23.	-60
61.	52	9.	36		
40.	47	37.	33	Working Conditions	
60.	46	8.	29	SUBTEST	ITEM
45.	45	38.	22	14.	54
42.	42	19.	-42	35.	46
56.	41			44.	43
32.	39			11.	42
41.	36			12.	41
63.	36			34.	40
15.	33			13.	39
47.	33			46.	38
24.	32			43.	37
22.	29			36.	36
16.	29			48.	34
20.	21			33.	31
17.	-44			39.	24
54.	-55			48.	24

(to the left of the first column, a "5" appears beside item 52.)

Adapted from Kenny and Rentz, "Organizational Climate in Urban Areas",
p.66.

stated that the instrument's originators deliberately excluded urban core schools from the sample used in constructing and testing the OCDQ.[82] Consequently, they contend that one should not necessarily expect to find the same dimensions if urban core schools are included in a sample for use with the instrument.[83]

In order to provide empirical evidence, Kenny and Rentz, collected OCDQ responses from a sample of 2,047 teachers representing one hundred and twelve schools located throughout urban and suburban areas of the United States. (Urban and Suburban were defined as those areas with one million or more population). Their data seemed much more suitable for a four-factor solution, and, although it is not customary to rename the factors initially developed by others' research, Halpin has given Kenny and Rentz explicit authorization to rename their four factors.[84] As shown in Table VI, page 56, they chose to labels the factors "Principal as Authority", "Teacher 'qua' Teacher Group Perception", "Non-Classroom Teacher Satisfaction" and "Working Conditions", respectively.[85]

A comparison of Kenny and Rentz's results (Table VI) with the present study's results (Table V) will reveal a rather strange paradox. On the one hand there are three basic differences between the factor patterns obtained for each investigation, while on the other hand, with the exception

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[82] J. B. Kenny and R. R. Rentz, "The Organizational Climate of Schools in Five Urban Areas", The Elementary School Journal, (November, 1970), p. 63.

[83] Ibid.

[84] Ibid., p. 67.

[85] Ibid.

of a minor change to the factor labeled "Principal as Authority", the results are similar enough to warrant applying the factor names selected by Kenny and Rentz to four of the five factors obtained in this study.

The first and most obvious difference between Table VI and Table V is, of course, the number of factors involved. Most of those items comprising the original Hindrance subtest, while spread accross all four of Kenny and Rentz's factors, remain almost intact in the 5-factor solution. (Item 16, i.e., Instructions for the operation of teaching aids are available, loads positively on Factor I in both samples). The loadings, however, indicate a negative relationship; thus for the Vancouver teachers at least, the factor should be scored positively to indicate Hindrance in the sense originally intended. At any rate, there would appear to be little need to rename the subtest for purposes of this study.

The second difference in the four and five factor solution is the loading of the Esprit items between the Kenny and Rentz urban/suburban sample and the Vancouver sample. In the former sample, Table IV will show that the Esprit items are spread across all four factors. This implies that Esprit's relevance and influence was not particularly strong for the urban sample. In the latter sample, Table V will show that virtually all Esprit items except Item 23, i.e., There is considerable laughter when teachers gather informally, clearly load on Factor I. Therefore it would seem that, in the Vancouver sample, Esprit is tied, or at least somehow directly influenced by the leadership of the "authority figure". Consequently, custom notwithstanding, for this study Factor I might be more descriptively labeled "Principal as Leader",rather than "Principal as Authority".

The third basic difference revealed through comparison of Table VI and Table V stems from the factor referred to as "Working Conditions". It

loads negatively in the Vancouver sample whereas in Kenny and Rentz's investigation the factor loads postively. In any event, irrespective of direction, the term "Working Conditions" adequately names the factor obtained from both samples, but it is apparent that the perceived relationship between each of the two samples is diametrically opposed one to the other.

There is no need to change the names which Kenny and Rentz have selected for Factors II and III. A comparison of the basic items which comprise Teacher "qua" Teacher Group Perception and Non-Classroom Teacher Satisfaction in Table VI with the items in Table V will show that the descriptive names appear to adequately describe the dimensions for both sample groups.

Five Factor Pattern in Terms of the Conceptual Framework

The five-factor pattern obtained from the data in this study does seem to indicate that, in general, the OCDQ items are measuring some degree of interaction between the principal's behavior as leader and the teacher's behavior as a group. Figure 5, page 60, attempts to illustrate the merged relationship between group interactions, group or organizational effectiveness, and social needs "versus" social control for the five dimensions of the OCDQ determined by this study's data.

In terms of the first of the three schemes in the conceptual framework--group interactions--it would seem as though the Esprit of the Vancouver teachers may be tied so directly to the principal's leadership behavior,i.e., as expressed through Thrust and Consideration, that, as a group, they do not seem to perceive a clear cut distinction between their own morale or spirit and their leader's behavior. What he "does" seems to strongly influence what "occurs" among the group members. This relationship is

	GROUP	LEADER
Dimensions associated primarily with social needs satisfaction	IV Non-Classroom Teacher (Esprit, Satisfaction	I' Principal as Leader Thrust, Consideration)
Dimensions associated primarily with aspects of social control	III Teacher "qua" Teacher Group Perception Hindrance (V)	II Working Conditions

FIGURE 5

FIVE DIMENSIONS OF THE OCDQ: FORM IV

(64 items)

pictured by the spread of the items associated with these dimensions across

quadrants I and IV in figure 5 rather than remain distinctly separated

between the two quadrants as the concept was originally mapped in Figure 3

on page 32.

In terms of the third of the three schemes which form the conceptual

framework, quadrants I and IV remain primarily associated with the satis-

faction of social needs and quadrants II and III remain generally associated

with social control with the obvious exception of one dimension. Aloofness

items not only spread across social needs and social control, but they also

transcend the basic characteristics of the behavior exhibited by group

leaders--quadrants I and II--and Group "qua" Group--quadrants III and IV.

Indeed, owing to this spread, Aloofness seems to lose much of its value as

a concept within the five-dimensional framework. It fails to clearly

delineate any of the three schemata involved.

In terms of the second scheme--organizational or group effectiveness--

the lack of an Aloofness dimension coupled with the merger of the items

related to Esprit, Thrust, and Consideration under a single dimension tends

to tarnish, though not destroy the four theoretical ideals related to the

organizational or group effectiveness theme. Otherwise, from a "five-

dimensional-point-of-view", the relationship between group interaction,

effectiveness and social needs "versus" social control still seems to remain

basically in accordance with the conceptual framework illustrated in Figure

3, page 32.

Five Factor Climate Profiles

Owing to the controversy surrounding the use of the subtest scores

rather than a climate continuum (which has been previously outlined), Figure

6, page 63, contains only the extreme and mean scores obtained from the five subtests. The dotted profiles "a" and "b" depict "closed" and "open" climates respectively, while the solid line, profile "c", reflects the sample norm in that it represents the mean score calculated for each sub-test.[86] All three profiles illustrated in Figure 6 have been obtained simply by connecting the extreme and the mean scores obtained from the data: none of them represent an average "open" and "closed" profile of those schools within the sample which were distinguished by a high loading on only one of three factors extracted from an analysis of standardized scores obtained from the five subtests as is the case with respect to those profiles shown in Figure 4, page 36.

The "Open" Climate". Even though the method originally employed to develop a climate continuum has not been applied to the Vancouver data, it is interesting to note that the "b" range scores--when interconnected as shown in Figure 6--could be considered the counterpart of the "Open Climate" in Figure 4. Teacher "qua" Teacher Group Perception, Hindrance and Working Conditions scores in Figure 6 are relatively low. Similarly the original corresponding subtests, Disengagement, Hindrance and Production Emphasis are also relatively low in the "Open Climate" depicted in Figure 4. Non-Classroom Teacher Satisfaction in Figure 6 and the corresponding Intimacy subtest scores in Figure 4 are both somewhat below average. Finally, in both cases the Principal as Leader score in Figure 6--represented by the Esprit, Thrust and Consideration scores in Figure 4--is relatively high.

The "Closed Climate". The same basic reasoning just applied to the "b" range scores would seem to apply equally well to the relationship between

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[86] The climate profile obtained for each of the 20 Vancouver schools based on its individual subtest scores may be found in Appendix E.

CHARACTERISTICS OF THE GROUP

MERGED
LEADER/GROUP
CHARACTERISTICS:

LEADER
BEHAVIOR

Teacher "qua"
Teacher Group
Perception

Hindrance (V)

Non-Classroom
Teacher
Satisfaction

Principal as
Leader

Working
Conditions

3.19

2.73

2.5353

2.79

a   2.33
"Closed" Climate

2.62 2.62

2.06

1.1171

2.2222

c
Sample Norm

1.90

1.96

1.32

b
"Open" Climate

1.33

1.7272

1.33
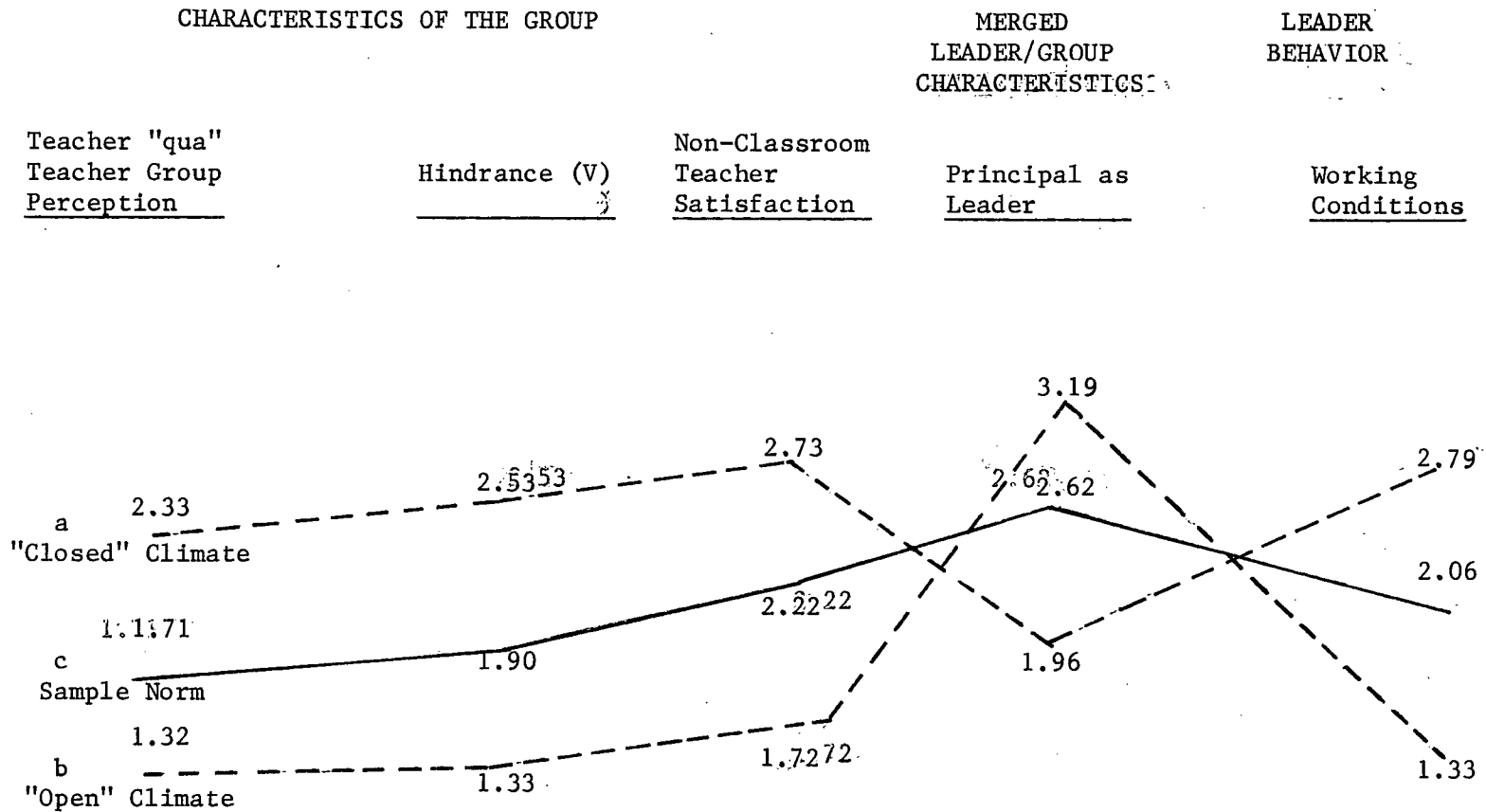
FIGURE 6

FIVE FACTOR CLIMATE PROFILES FOR FIVE SUBTESTS OBTAINED
FROM THE ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE (FORM IV)

Scores are based on 1. Rarely occurs, 2. Sometimes occurs, 3. Often occurs, and 4. Very frequently
occurs.

the "a" range scores in Figure 6 and the "Closed Climate" in Figure 4. In

Figure 6 the Teacher "qua" Teacher Group Perception and Hindrance (V) scores

which correspond to Disengagement and Hindrance in Figure 4 are relatively

high, while both Non-Classroom Teacher Satisfaction and its Figure 4 counter-

part--Intimacy--score somewhat above average. Finally, Working Conditions

and Principal as Leader in Figure 6 show scores which are in accord with the

Production Emphasis, Esprit, Thrust and Consideration scores denoting the

"Closed Climate" pictured in Figure 4.

In essence, then, the same rationale used to verbalize the "open"

and "closed" climate conditions as described by the climate continuum would

seem to apply to the Vancouver data even though the suspect statistical

methods originally employed have not been utilized to develop the "b"

("Open Climate") and "a" ("Closed Climate") profiles depicted in Figure 4.

Additional Null Hypotheses - Based on Five-Factor Pattern

Owing to the fact that the OCDQ factor structure obtained for the

Vancouver school sample data differs decidedly from the expected factor

structure initially identified by the instrument's originators, it should

be beneficial to expand the study design in order to accommodate the un-

anticipated results. In addition to testing the statistical validity of

the four null hypotheses previously formulated it should prove interesting

to formulate and test a similar set of null hypotheses related to the five

factor results obtained from this study. Specifically, in order to examine

the relationship between School Area, Staff Members, Enrolment, Human

Density and school organizational climate as indicated by five subtests

obtained from the Vancouver data, four additional null hypotheses may be

formulated:

Null Hypothesis 5. School size in terms of School Area expressed in square feet is not significantly correlated with the five organizational climate subtest scores as measured by the Organizational Climate Description Questionnaire data obtained from a random sample of Vancouver schools.

Null Hypothesis 6. School size in terms of the number of Staff Members employed therein is not significantly correlated with the five organizational climate subtest scores as measured by the Organizational Climate Description Questionnaire data obtained from a random sample of Vancouver schools.

Null Hypothesis 7. School size in terms of Enrolment is not significantly correlated with the five organizational climate subtest scores as measured by the Organizational Climate Description Questionnaire data obtained from a random sample of Vancouver schools.

Null Hypothesis 8. School size in terms of Human Density is not significantly correlated with the five organizational climate subtest scores as measured by the Organizational Climate Description Questionnaire data obtained from a random sample of Vancouver schools.

Level of Significance. These hypotheses will be tested at a 0.05 level of significance.

IV FINDINGS

A mean score for each subtest--eight generated from Halpin and Croft's data and five generated by this study--has been calculated for each school. This mean was obtained in two steps. First, a mean item score was calculated by finding the sum of the school's respondent's scores for each subtest item and dividing it by the number of responses. The second step consisted of finding the sum of these mean item scores and dividing it by the number of items representing each subtest. The result is a mean score for the school for the particular OCDQ subtest under consideration. Pearson correlation coefficients were computed to determine the association or relation, if any, between school size (independent variables) and the OCDQ subtest mean scores (dependent variables)[87]. To determine the significance of a correlation coefficient under the null hypothesis in question, a Student's "t" value was calculated and compared to Fisher and Yates' Table of Critical Values of t.[88]

Null Hypothesis 1

School Size (expressed in terms of school area as measured in square feet) is not significantly correlated with any of the eight organizational climate subtest scores as measured by the Organizational Climate Description Questionnaire.

Accept Null Hypothesis 1. The findings reported in Table VII, page 74 do not indicate any statistically significant correlation between school

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[87]   See Appendix F for further, more specific information and a definition of the Pearson correlation coefficient.

[88] $t=r\sqrt{n-2/1-r^2}$ where the value defined by the formula is distributed as Student's "t" with degrees of freedom or df=n-2 and n $\geqslant$ 10.

area and the eight organizational climate subtest scores at the 0.05 level. Any relationship differing from zero between this particular size variable and Disengagement, Hindrance, Intimacy, Aloofness, Thrust and Consideration probably occurred as a result of chance.

Association between Area, Esprit and Production Emphasis. Table VII does indicate that a weak association between School Area, Esprit and Production Emphasis does exist at the 0.10 and 0.20 level of significance respectively. Consequently, even though the 0.393 and 0.311 correlations are very weak it is feasible that the association is not a result of pure chance.

Null Hypothesis 2

School size in terms of the number of Staff Members employed therein is not significantly correlated with the eight organizational climate subtest scores as measured by the Organizational Climate Description Questionnaire.

Accept Null Hypothesis 2. The findings reported in Table VII do not indicate any statistically significant correlation between Staff Members and the eight organizational climate subtest scores at the 0.05 level. Any relationship differing from zero between Staff Members and Disengagement, Hindrance, Intimacy, Aloofness and Production Emphasis probably occurred as a result of chance.

Association between Staff Members, Esprit, Thrust and Consideration. Table VII does indicate that a rather weak association may exist between the number of Staff Members employed in a school and the dimensions of Esprit, Thrust and Consideration. Esprit and Thrust are significant at the 0.20 level while Consideration attains significance at the 0.10 level. Consequently, even though the correlations are not strong it is feasible that the associations might not have occurred by accident.

Null Hypothesis 3

School size in terms of Enrolment is not significantly correlated with the eight organizational climate subtest scores as measured by the Organizational Climate Description Questionnaire.

Accept Null Hypothesis 3. The findings reported in Table VII do not indicate any statistically significant correlation between Enrolment and six of the eight organizational climate subtest scores at the 0.05 level. Any relationship differing from zero between Disengagement, Hindrance, Esprit, Intimacy, Aloofness or Production Emphasis probably occurred as a result of chance.

Association between Enrolmente and Consideration. From a conservative point of view the -0.417 correlation between Enrolment and Consideration shown in Table VII is not significantlat the 0.05 level. It will obtain a critical "t" value of 1.944 where, for a two tailed test and eighteen degrees of freedom, the critical value must be equal to or greater than 2.101 to be considered at the 0.05 level. Consequently the null hypothesis will be accepted for the Consideration subtest even though, from a liberal point of view, the 0.10 level of significance shown in Table VII does not adequately indicate that the relationship may not necessarily result from chance.

Reject Null Hypothesis 3 for Thrust. The correlation for Thrust at -0.460 indicated in Table VII is significant at the 0.05 level. The Null hypothesis for this subtest should be rejected since it is improbable that a relationship this strong would be obtained by accident.

Null Hypothesis 4

School size in terms of Human Density is not significantly correlated with the eight organizational climate subtest scores as measured by

the Organizational Climate Description Questionnaire.

Accept Null Hypothesis 4. The findings recorded in Table VII do not indicate any statistically significant correlation between Human Density and the eight organizational climate subtest scores at the 0.05 level. Any relationship differing from zero between this particular size variable and Hindrance, Intimacy, Aloofness and Production Emphasis probably occurred as a result of chance.

Association between Human Density, Disengagement, Esprit, Thrust and Consideration. Table VII does indicate that a rather weak association may exist between Human Density and the dimensions of Disengagement, Esprit, Thrust and Consideration. Disengagement, Thrust and Consideration are significant at the 0.20 level while Esprit attains significance at the 0.10 level. Consequently, even though the correlations are not strong it is feasible that the associations--especially Esprit--might not have occurred by accident.

Null Hypothesis 5

School size in terms of School Area expressed in square feet is not significantly correlated with the five organizational climate subtest scores as measured by the Organizational Climate Description Questionnaire data obtained from a random sample of Vancouver schools.

Accept Null Hypothesis 5. The findings in Table VII do not indicate any statistically significant correlation between School Area and the five organizational climate subtest scores at the 0.05 level. Any relationship differing from zero between this particular size variable and Principal as Leader, Non-Classroom Teacher Satisfaction and Working Conditions probably occurred as a result of chance.

<u>Association between Area, Teacher "qua" Teacher Group Perception and</u>

<u>Hindrance (V)</u>. Table VII does indicate that a weak association between School Area, Teacher "qua" Teacher Group Perception and Hindrance (V) exists at the 0.20 level of significance. Consequently, it is feasible that the association is not entirely accidental.

Null Hypothesis 6

School size in terms of the number of Staff Members employed therein is not significantly correlated with the five organizational climate subtest scores as measured by the Organizational Climate Description Questionnaire data obtained from a random sample of Vancouver Schools.

<u>Accept Null Hypothesis 6</u>. The findings recorded in Table VII indicate that the correlations between Staff Members and the dimensions of Teacher "qua" Teacher Group Perception, Non-Classroom Teacher Satisfaction, Working Conditions and Hindrance (V) are too small to be statistically significant at the 0.05 level. The relationships indicated are probably a result of chance.

<u>Association between Staff Members and Principal as Leader</u>. From a conservative point of view the -0.435 correlation between Staff Members and Principal as Leader shown in Table VII is not significant at the 0.05 level. It will obtain a critical "t" value of 2.051 whereas, for a two tailed test and eighteen degrees of freedom, the critical value must be equal to or greater than 2.101 to be considered significant at the 0.05 level. Consequently, the null hypothesis will be accepted for the Principal as Leader subtest even though, from a liberal point of view, the 0.10 level of significance shown in Table VII does not adequately indicate that the relationship does not necessarily result from chance.

Null Hypothesis 7

School size as measured by Enrolment is not significantly correlated with the five organizational climate subtest scores as measured by the Organizational Climate Description Questionnaire data obtained from a random sample of Vancouver schools.

Accept Null Hypothesis 7. The findings shown in Table VII indicate no significant correlations between Enrolment and the dimensions of Teacher "qua" Teacher Group Perception, Non-Classroom Teacher Satisfaction, Working Conditions, and Hindrance (V), respectively. The relations probably differ from zero (except Working Conditions which is zero for all intents and purposes) only by chance.

Reject Null Hypothesis 7 with respect to Principal as Leader. The correlation between Enrolment and Principal as Leader shown in Table VII as -0.462 is significant at the 0.05 level. The null hypothesis may be rejected since it is highly unlikely that a correlation this strong would have been obtained merely by chance.

Null Hypothesis 8

School size as measured by Human Density is not significantly correlated with the five organizational climate subtest scores as measured by the Organizational Climate Description Questionnaire data obtained from a random sample of Vancouver schools.

Accept Null Hypothesis 8. The findings reported in Table VII do not indicate any statistically significant correlation between Human Density and the five organizational climate subtest scores at the 0.05 level. Any relationship differing from zero between this particular size variable and the five subtests probably occurred by accident.

Association between Human Density and Principal as Leader. Table VII does indicate a rather weak association may exist between Human Density and Principal as Leader. Since the 0.335 correlation is significant at the 0.20 level, it is feasible that the relationship might not result from pure chance.

Summary of the Findings

With the exception of the subtest measuring Thrust for Null Hypothesis 3 and the subtest Principal as Leader for Null Hypothesis 7, none of the null hypotheses formulated for this study may be rejected at the 0.05 level of significance.

However, in several instances enough association between the independent size variables and the dependent subtests has been obtained at the 0.10 and 0.20 levels to indicate that at least some degree of relationship may exist which conceivably could warrant further consideration. In fact, the correlation between Staff Members and Principal as Leader and the correlation between Enrolment and Consideration, while technically significant only at the 0.10 level, are nearly strong enough to justify rejection of their respective null hypotheses at the 0.05 level of significance. Other relationships between the independent size variables and the dependent climate variables at the 0.10 level of significance are: 1) Area and Esprit, 2) Staff Members and Consideration, 3) Human Density and Esprit.

Further associations between the independent size variables and the dependent subtest variables at the 0.20 level of significance are: 1) Area with Production Emphasis, Teacher "qua" Teacher Group Perception, and Hindrance (V), 2) Staff Members with Esprit, and Thrust, and 3) Human Density with Disengagement, Thrust, Consideration, and Principal as Leader.

Finally, for this study, there would appear to be little, if any, relationship between the size variables and Hindrance, Intimacy, or the Aloofness subtest. Moreover, the same may be said for their inter-related five dimensional counterparts, Non-Classroom Teacher Satisfaction and Working Conditions.

TABLE VIII
TABLE OF FINDINGS: NULL HYPOTHESES 1-8

20 Vancouver Schools[a]

	Correlation (r)	School Area	Staff Members	Enrolment	Human Density
1.	Disengagement	.267	.224	.083	.311(0.20)
2.	Hindrance	.106	.064	.127	-.211
3.	Esprit	-.393(0.10)	-.302(0.20)	-.125	-.384(0.10)
4.	Intimacy	.069	-.095	-.090	.003
5.	Aloofness	.054	.029	-.016	-.097
6.	Production Emphasis	-.311(0.20)	-.104	-.143	-.161
7.	Thrust	-.209	-.373(0.20)	-.460(0.005)*	.366(0.20)
8.	Consideration	-.164	-.381(0.10)	-.417(0.10)	.376(0.20)
I	Principal as Leader	-.240	-.435(0.10)	-.462(0.05)*	.339(0.20)
II	Teacher "qua" Teacher Group Perception	.344(0.20)	.090	-.120	-.054
III	Non-Classroom Teacher Satisfaction	-.058	-.037	.087	.221
IV	Working Conditions	-.210	-.029	.001	.268
V	Hindrance (V)	.345(0.20)	.237	.255	.093

*Two-tailed test, t=2.101 required for p < 0.05; 18 df.

Level of significance obtained is indicated in parentheses, ( ).

[a] The correlations between Human Density and the Vancouver subtests are based on 19 schools. See Appendix F.

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V. DISCUSSION OF FINDINGS AND RELATED LITERATURE

This chapter provides a discussion of the findings and draws on relevant parts of the literature in order to provide an empirical base from which a number of implications may be drawn.

If the findings of this study are any indication, it would appear, speaking in the strictest statistical sense, that school size in terms of School Area, Staff Members or Human Density does not have much influence on either the eight or the five dimensions which purportedly represent the organizational climate of a school. Evidently, a school can tolerate considerable fluctuation in its size as represented by these three variables without experiencing any significant effects one way or another on its climate.

Enrolment and Principal as Leader

Enrolment, however, is another matter. According to the findings, it does appear as though a school's Enrolment is very likely to significantly influence its climate--at least to the degree that the climate is dependent upon the dimension described by the Principal as Leader. As illustrated in Figure 5, page 60, this dimension consists primarily of those OCDQ items which originally were expected to measure Thrust, Consideration and Esprit. Moreover, Table VII suggests that it is the Thrust, and to a slightly lesser extent, the Consideration items, which have led to the degree of statistical significance permitting this conclusion. The negative direction of the relationship would indicate that large Enrolment will tend to result in a description of the principal as less effective in terms of both his own personal example, or Thrust, and the degree of Consideration he exhibits toward his staff. Low Thrust and low Consideration tend toward "closed" climate conditions owing to unfulfilled social needs.

Staff Members and Principal as Leader

From a liberal point of view, the findings could be loosely interpreted to suggest that a school might not be capable of tolerating too much fluctuation in the number of Staff Members it employs without experiencing some effect on its organizational climate. Apparently this variable has some effect on the group's perception of the principal's behavior--the Principal as Leader dimension--and its influence on school climate is similar to that just described for Enrolment. In this case, reference to Table VII and the earlier discussion regarding the strong statistical association between Staff Members and Principal as Leader it would appear that the Consideration items and to a lesser extent the Thrust and Esprit items have led to a critical value which is close enough to the "t" value required (in the strictest conservative statistical sense) to justify this liberal conclusion.

Enrolment and Staff Member Effects

There is one noteworthy contrast between the "closed" climate tendency which would appear to result from large Enrolment and the "closed" climate tendency which evidently stems from too many Staff Members. The findings reported in Table VII indicate that, in terms of the Esprit items, teachers seem to be much more tolerant of "too-many-pupils" than they are of "too-many-colleagues". In the former situation the Esprit subtest scores attain no degree of statistical significance whatsoever whereas in the latter circumstances, a 0.20 level has been obtained. However, having previously concluded that five dimensions--rather than the original eight-- are probably a better measure of organizational climate for the Vancouver sample, the relationship itself is far too tenuous to justify even the most remote attempt to infer, "ceteris paribus", that among schools with equal

Enrolment, those with fewer Staff Members and larger classes are more like-
ly to have a more "open" climate than those with many Staff Members and
smaller classes. Nevertheless, the contrast, no matter how tenuous at this
point, could be strong enough to conclude that additional investigation
would be justified.

Irrespective of which variable may exert the stronger influence,
there is little doubt that the negative direction of the relationship does
suggest that a large teaching staff will have a different perception of the
principal's behavior than will a small teaching staff. Under these circums-
tances, though, he is perceived as less considerate and his own personal
example--Thrust--is probably not quite as motivationally effective as it
would be with a smaller staff. The net result of low scores on Consideration
and Thrust items is a low Principal as Leader dimension with unfulfilled
social needs and a tendency toward a "closed", "unhealthy" climate.

Furthermore, the negative relationship between both Enrolment and
Staff Members with Principal as Leader found in this study appear to be
consistent with those results reported in the literature. Large schools--
especially where "large" is defined by the number of Staff Members-- may in
fact be "closed" or "unhealthy" by virtue of their size.

What is causing the negative relationship? If, as Indik suggests,
organizational and psychological mediating variables are involved, then
organizational climate as a concept may prove to be considerably more
complex--especially in large organizations--than its present mapping and
measurement would seem to indicate. Whether or not this is the case, it
would seem safe to suggest that future research utilizing Getzels and
Thelan's model would be well advised to couple it with a prototype of

Indik's paradigm as illustrated in Figure 7 below:


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┌─────────────┐   ┌─────────────┐   ┌─────────────┐   ┌─────────────┐
│ Independent │   │ Mediating   │   │ Mediating   │   │ Dependent   │
│ Variable    │──▶│ Variable    │──▶│ Variable    │──▶│ Variable    │
│ (Size)      │   │ (Organiz-   │   │ (a psycho-  │   │ (Member     │
│             │   │ ational     │   │ logical     │   │ Behavior)   │
│             │   │ Process)    │   │ Process)    │   │             │
└─────────────┘   └─────────────┘   └─────────────┘   └─────────────┘
```
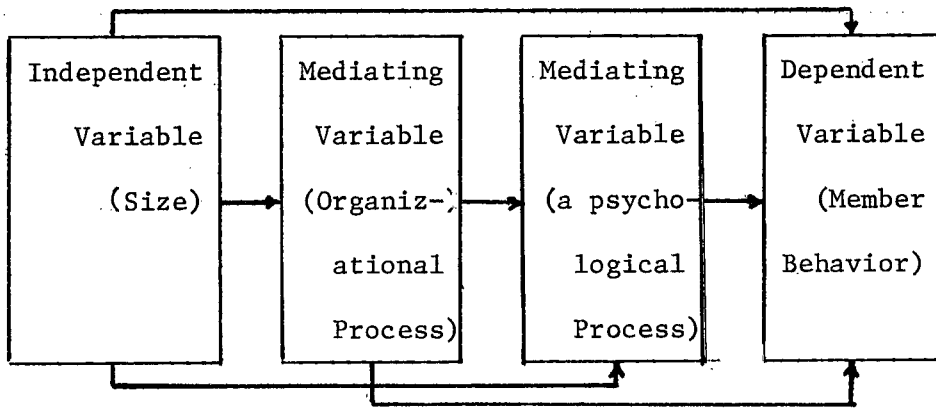
Figure 7*. Prototype of Paradigm Illustrated in

Figure 24, page 22.

*See B.P. Indik, Human Relations, XVI, No. 46(1963) 4p. 340.

This would permit consideration of coordination, control and communication

as organizational mediating processes which may ultimately reduce an

individual's attraction toward the organization and result in reduced parti-

cipation. Moreover, it should be feasible to determine if large school

size in terms of both Enrolment and Staff Members is significantly related

to member participation, and, if so, does the reduction occur primarily in

those schools which exhibit a "closed" climate?[89] Such research might shed

some light on potential causes of the negative relationship between school

size and the Principal's perceived behavior in terms of Thrust and

Consideration, i.e., Principal as Leader in the Vancouver sample data.

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[89] Indik has, in fact, tested the hypothesis that organizational size
influences member participation indirectly through certain organizational
processes in ninety-six comparable organizations. He found a significant
negative relationship. See Bernard P. Indik "Organizational Size and Member
Participation: Some Empirical Tests of Alternative Explanations", Human
Relations, XVIII, pp. 339-350.250.

The theory of "undermanning" which has been proposed by Barker also might be somewhat tenuously tied, or related to Indik's paradigm. Basically, Barker has postulated that the intensity of manning available per behavior setting, i.e., an ecobehavioral unit which may be characterized by regularly occurring behavior patterns at a specifiable time and place within the physical environment, influences the setting occupant's overt behavior and subjective experiences.[90] A succint summary of the theory has been provided by Wicker as follows:

> Occupants of undermanned settings, relative to
> occupants of overmanned settings were postulated
> to work harder and spend more time in setting
> relevant activies; to engage in a wider variety
> of tasks; to occupy positions of greater responsi-
> bility; to more actively recruit others to help
> maintain the activity, even if the others are only
> marginally qualified; to achieve a lower quality
> performance; to have more feelings of responsbility,
> involvement, success, failure and insecurity; and
> to view themselves and other setting occupants
> more in terms of task related characteristics than
> in terms of purely social characteristics.[91]

Although the theory has been tested almost exclusively with respect to organizational clientele, e.g., students and church members rather than administrative and staff members, it is feasible that it could be applied specifically in conjunction with the principal-teacher group as well.

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[90] Roger Barker, "Ecology and Motivation" Nebraska Symposium on Motivation 1960, Vol. VIII, pp. 1-50. For far more extensive evidence regarding this theory, refer to R.G. Barker & P. Gump, Big School, Small School, Stanford, Calif: Stanford University Press, 1964 Chapter 2 deals exclusive- ly with defining "behavior settings".

[91] A.W. Wicker, J.E. McGrath and G.E. Armstrong, "Organization Size and Behavior Setting Capacity as Determinants of Member Participation", Behavioral Science, Vol. XVII, 1972, pp. 499-500. The theory has found some considerable support. In addition to those studies previously cited see also L.L. Baird "Big School, Small School: A Critical Examination of the Hypothesis", Journal of Educational Psychology, LX (1969) pp. 252-260.

Indeed, bearing Indik's paradigm and the findings of this investigation in mind, it would seem to be a particularly fruitful area for further research. For example, it is feasible that simply permitting "undermanning" to occur by deliberately avoiding an increase in the coordinative and supervisory component with increased Enrolment will almost automatically result in an increase in behavior settings. If so, this could, in turn, lead to increased membership participation with much the same desired effect which might be anticipated from a reduction of Staff Members and Enrolment.

Climate's Influence on Leadership. Normatively speaking, a central theme outlining the value of the principal's leadership which "ought" to stem from a review of the OCDQ related literature does not materialize. Getzels and Thelan's model does not seem to address the question regarding the direction of influence between the nomothetic and idiographic dimensions, that is, the directional influence of the interaction between the principal as leader and the teachers as group. It does depict the need to attempt to strive toward maintenance of a "zero-state-of-tension" in order to function effectively. Ironically, most of the reported research findings seem to indicate that the end result of this process is a teacher group and environmental influence upon the principal as leader which is considerably stronger than vice versa.

The influence may be analysed in terms of the theoretic background of the school as a social system as well as what Halpin has described as the "dilema of definition" in that the term "leadership" and the concept it represents, has incorporated within it a descriptive and an evaluative component: ".... one refers to a role and the behavior of a person in this role, and the other is an evaluation of the individual's performance in the

role."[92] The school, analysed as a social system has an organizational
climate which has been defined as the interaction between organizational
members who encounter one another in performing their individual roles as
these roles are directed toward fulfillment or attainment of the school
goals.

This definition of organizational climate, though, does not describe
the behavior of the principal. What is the principal's task? What governs
his role and directs his behavior within it? Guba operationalizes the task
".... as that of mediating between two sets of behavior-eliciting forces,
that is, the nomothetic and the idiographic"[93] in a manner which is likely
to ".... produce behavior which is at once organizationally useful as well
as individually satisfying."[94] Wiggins clarifies "individually satisfying"
behavior as "that which results as the principal .... attempts to cope with
an environment made up of expectations for his behavior (roles) in ways
consistent with his own individual patterns of needs (personality).[95]
Furthermore, "In the process of actualizing his personality through the
expectations of his role, the principal exchanges his behavior for rewards.
....".[96] But, owing to the reciprocal nature of the interactive variables
comprising organizational climate, ".... as the principal contributes his

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[92] Halpin, Theory and Research in Administration. p. 82.

[93] E.G. Guba, "Research in Internal Administration--What Do We Know?", in
R.F. Campbell & J.M. Lipham (Eds) Administrative Theory As A Guide to Action,
63rd Yearbook of the NSSE, Part II. Chicago Midwest Administration Center,
1960, p. 121.

[94] Ibid.

[95] T.W. Wiggins, "Principal Behavior in the School Climate: A Systems
Analysis". Educational Technology, XI.7(September, 1971), pp. 57.

[96] Ibid.

behavior to the organization for rewards, he is at the same time influenced by it."[97]

Between the influence of his own need for internal approval of the school staff and his motivation to seek approval from the external environment—the larger school district and the internal environment or school clientele—it must be a rare principal who does not occasionally feel that he has been caught between the proverbial "rock and a hard place". On the one hand he frequently must mediate between the two socializing forces, while on the other hand, his own behavior is being influenced quite intensely by both internal and external forces in the social system. Eventually, it has been suggested, the complex socialization process will result in a gradual domination of the principal's personality by the school's expectations.[98] More succinctly stated: "The principal can expect to find that his behavior is largely subject to the control of the school climate."[99]

The relationship expressed as a function of time may be illustrated as in Figure 8, page 83, which may assist in accounting, at least in part, for the apparent inability of the teachers in the Vancouver sample to separate their own Esprit from their principal's leadership behavior. It is feasible that the Vancouver principal's length of incumbancy was such that their personalities may have been dominated by their school's expectations in general and the teacher's expectations in particular.

Conversely, would the spread of Esprit items across all four of Kenny and Rentz's factors indicate that most of the principals were "new" and

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[97] Ibid.

[98] Ibid., p. 58. ipal Behavior", p. 58.

[99] Ibid.

Newly Assigned Principal   Principal with
                                           longer incumbancy

Principal Personality

                              School
                             Expectations

Time ⟶
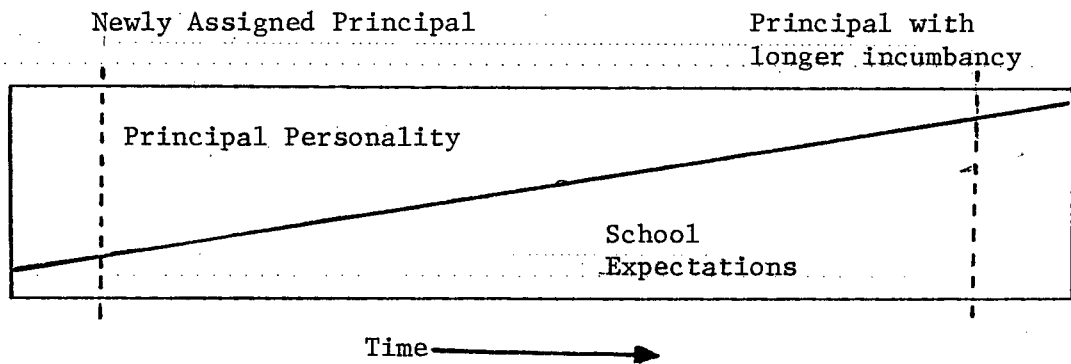
Figure 8*: The Relationship Between School
Expectation and Principal Personality in
Observed Behavior. A

*Abstracted from Wiggins "Principal Behavior in the School Climate: A
Systems Analysis", Educational Technology, 1971, p. 59.

had not yet succumbed to group norm pressure?[100] If this was the case, the

principals were perceived as "authority figures" rather than accepted as

members of their respective groups. Research to determine what relation-

ship, if any, exists between the principal's incumbancy and the Esprit sub-

test might shed some light on the matter.

In any event it would ultimately seem that the school's expectations,

as expressed by the teacher group, coupled with the expectations of the

school district and the school clientele, probably influence the principal

as leader as much, or perhaps even more, than he can influence the school

by his own style of leadership behavior.

Leadership's Influence on Climate. Wiggins reports a study of the

behavioral characteristics of principals (as related to school climate)

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[100] The desegregation of United States Schools was just getting well under
way at the time Kenny and Rentz commenced their study. The upheaval no
doubt did disrupt the social interaction between principal and teacher and
several recent staff and leadership changes probably had occurred.

conducted in thirty-five southern California schools using the OCDQ to measure type of climate, and the Fundamental Interpersonal Relationship Orientation-Behavior (FIRO-B), Orientation Inventory and Survey of Interpersonal Values (SIV) to assess leader behavior characteristics.[101] While the findings did not support the general hypothesis that a significant relationship exists between the principal's behavioral characteristics and the climate of his school, they did lend overwhelming support to the ancillary hypothesis that replacing the principal would (1) not affect the stability of the school's existing organizational climate and (2) the principal's behavior becomes more significantly related to the schools climate as the length of his incumbancy increased.[102]

During the course of speculating why the findings did not support the construct that the "principal contributes to and is influenced by the school within which he is engaged" as suggested by Getzelss and Theland's model, Wiggins assumes that the school must be a subsystem to which the principal contributes by way of his behavioral characteristics, whereas the inputs having some influence on thesecharacteristics and contributing to his rewards stem from the school district as the system.[103]

Wiggins wonders, then, to what extent the school as a subsystem might be influenced by the organizational climate of the system--the district--itself? Part of the answer may have been provided by Hughes in

[101] T.W. Wiggins, "A Comparative Investigation of Principal Behavior and School Climate", The Journal of Educational Research, LXVI, No. 3, (November, 1972), pp. 103-105.

[102] Ibid., pp. 104-105.

[103] Ibid., p. 105.

his study into the process of innovation as it relates to certain character-istics in the central offices of twenty "most innovative" and twenty "least innovative" school districts.[104] He used a slightly modified version of the OCDQ in a sample of the central offices of those Ohio districts which the Bureau of Educational Research of Ohio State University had ranked by the extent of innovation in terms of the number of differing innovative practices ongoing at the time (1966), to test four hypotheses relating the highly innovative school districts with a more "open" climate than that of the non-innovative districts.[105] Generally speaking the results reported suggest that the school districts' central office organizational climate is, in fact, pervasive, systemwide.

Speculating that an organization will attract and retain mainly those individuals who are likely to evidence characteristics congruent with the existing climate, Hughes asks:

> How long .... would a self-respecting elementary
> principal interested in the new and untried remain
> in a district in which the central office inhibited
> his or her faculty's attempts to adapt new ideas
> to the local scene? For that matter, how much
> change would such an individual have of obtaining
> a building leadership position in a district com-
> mitted to the "tried and true"?[106]

He answers, "These people would move on or would not come in the first place."[107]

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[104] LbWd Hughes, "Organizational Climate--Another Dimension to the Process of Innovation", Educational Administration Quarterly, IV, No.3, (Fall, 1968), pp. 17-28.

[105] Ibid., pp. 18-19.

[106] Ibid., p. 25.

[107] Ibid. This conclusion is, of course, consistent with Indik's paradigm with regard to school size.

Other direct support for Wiggins suggestion that the principal's interaction with the district as a system affects his input into the school as a subsystem has been provided by a sub-study connected with Andrews' OCDQ validity study.[108] Schmidt used a sample of sixty schools stratified by climate from Andrews original sample of 165 Alberta schools to relate the eight OCDQ subtest scores to the twelve subtest scores of the Leadership Behavior Description Questionnaire and found significant relationships as expected with the exception of the negative relation between Superior Orientation and Hindrance.[109] One conclusion is subsequently drawn "....that when the Principal has influence with his superiors, he is able to minimize the impact of administrative routine originating in the school office.[110]

Some indirect support for Hughes' suggestion that individuals are attracted to climates which evidence characteristics congruent with their own may be found in the organizational behavior literature. Davis, for example, conducted a study in five Washington, D.C., government organizations which ranged in size from 180 to 6000 members in an effort to determine why some executives will normally follow rules while others seem to normally deviate from following rules.[111] He found, as expected, that some organiza-

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[108] Andrews, "School Organizational Climate", p. 326.

[109] Ibid., p. 327. Superior Orientation is defined on p. 3 of the Manual for the Leader Behavior Description Questionnaire--Form XII, Columbus, Ohio; Ohio State University, Bureau of Business Research, 1963, by R.M. Stogdill, as "The Leader maintains cordial relations with superior; has influence with them; is striving for higher status".

[110] Ibid.

[111] J.W. Davis, Jr., "Rules Hierarchy and Organizational Climate", Personnel Administration, XXXI, No. No(May-June, 1968), pp. 50-55.

tions are rule-bound and hierarchical whereas, at the opposite extreme others

are freewheeling; he ultimately concludes that "an individual will join an

organization he finds congenial ...." or if he does not fit in "... he may

leave at the first opportunity."[112] The implication is obvious: if

organizational climate is self perpetuating, then this, in turn, suggests

that a leader may face considerable difficulty if he tries to change his

organization from a rule oriented climate to a goal oriented climate.[113]

How does the organization attract members with characteristics con-

gruent with its climate? Schneider proposes that what occurs within an

organization is probably transmitted to individuals outside the organi-

zation simply by the way existing organization members describe it.[114]

To test his hypothesis that a positive relationship will exist between

individual perceptions of future work climate and the reality of the

situation, a six dimensional Agency Climate Questionnaire previously

developed by factor analytic technique for other similar research was used

to collect data from two different life insurance companies comprising two

hundred twenty-eight agencies between them.[115] The results indicate that

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[112] _Ibid._, p. 55. Again, this too is consistent with Indik's theory
regarding organization size.

[113] _Ibid._

[114] B. Schneider, "Organizational Climate: Individual Preferences and
Organizational Realities," _Journal of Applied Psychology_, LVI, No. 3 (1972),
pp. 211-217, 1-217.

[115] _Ibid._, p. 212. Similar research and similar findings are cited by
Schneider: the two most notable conducted by Victor H. Vroom (1) "Organi-
zational Choice: A Study of Pre and Post Decision Process", _Organizational
Behavior and Human Performance_, 1966, Vol 1, pp. 212-225 and (2) Victor H.
Vroom and E.L. Deci, "The Stability of Post-Decision Dissonance: A Follow-Up
Study of the Job Attitudes of Business School Graduates", _Organizational
Behavior and Human Performance_, Vol. 6, pp. 36-49.

individuals do tend to join organizations in which they might be expected to fit and their expectations of the climate are significantly related to the existing agent perceptions at the 0.10 level.[116]

Do teachers recognize or perceive their organizational climate as accurately as insurance agents? The results of a study conducted by Heller in ten Pennsylvania elementary schools using the OCDQ responses from two hundred twenty-nine staff members to determine the relationship of both formal and informal organizations and teacher perceptions of existing and desired school climates would suggest that they do: he found that ".... as a general rule, few radical variations existed between the perceptions of the total membership of the formal organizations with the existing organizational climate and those of the members of the informal groups in any given school."[117] Whether or not the perception of the climate is communicated outside the school is unknown, but the matter could, of course, be subjected to empirical study.

Two organizational consultants, Feitler and Blumberg, report a relatively recent effort directed toward changing the organizational climate, or characters, of a school from one best described as bordering on chaos to one more in accord with one of Likert's models.[118] Even though their study did not utilize the OCDQ, the results are reported here partially because of their conclusion, but more important, because of their assumption

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[116]   Ibid., p. 214.

[117]   R.W. Heller, "Informal Organization and Perceptions of the Organizational Climate of Schools", The Journal of Educational Research, LXI, No. 9, (May-June, 1968), p. 410.

[118]   F. Feitler, and A. Blumberg, "Changing the Organizational Character of a School", The Elementary School Journal, LXXXI (January, 1971), pp. 206-215.

that the newly appointed principal could not change the school character

with ot without district support.[119] In effect, then, the effort to

change the school's chaotic character was directed toward the teachers,

i.e., as a group, while leadership was, in an experimental sense, to be held

constant. To determine whether ot not the change effort had been at all

successful, the Likert Profile of a School (Form for Teachers) was administer-

ed to teachers who had served from the time of the new principal's arrival

until the conclusion of the change effort. The results did indicate signifi-

cant differences between the perceived descriptions of the school "before"

and "after" treatment and four of the five characteristic processes included

in the study.[120]

However, as would be expected from the conclusion reached by both

Davis and Hughes, the change was not achieved painlessly, nor was it without

conflict. Fietler and Blumberg report: "In the process of change, teachers

left and were asked to leave."[121] Thus, the findings indicate that both

the replacements and the remainder presumably exhibited behavior character-

istics more in keeping, or congruent with the newly evolving school climate.

Perhaps even more important--although the principal's behavior did not alter

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[119]   Ibid., p. 209.

[120]   Ibid., p.212. The Form for Teachers was adapted by Jane G. Likert and
Rensis Likert from a similar form found in The Human Organizations: Its
Management and Value, (New York, McGraw Hill Book Co., 1961), by Rensis Likert.
The fifth Characteristic was not found significantly related to the "before"
and "after" profiles was, of course, leadership characteristics, but this was
expected since the principal's behavior was not changed.

[121]   Ibid., p. 214.

appreciably during the seventeen month transitional period--the remainder of the school's teachers perceived a behavior change: the principal was now seen not as a threat, but rather as supportive and friendly.[122] This being the case, Fietler and Blumberg conclude that ".... the changes measured occurred in the organization itself and in the interpersonal interactive patterns of individuals in the school."[123] At the risk of expressing the obvious, this is simply a statement of the definition of organizational climate; therefore, in effect, it would appear that the school climate was indeed changed, but the principal as leader had little to do with it.

Leadership's Function. Viewing the findings just outlined within the theoretic framework of the school as a social system, it does appear that the principal is an interdependent force in a school, and, as such, generalizations concerning his behavioral influence should be analysed in terms of other forces within the school, possibly the larger district, and perhaps even the community in which both the school and its district are imbedded. This does not necessarily suggest that because the influence of the group is evidently stronger than that exercised by the leader, the principal's leadership is "ineffective" or "inadequate". Indeed, quite to the contrary, it is intended to suggest that his leadership may be the key to achieving or maintaining the delicate balance--the state of zero tension--between the nomothetic and idiographic dimensions which is vital to satisfaction and subsequently the achievement of organizational goals.

Gallaher indirectly touches this point of view when he cites Spindler to support his contention that the principal is not the one to assign to

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122 Ibid., p. 213.

123 Ibid.

advocate functions such as planned change or innovation:

> His job is in large part that of maintaining a
> working equilibrium of at best antagonistically
> cooperative forces. This is one of the reasons
> why school administrators are rarely outspoken
> protagonists of a consistent and vigorously pro-
> filed point of view. Given the nature of our
> culture and social system, and the close connection
> between the public and the schools he cannot
> alienate significant segments of that public
> and stay in business.[124]

Because the principal functions in a social system wherein he is

apparently influenced as much or possibly even more by that system than

he can influence the school by his own administrative efforts, Wiggins has
written
written:

> This notion necessitates a re-examination of
> much of the tradition of so-called administra-
> tive leadership--which presumes that the power,
> authority and influence of school principals
> provide the major source of thrust and significance
> to the educational enterprise.[125]

But what direction, or route, should that re-examination take? How

can the school principal provide leadership which will be significant to

the educational enterprise? Or more specifically, at the organizational

climate level, how can the interaction between principal and teacher group

best tend to be balanced toward the zero state of tension necessary to attain

the school goals?

It would almost seem as though Halpin anticipated questions such as

these in his outline of some possible advantages which may arise from

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[124] George Spindler (Ed). Education and Culture: Anthropological
Approaches, (Holt, Rinehardt and Winston, New York, 1963), p.238, quoted in
Art Gallaher, Jr., "Directed Change in Formal Organizations: The School
System", Change Processes in the Public Schools, R.O. Carlson, et. al. The
Center for the Advanced Study of Educational Administration, University of
Oregon, Eugene, Oregon, p. 50.

[125] Wiggins, "Principal Behavior",p. 59.

thinking in terms of leader behavior expressed as Initiating Structure and

Consideration as opposed to situationally oriented leadership expressed

basically in terms of effectiveness.

With respect to the latter he argues:

> To say that leader behavior is determined exclusive-
> ly by situational factors is to deny to the leader
> freedom of choice and determination. This violates
> common sense and experience. Even now, within
> research circles, a gradual but growing counter-
> reaction is taking shape--a drawing away from
> the extreme situational position.[126]

With respect to the former, Halpin believes that a shift away from

the emphasis of leadership effectiveness, to an analysis of the behavior of

the leader may permit the attainment of two major methodological advantages:

> In the first place, we can deal directly with
> observable phenomena and need make no "a priori"
> assumptions about the identity or structure of
> whatever capacities (leadership characteristics)
> may or may not undergird these phenomena. Secondly,
> this formulation keeps at the forefront of our
> thinking the importance of differentiating between
> the description of how leaders behave and the
> evaluation of the effectiveness of their behavior
> in respect to specified performance criteria.[127]

The "situational-position" research to which Halpin refers revolves,

generally speaking, around the contingency theory approach to effective

leadership. It has, ... "as its major theoretical presupposition that the

appropriate type of leadership depends on the environmental situation

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[126] Halpin, Theory and Research in Administration, p. 84.

[127] Ibid., p. 86.

involved,"[128] and a model which assumes ".... that the leaders contribution to group performance depends on both the style of leadership (task oriented versus person oriented) and the favorableness of the situation for the leader."[129] Although there does not yet appear to be a "growing counter-reaction" to the situational oriented research, if Korman's relatively recent examination of possible reasons underlying several replication failures are any indication, the contingency approach is, indeed, having its fair share of problems.[130]

Some support for Halpin's argument that the valuation of the effectiveness of leader behavior with respect to some specific performance criteria does not necessarily provide a proper direction to re-examine leadership in the school may be found in the OCDQ literature. Watkins has conducted a study in the context of the public school environment, which, in a sense, attempted to replicate earlier contingency theory developmental work.[131] He reports that he searched the school oriented organizational behavior literature to find an acceptable criteria of effectiveness suitable for use

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[128] A.K. Korman, "On the Development of Contingency Theories of Leadership: Some Methodological Considerations and a Possible Alternative", _Journal of Applied Psychology_, LVIII, No. 3, p. 384. Specifically Korman defines the contingency theory of leadership as any theory which follows the functional form: "x" = a dimension of leader behavior, "y" = a criterion by which the leaders effectiveness may be determined, and "z" = some situational variable, that the correlation between "x" and "y" is predicted to assume a different functional form at different levels of "z".

[129] G. Graien, J.B. Orris and K.M. Alveres "Contingency Model of Leadership Effectiveness: Some Experimental Results", _Journal of Applied Psychology_, LV, No. 3, (1971), p. 199, 199.

[130] Korman, "On The Development of Contingency Theories of Leadership", pp. 384-387.

[131] J.F. Watkins, "An Enquiry Into the Principal-Staff Relationship", _The Journal of Educational Research_, LVIII3, No. 1, (September, 1969) pp. 11-15.

in an attempt to replicate Fiedler's concept of psychological distance in the school organization.[132] On the basis of Halpin and Croft's suggestion that "authenticity" in organizational behavior was expressed by the "open" climate and therefore the OCDQ might provide a better criterion for measuring school effectiveness than some of the criteria presently used, Watkins selected the two concepts of Thrust, as a measure of the principal's authenticity, and Esprit as a measure of group authenticity, to hypothesize that (1) Schools which tend to have more "open" climate characteristics will have principals who tend to maintain high psychological distance; a positive relationship exists between (2) Esprit, (3) Thrust, and psychological distance.[133] The hypotheses were tested in a forty-eight southern United States schools using principals and 1,188 staff members: the latter responded only to the OCDQ while the former completed both the OCDQ and the Assumed Similarity of Opposite Scales (ASO).[134] The hypotheses were not supported, to the contrary, a negative relationship was found for each case.[135]

Watkins failure to replicate Fiedler's research conclusions in the public school environment led him to review several studies which cautiously, but probably quite correctly indicate that the teacher is a professional in a hierarchical or bureaucratic organization. He cites, for support, research by Gross and Herriot which suggests a need for increased emphasis on a

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[132] Ibid., p. 12.

[133] Watkins, "Principal-Staff Relationship", pp. 12-13.

[134] Ibid., p. 13. The ASO was the forerunner of the Least Preferred Co-Worker (LPC) which is used by Fiedler to operationalize the Leadership Style Dimension in his contingency theory model.

[135] Ibid., p. 12.

professional peer relationship between principal and staff,[136] notes that

Getzels' model would have professionally trained people such as teachers

more idiographically inclined than industrial workers,[137] and quotes

Campbell's view that the "..... educational administrator .... is working with

professionals who feel, often rightly, that they know more about teaching and

learning than he does."[138] He ultimately concludes tha his findings "....

have indicated that the principal-staff relationships .... are possibly

different from the hierarchical relationships normally found in task oriented

groups such as the ones studied earlier by Fiedler.[139]

If Halpin's argument with respect to the advantages of thinking in

terms of leader behavior rather than situationally oriented leadership is

valid--and the study just outlined would seem to suggest that this may well

be the case for non profit oriented organizations such as schools--then it

would appear as though the thorough re-examination of the power-authority

and influence of the school principal suggested by Wiggins should be directed

toward the observation and description of his behavior in terms of Consider-

ation and Initiating structure rather than attempt an evaluation of it in

terms of some specific performance criteria. Effectiveness can be evaluated

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[136] Ne&N. Gross and R.W. Herriot, Staff Leaderships in Public Schools: A Sociological Inquiry, (New York: John Wiley and Sons, 1965), p. 94. Cited in Watkins,"An Inquiry Into the Principal-Staff Relationship", p. 14.

[137] J.W. Getzels and E.G. Guba, "Social Behavior and Administrative Process", The School Review, LXV, 65, (Winter, 1957) pp. 436-437). Cited in Watkins, "An Inquiry Into the Principal-Staff Relationship", p. 14.

[138] R.F. Campbell, "What Pecualiarities in Educational Administration Make It a Special Case?", Administrative Theory in Education, (ed) A.W. Halpin (Chicago: Midwest Administration Center, University of Chicago, 1958), p. 172. Cited in Watkins, "An Inquiry Into the Principal-Staff Relationship", p. 14.

[139] Ibid.

in Barnard's terms of facilitating cooperative group action that is both "effective" and "efficient", i.e., in as much as the successful leader contributes to both major group objectives of "goal achievement" and "group maintenance."[140]

Furthermore, although the scope of the principal's behavioral influence evidently does extend to the school district and may extend as far as the community, research is required to determine the difference, if any, between "administrative", "advocative" and "leadership" behavior. Can a principal maintain a working equilibrium between antagonistically cooperative forces and yet provide leadership into the "untried and true" at the same time? Is there a difference between administrative behavior designed to facilitate and ensure smooth school operation--even avoiding confrontation at any cost--in order to assist group maintenance of the existing organizational climate, and leadership behavior deliberately designed to upset zero tension in order to move the school toward an advocated planned change or innovation? Answers to questions such as these might tend to broaden the scope of leadership's function to some considerable degree.

Human Density and Principal as Leader

In addition to the statistically significant relationship between Enrolment and Principal as Leader, and the more liberal interpretation which suggests a potential significant relationship between Staff Members and Principal as Leader, there is a hint in the findings that the association between Density and Principal as Leader might have some slight influence

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[140] C.I. Barnard, The Functions of the Executive, (Cambridge, Mass.: Harvard University Press, 1938), cited from Halpin, Theory and Research in Administration, p. 87.

on a school's organizational climate as well. Moreover, the positive

relationship would indicate that the more expansive the Density, i.e., less

"crowded-conditions", the more likely the school climate will tend to be

"open". The low 0.20 level of significance obviously will not justify a

conclusion to that effect, but nonetheless it may infer that further

exploratory research would prove to be worthwhile.

Failure to find a strong statistically significant relationship

between Human Density and the organizational climate dimensions in this

investigation may stem from ".... the semantic confusion generated by the

interchangeability of terms such as "crowding", "overpopulation", and

"density".[141]   Schmitt defines "density" as "population per net area" and

differentiates it from "overcrowding" which he defines as "persons per room":

he concludes that the former is the more significant of the two variables.[142]

The semantic confusion may be a result of psychological phenomenon

that "crowding" would seem to be ".... only indirectly related to mere

numbers or densities of people"[143] in that certain individuals conceivably

react differently to their immediate social environment. For example, a

person may, on the one hand, "feel crowded" among a few people, while, on the

other hand, not notice any particular "crowded feeling" among many. Some

evidence of this type of conceptual crowding--the hallucinatory presence of

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[141]   J.E.S. Lawrence, "Science and Sentiment: Overview of Research on
Crowding and Human Behavior", Psychological Bulletin, LXXXI, No. 10 (1974)
p. 715.

[142]   R.C. Schmitt, "Density, Health and Social Disorganization", Journal
of the American Institute of Planners, XXXII, V (1966), p. 39. Net area was
not available for this study.

[143]   H. Proshansky, W. Ittelson and L. Rivlin, "Freedom of Choice and Behavior
in a Physical Setting" in Environmental Psychology, (New York: Rinehart and
Winston, 1970) p. 182, edited by the authors cited.

others--has been documented in "lone individual situations", where the

experimental subject, though completely isolated, reports a "crowded feeling"

as a result of either sensory deprivation or sensory overload.[144]

Findings such as these led Desor to seek support for his theory

".... that subject's judgments of crowding are controlled by overall level

of social stimulation".[145] Subsequently, seventy individual subjects were

asked to place as many human figures as possible in scaled down rooms without

creating crowded conditions.[146] Specifically, he presented his subjects

with partitioned and unpartitioned spaces, two door and six door rooms, or

rectangular and square rooms in order to test the hypothesis that the first

of each pair of rooms presented would indicate less crowding simply by having

more figures placed in them than would be the case in their counterparts.[147]

The findings are in accord with the hypothesis and thus lend some support to

the theory.

This suggests that one way of avoiding the semantic confusion

surrounding terms such as "crowding", "overpopulation" and "density", would

be to conduct future research related to size and climate utilizing Desor's

definition of "crowding". Considering the findings of the present study,

such research might best be designed to determine whether or not the relative-

ly weak statistical association between Density, Disengagement, Esprit, Thrust

and Consideration (shown in Table VII) for the eight subtests, or Principal

as Leader in the five dimensional structure, may actually obtain a consider-

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144 Lawrence, "Science and Sentiment", p. 716.

145 J.A. Desor, "Toward a Psychological Theory of Crowding", Journal of
Personality and Social Psychology, XXI?,NoXI1 (1972),pp.779.

146 Ibid.

147 Ibid.

ably stronger degree of statistical significance without the suspected

contaminating semantic confusion.

Human Density and Disengagement

Some support for the statistically weak association between Density

and Disengagement found in this study exists in the literature. Seidman has

investigated the relationship between physical openness and climate openness

using the OCDQ responses of 1763 teachers representing 98 schools across

the United States and found 68 "closed" climates which appear to be attributed

primarily to teacher Disengagement.[148] Open space schools have been

identified with close cooperative team teaching, but, according to Siedman,

if teachers do not work well together as a team, squabbling and bickering

may lead to Disengagement.[149] To what extent such Disengagement may be

attributed to a sense of "crowding", i.e., too much social stimulation, is

a question which would lend itself to controlled testing.

In fact, further study of the relationship between organizational

climate and "crowding" in schools--especially open space schools--should

prove fruitful. More particularly, the lack of partitions in schools which

may be described as physically open, would seem to present an open invitation

to "crowding" in itself. If Desor's definition, his theory, and his findings

are any indication, there should be a more intense level of social stimulation

in a physically open school. As a result, this type of school would be

expected to exhibit more of a sense of "crowding" than would likely be found

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[148] M.R. Seidman, "Comparing Physical Openness and Climate Openness of
Elementary Schools", Education., Vc;?., No. 1?(1975),4ppnP345-349.

[149] Ibid.

in a comparable school with traditional design. Whether this is the case

or not is subject to empirical testing. In any case, what effect a sense

of "crowding" would have, if any, on Disengagement and Esprit, Thrust and

Consideration, i.e., Principal as Leader is not known, but it does not seem

likely that the conditionswould be conducive to an "open" climate in either

an open-space or traditional type of school.

Area, Teacher "qua" Teacher Group Perception and Hindrance (V)

The same low 0.20 level of significance obtained for the association

between Area and two of the five dimensions--Teacher "qua" Teacher Group

Perception and Hindrance (V) would justify a cautious inference that addition-

al investigation may be warranted. The positive direction of the relation-

ship suggests that in terms of School Area, larger schools are more likely

to exhibit "closed climates" than are smaller schools.

Non-Classroom Teacher Satisfaction and Working Conditions

Finally, the lack of statistical significance for the association

between any of the size variables and Non-Classroom Teacher Satisfaction or

Working Conditions will infer that these dimensions of organizational climate

are not likely to be effected to any appreciable extent by manipulation of

School Area, Staff,Members, Enrolment or Human Density.

VI . IMPLICATIONS AND SUMMARY

Prior to discussing any implications which may be drawn from the findings, it might be prudent to briefly review the problem addressed, how the problem emerged, its importance and finally the purpose of the study in view of the problem.

The Problem and How It Emerged

The problem, when narrowed down to its simplest terms, stems from the fact that very little is known about how to change organizational climate. The seriousness of the problem began to emerge when application after application of the OCDQ revealed that the preponderance of school climates seemed to be "closed", and as such, are best described as "un-healthy" or "crippled". General efforts to "cure" or change the "closed" climate conditions to a more "healthy", "open" state have been premature and hence generally unsuccessful.

Importance of the Problem

The lack of knowledge regarding how to change organizational climate might not matter if it were not for the notion that "sick" or "crippled" climates are undesirable. The importance of the problem is further under-scored if education's continuing need to implement planned change and innovation is considered; the probability of successfully implementing a change or innovative method in a school with a "closed", "unhealthy" climate is not high. Moreover, coupling this aspect of the problem with the influence which the "built-environment" probably has on the teaching-learning process, it is evident that the ability to change a school's climate matters a great deal. It is indeed important--perhaps even crucial--to learn

considerably more than is presently known about how to change organizational climate.

Purpose of the Study In View of the Problem

It is feasible that, in addition to effecting the teaching-learning process, the school's "built-environment" probably does exercise some influence on social interactions, i.e., organizational climate, as well. It has been suggested on one hand, that the "built-environment" can be altered or manipulated in such a way as to provide a positive impact on all school occupants. On the other hand, the literature strongly supports Halpin's suggestion that the preponderance of "closed" climates is probably a result of sheer school size as described by the number of students and staff in relation to available space. Between them, the two suggestions seem to provide a rationale for studying the relationship between school size and school climate in order to provide some knowledge as to what impact the manipulation of certain size variables might reasonably be expected to have on climate conditions. Accordingly, the purpose of this study has been to determine whether or not four selected independent variables representing school size are related to the dependent variables represented by the OCDQ subtests which purportedly measure the dimensions of school organizational climate.

Implications

Speaking specifically of the findings obtained from the Vancouver sample data, Halpin's suspicion concerning the association between "closed", "unhealthy" school climates and sheer school size in terms of too many students and staff in relation to the space available to them does receive some support from this study. From a more general point of view, the findings of this particular investigation, when coupled with the findings

of other studies reviewed in it, provide a reasonbly secure empirical base
from which at least three implications concerning the school size-climate
relationship may be drawn.

From a pragmatic point of view several aspects of these implications
are probably easier to put into practice than are others. In terms of
dollars and cents the cost of some of the implications' aspects may actually
preclude serious consideration of them. In any case--cost notwithstanding--
school boards establish school district policy and if these boards wish to
do whatever they can to encourage "open" organizational climates in their
districts while functioning within the framework of their particular
constraints, there are several potential policies which could be based on
the implications stemming from this study.

Implications: Smaller Schools

The first of these implications concerns school size in terms of
Enrolment and Staff Members; the findings clearly favour small schools.
An "open" climate is characterized by a strong Principal as Leader scores,
whereas the principal's leadership--to the degree it is measured by
Consideration and Thrust--diminishes as either enrolment or teacher group
size increases.

Practicality. Even though this particular implication does obtain
relatively strong statistical support from the Vancouver sample data, from a
pragmatic standpoint any policy or action designed to alter either size
variable in such a way as to accomodate or facilitate conditions which may
be more conducive to the emergence of the type of Principal as Leader be-
havior associated with an "open", "healthy" climate may prove to be a
formidable matter. In the first instance the reduction in Enrolment

suggested by the findings can best be accomplished through the provision

of additional schools. This particular implication, then, is expensive

to say the least, but other alternatives do not appear to be readily

available. (The apparent decline in births is,of course, helpful but there

is no guarantee that the trend will continue). Any effort, for example,

to channel certain pupils on the fringes of a large school's boundary into

other nearby schools--assuming that the distance is not too great and the

alternative schools are not overcrowded themselves--would likely only

spread the "closed" climate problem--not ameliorate it. In the second

instance, the teachers' perception of the principal's diminishing leader-

ship behavior as group size increases probably does match reality--after all

there must be some limit as to how much one individual can do. Any reduction

in teaching staff designed to alleviate this situation may be accomplished

painlessly enough simply by not replacing teachers who resign or retire. The

practical difficulty likely to be encountered, then, does not relate so

much to the reduction in teaching staff in order to reduce school size as it

does to the fact that strict maintenance of the existing pupil-teacher ratio

while attempting to reduce a school's size would be extremely difficult if

not impossible to accomplish. ("Emotions"invariably seem to surface whenever

any alteration of the pupil-teacher ratio is considered. However, there

is an "unemotional" hint in the findings that, if anything, the pupil-

teacher ratio can be increased without harm. Low Esprit is more likely to be

associated with "too-many-colleagues" than will be the case with "too-many-

pupils".)

Potential Policy. It has already been noted that the expense of

providing additional schools is likely to preclude serious consideration of

reducing existing school enrolment in a district. Planning, however, is

another matter: "bigger" does not seem to be "better" as far as school climate is concerned. Owing to the limited funds available for expansion, it is highly unlikely that any board would really want to be responsible for the planning and construction of a "mausoleum" rather than a school where the principal is not innundated by too many pupils. He is paid to provide leadership so it would seem reasonable to attempt to provide conditions where he may be perceived as doing so by those he is expected to lead. School boards would probably do well to formulate a "small enrolment" policy with regard to the planning, design and construction of new schools in their district. How a Board of Trustees chooses to define "small enrolment" would undoubtedly vary from district to district, but in view of the evident preponderance of existing "closed" climates it is reasonably safe to conclude that in most cases "small" could safely be defined as a figure somewhat less than the district's current norm. "Smaller" schools in terms of Enrolment should result in a "smaller" teaching staff. The result of a policy favouring the planning, design, and construction of smaller schools in terms of Enrolment and Staff Members will not alleviate any existing climate problems, but it may prove useful in avoiding the development of future difficulties which are associated with "closed" climate conditions.

The relative ease of reducing school size as measured in terms of Staff Members has already been discussed: the impracticality of maintaining a strict adherence to a "pre-reduction" pupil-teacher ratio is reasonably clear and easily understood. What may not be so clear, though, is the importance of the principal's leadership when considered in view of its relationship with the teachers' Esprit. Can a Board of School Trustees afford, in terms of dollars and cents, to ignore the importance of this

leadership, and its evident relationship with the size of the teaching

group? Considering that the Staff Members salaries probably constitute

the largest single expenditure in any school district, it is not easy to

understand why a school board would permit or perhaps even maintain certain

policies which encourage a group to become so large that the principal's

leadership efforts--if they do not actually become more ineffectual--are

perceived to be less effectual. Is a teacher whose Esprit is low able to

teach as effectually as would be the case otherwise? Perhaps a school

board would be well advised to consider these issues in the light of such

information as may be available and determine whether or not their District

can afford to maintain the type of conditions, i.e., "large" schools as

measured by Staff Members, normally associated with a "closed","unhealthy"

climate. If the answer is negative then a policy which reduces school size

by reducing the teaching staff even though the pupil-teacher ratio must

increase slightly should be seriously considered.

Implication: Influence of the Built-Environment

A second implication stemming from the findings of this study is

concerned with the potential impact which the "built"-environment"may have

upon school inhabitants. The lack of any strong statistical association

between School Area and Human Density with any of the OCDQ subtests would

seem to indicate that the influence of the "built-environment", at least

in terms of Area and Density, may not exercise quite as much influence as

was initially thought could be the case. This does not suggest however,

that the "built-environment", while fostering and shaping human activities

does not effect social interaction as well as influence the teaching and

learning processes. As an exploratory study it is conceivable that the level

of significance could have been set as low as 0.10 (or possibly even 0.20 in some instances) without seriously affecting the viability of the results. Therefore, no matter how tenuous the association may be, it is important to note the fact indicated in Table VII that some relationship may exist between Area and Density and organizational climate. This relationship not only emphasizes the notion that the "built-environment" might influence its inhabitants to some extent but it also does tend to lend some support to Green and Spivak's argument presented on pages 13 and 14 that the "built-environment" probably can be managed in such a way as to influence the inhabitants interactions to one degree or another.

Furthermore, there is another "side-of-the-coin" to consider with regard to the failure to find a strong statistically significant association between Area and Density and the dimensions of organizational climate. In terms of the study's purpose, the fact that there evidently is little or no relation between these two aspects of the "built-environment" and organizational climate measured by Non-Classroom Teacher Satisfaction and Working Conditions, is a valid contribution to the knowledge sought with respect to how to change organizational climate. In short, manipulation of these particular independent variables is not likely to influence their association or have much impact on the dependent variables--Non-Classroom Teacher Satisfaction and Working Conditions--one way or another.

The lack of a strong relationship notwithstanding, the fact that the association between Area and Density, as elements of the "built-environment", is not nearly as strong as the association between Principal as Leader and Enrolment, and Principal as Leader and Staff Members does suggest that a school's inhabitants are probably influenced much more

by their school size measured in terms of Staff Members and Enrolment, i.e.,
the human element, than they are by their "built-environment" expressed in
terms of Area and Density. In short, while Farsen's thesis is probably
basically valid, it is likely that sound leadership--sound in terms of Thrust
and Consideration--will probably have a much more profound influence upon
the dimensions of organizational climate and hence on "liberating" people
than will their physical surroundings.

Praticality. From a practical standpoint, the findings tend to
indicate that when planning new schools or considering substantial alter-
ations to existing schools, a Board of School Trustees might do well to
investigate the relationship between school size as defined by School Area
and Human Density, and certain dimensions of organizational climate with a
view toward avoiding conditions associated with a "closed" climate.
Specifically, in the case of School Area answers should be sought as to why
both the teachers' Esprit and the principal's Production Emphasis seem to
decrease while Teacher "qua" Teacher Group Perception and Hindrance increase
as School Area is increased. In the Human Density case, additional inform-
ation should be sought as to why the behaviour purportedly measured by the
Principal as Leader subtest will apparently increase as Human Density, (i.e.,
square footage available to the school's inhabitants increases). The
answers provided by such an investigation conceivably could initially
effect school planning and school alterations in such a way that school
climate itself would ultimately be effected.

Potential Policy. In spite of the fact that the statistical
relationships between physical school size and organizational climate are
not overwhelming those which have been found to exist are consistently in the
direction initially predicted by Halpin. That is, as Area increases, or

Density becomes more compact, the dimensions which are expected to measure

organizational climate tend toward those conditions associated with "closed"

climate conditions. It might not be unreasonable, under these circumstances

for a Board of School Trustees to maintain a policy which tends to limit

the School Area to some extent while still providing for a resonably

expansive degree of Density for its occupants.

Implication: Efficacy of the OCDQ

Several suggestions for further research have been made throughout

this report. For example, in terms of the purpose and problem addressed by

this study, it would be useful to have some indication with respect to: a)

the degree of correlation between both Enrolment and Staff Members with

group member participation and "closed" climate conditions, b) the relation

between school climate and the degree of undermanning involved, c) whether

or not the teachers' perception of a school's climate is communicated to

prospective teachers outside the school, d) whether observation of leader

behavior as opposed to evaluation of leadership effectiveness should be

pursued in research related to non-profit organizations, e) whether or not

any particular difference may be observed to exist between "administrative",

"advocative" and "leadership" behavior, f) the correlation between Density

and Principal as Leader utilizing Desor's definitions of "crowding" and g)

whether or not "physically" open schools "vis-a-vis" more traditionally

designed schools may be associated with behavior described as Disengagement

or Teacher "qua" Teacher Group Perception. However, the problems encounter-

ed in this study, and several others reviewed in it, tend to cast some doubt

on the efficiency of the OCDQ as a research instrument. Indeed, whether or

not the OCDQ should be utilized with the research suggested by the findings

of this investigation is questionable.

With the possible exception of some exploratory work conducted by

Watkins there is little evidence of any effort to subject the instrument

to an extensive degree of refinement.[150]   In this particular case those

items which measure the concept of Executive Professional Leadership (EPL)

identified by Gross and Herriot as:

> .... the efforts of an executive (the principal)
> of a professionally staffed organization (the
> school) to conform to a definition of his role
> that stresses his obligation to improve the
> quality of staff performance.[151]

have been combined with the OCDQ items which measure Thrust and Esprit. He

called the resulting thirty-seven item instrument the Principal Behavior

Questionnaire and used it to obtain data from seven Alabama schools with

expectations of obtaining positive correlations between Esprit, Thrust and

EPL.[152]   In fact, the correlations, which range from 0.60 to 0.93 with a

composite figure of 0.88, are so strong that Watkins concludes:

> Authenticity of principal behavior as discussed
> by Halpin and Croft and Executive, Professional
> Leadership as defined and measured by Gross and
> Herriot are most certainly in the "same church
> if not in the same pew".[153]

Moreover, he suggests that the findings show considerable promise for

research if the results of the two research endeavours are merged.[154]

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[150]   J.F. Watkins, "Gross and Herriott--Halpin and Croft: Two Research Teams
on the Same Course", Journal of Secondary Education, VL, No. 1 (January, 1970)
pp. 27-30.

[151]   Gross and Herriott, Staff Leadership in Public Schools, p. 22.

[152]   Watkins, "Gross and Herriott--Halpin and Croft", p. 27.

[153]   Ibid., p. 30.

[154]   Ibid.

Such a merger would be little more than an example of what the OCDQ originators had hoped would occur when they noted in the initial monograph that their work and the criticism of others would ultimately result in a larger, more effective OCDQ form. Indeed, the instrument itself has been somewhat injudiciously used--this particular Vancouver study being no exception--in the sense that it remains in its original form over a decade after its development. Merging the two research endeavours is at least an initial step in refining the OCDQ, but some of the dimensions, notably those pertaining to Aloofness, for example, apparently contain too few items to adequately tap the domain in question. If the OCDQ is not soon subject to considerable refinement, it is suggested that much more caution be exercised in its application than has evidently been the case to date.

Summary of the Study

The thesis basic to the study is that if any correlation does exist between school size and school climate, knowing the nature of the relationship might make a useful contribution to the knowledge as to how to change a school's organizational climate. Data was obtained from teachers in the Vancouver school system to test the association between four selected independent variables as indicators of school size and eight dependent variables--the OCDQ subtests--as indicators of school climate. Halpin and Croft's original procedures were applied to the data, but the results ultimately indicated that a five factor pattern would be as suitable as the eight dimensions initially generated. The five subtests generated were subsequently included in the study.

Significant Findings. Although there does appear to be some statistical correlation between the four size variables tested--Area, Staff

Members, Enrolment and Human Density--and one or more of the climate sub-
tests other than Intimacy and Aloofness or Non-Classroom Teacher Satisfac-
tion and Working Conditions, the statistically significant findings, con-
servatively speaking, indicate that the smaller school in terms of Enrol-
ment, and liberally speaking, in terms of Staff Members will more likely
exhibit the type of Principal as Leader behavior associated with "open"
climate conditions than will be the case for a larger school.

Owing to the apparent permanence of change and innovation in
schools, the investigation reported here may derive its prime importance,
if any, not so much from the support it tends to lend to Halpin's suspicion
that one aspect contributing to "closed", "unhealthy" organizational
climates is sheer school size in terms of too many students and staff for
the available space, but rather from the effect the number of students and
staff seem to have on the school's leadership. Moreover, these findings
will take on even more importance if they are coupled with the speculation
that, owing to the very nature of the type of leadership which seemingly
is required from the school principal, he or she may not necessarily be the
one to assign the function of advocating planned change or innovation
irrespective of school size or climate.

Implications. Three basic implications have been drawn from the
findings and related empirical evidence provided by a review of the litera-
ture. First, smaller schools are imperative if the principal's leadership
is not to be smothered by too many pupils and teachers. Second, mani-
pulation of the "built-environment" size variables may not have as much
impact on the dependent climate variables as would a reduction in Enrol-
ment and Staff Members, but nevertheless there is sufficient evidence to

imply that altering School Area and Human Density might prove useful in providing conditions similar to those which are normally associated with an "open" climate. Third, even though considerably more research is required with respect to gaining much more knowledge concerning the relationship between school size and school climate, the difficulties encountered by this study and several others reported in it imply that the OCDQ itself should be subjected to further refinement before continuing to subject it to such extensive use.

Contribution to Knowledge. In terms of its purpose, the study's findings can be briefly summarized as follows:

1) Reduction of Enrolment may prove useful in providing conditions related to the type of leadership behavior—as described by the Principal as Leader dimension of school organizational climate—normally associated with a more "open", "healthy" climate conducive to the introduction of planned change and innovative efforts; 2) Reduction of Staff Members may influence the Principal as Leader dimension of school organizational climate in much the same manner just described for Enrolment. Further investigation of this relationship could well reveal that the reduction of Staff Members, would increase Esprit for the remainder. A smaller staff with higher Esprit will tend more toward the "open", "healthy" climate; 3) There is a hint in the findings that the association between Density and Principal as Leader and Area's association with both Teacher "qua" Teacher Group Perception and Hindrance (V) is strong enough to justify further research; 4) There is little indication that manipulation of any of the four size variables will influence either the Non-Classroom Teacher Satisfaction or the Working Conditions dimension of a school's organizational climate.

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APPENDIX A

Letter Requesting Principal's Permission for

Individual School Inclusion in the Study

121   May 31, 1971

Dear

      Re: Research Proposal On The Relationship Between Organizational
         Climate, Space And Human Density In Vancouver Elementary Schools

    Mr. F. H. Bennett, a graduate student in Business Administration at
the University of British Columbia, has requested permission to conduct a
research study of Vancouver elementary schools. This study for a Master's
thesis has been approved by the Planning and Evaluation Department.
Schools which were randomly selected by Mr. Bennett are encouraged to co-
operate with this research study.

    In each school Mr. Bennett plans to distribute copies of the enclosed
Organizational Climate Description Questionnaire by Halpin and Croft to
5 - 9 teachers who were randomly chosen from the Teaching Staff Directory.
Although participation is voluntary, teachers are encouraged to cooperate
with the survey as the School Board has reduced the research sample to a
minimum number for completing the study.

    Although respondents need not sign the questionnaire, the school name
is requested as Mr. Bennett wants to relate teachers' responses to pupil
enrolment and floor space information which will be supplied by the School
Board. Please be assured that the name of the school is for research
purposes only. The Vancouver School Board will not examine the data provided
by teachers and Mr. Bennett has agreed not to reveal the identity of the
schools in his thesis.

    As there is a relatively short period of time to complete this research
study, I will assume, unless I hear to the contrary by June 4th, that you
will distribute the survey questionnaires when Mr. Bennett brings them to
your school.

                                       2

APPENDIX B

Organizational Climate Description Questionnaire

Form   IV

The OCDQ administered in this study is identical to the original version developed by Halpin and Croft with the exception of the following items which have been slightly altered to more properly fit within the Canadian context:[1]

1. The word "faculty" has been changed to "staff" in each applicable item.

2. Item 23 originally read ... "Let's get things done" has been changed to "let's get things accomplished" to avoid possible misinterpretation as "getting it over with".

3. Item 23 originally read "Teachers have fun socializing together during school time" has been changed to ".... socializing together during their 'free' school time" to avoid confusion between "teaching" time and "free" time before classes commence, between classes, and the end of the school day.

4. Item 42 originally read "Teachers at this school stay by themselves" has been changed to, "Teachers at this school stay by themselves during their 'free' school time", to avoid possible confusion between school hours and after school hours.

5. Item 58 is not generally applicable to British Columbia since most decisions related to curriculum are not made at the school level; hence teachers were asked to answer on the basis of whatever participation did take place with regard to those curriculum decisions which are permitted within the school.

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[1] The changes made have been recommended by D.M. MacKenzie in The Organizational Climate and Socio-economic Background of Selected Elementary Schools in the Lower Mainland Area of British Columbia, Unpublished Master's Thesis, University of British Columbia, 1962, pp. 63-65.

6. Again, in British Columbia, item 63 is not strictly applicable. Teachers were asked to respond on the basis of what they would expect if obtaining better teacher salaries actually was a normal part of their respective principal's duties.

7. Item 64 originally read "The rules set by the principal are never questioned", was altered to ".... are often questioned", to avoid possible confusion over the strict, negative form.

8. Item 76 originally read, "Teachers are informed of the results of a superintendent's visit", but since many, if not most teachers are not necessarily visited the item was changed to read ".... informed of the results of a principal's inspection.

ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE
A. W. HALPIN AND DON B. CROFT

The items herein attempt to describe typical behaviours or conditions that occur in an elementary school organization. It is not necessary to answer them on the basis of what you would consider as "desirable" or "undesirable" behaviour; simply circle the answer that corresponds closely with your own feelings regarding your school. You need not identify yourself in any way whatsoever.

The purpose of this questionnaire is simply to secure a description of the organizational climate of your school in order to relate it to the amount of space available to you and your pupils.

This instrument has been reproduced and its use sanctioned by A. W. Halpin and D. B. Croft.

1

PLEASE BE SURE THAT YOU MARK EVERY ITEM

MARKING INSTRUCTIONS

Circle the answer 1, 2, 3 or 4 that most nearly corresponds to your feeling about your school.

1. Rarely occurs

2. Sometimes occurs

3. Often occurs

4. Very frequently occurs

For example, teachers call each other by their first names. 1 2 ③ 4

EXPLANATION

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 your feeling as to how often the described behaviour actually does occur in your school. Work rapidly--your first impressions are probably the most accurate.

PLEASE BE SURE THAT YOU MARK EVERY ITEM.

2

BIOGRAPHICAL INFORMATION

4. School:_____
               (Write in the name of your school)

Please circle the appropriate number.

5. Position: Principal   1

                Teacher   2

                Other   3

6. Sex: Male   1

                Female   2

Please write the following information in the space provided.

 7-8   Age: _____.

 9-10 Years of experience
       in education: _____.

11-12 Years at this school: _____.

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

13. Teachers' closest friends are other staff members at this school.   1 2 3 4

14. The mannerisms of teachers at this school are annoying.   1 2 3 4

15. Teachers spend time after school with students who have individual problems.   1 2 3 4

16. Instructions for the operation of teaching aids are available.   1 2 3 4

17. Teachers invite other staff members to visit them at home.   1 2 3 4

18. There is a minority group of teachers who always oppose the majority.   1 2 3 4

19. Extra books are available for classroom use.   1 2 3 4

20. Sufficient time is given to prepare administrative reports.   1 2 3 4

21. Teachers know the family background of other staff members.   1 2 3 4

22. Teachers exert group pressure on non-conforming staff members.   1 2 3 4

23. In staff meetings, there is a feeling of "let's get things accomplished."   1 2 3 4

24. Administrative paper work is burdensome at this school.   1 2 3 4

25. Teachers talk about their personal lives to other staff members.   1 2 3 4

26. Teachers seek special favours from the principal.   1 2 3 4

27. School supplies are readily available for use in classwork.   1 2 3 4

28. Student progress reports require too much work.   1 2 3 4

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

29. Teachers have fun socializing together during their "free" school time. 1 2 3 4

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 during their "free" school time. 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

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

47. The morale of the teachers is high.   1 2 3 4

48. The principal uses constructive criticism.   1 2 3 4

49. The principal stays after school to help teachers finish their work.   1 2 3 4

50. Teachers socialize together in small, select groups.   1 2 3 4

51. The principal makes all class-scheduling decisions.   1 2 3 4

52. Teachers are contacted by the principal each day.   1 2 3 4

53. The principal is well prepared when he speaks at school functions.   1 2 3 4

54. The principal helps staff members settle minor differences.   1 2 3 4

55. The principal schedules the work for the teachers.   1 2 3 4

56. Teachers leave the grounds during the school day.   1 2 3 4

57. The principal criticizes a specific act rather than a staff member.   1 2 3 4

58. Teachers help select which courses will be taught. (Answer on the basis of the amount of teacher participation in any curriculum decisions made within your school.)   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. (Answer on the basis of the behaviour which you would expect if this were part of your principal's duties.)   1 2 3 4

63. Extra duty for teachers is posted conspicuously.   1 2 3 4

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

64. The rules set by the principal are often questioned.   1 2 3 4

65. The principal looks out for the personal welfare of teachers.   1 2 3 4

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. Staff meetings are organized according to a strict agenda.   1 2 3 4

71. Staff 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 principal's inspection.   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 C

CONFIDENCE INTERVALS FOR EACH SCHOOL SAMPLED

The following tables have been calculated from the general formula

representing confidence limits for population means:

$$\bar{x} \pm t_c \frac{s}{\sqrt{n-1}}$$

where $\bar{x}$ = sample mean, t_c = critical value from "student's" t distribution,

s = sample standard deviation, n-1 = degrees of freedom. Specifically

$$\bar{x} - t_{.975} \frac{s}{\sqrt{n-1}} < \mu < \bar{x} + t_{.975} \frac{s}{\sqrt{n-1}} \qquad \text{yields}$$

an interval in which μ, the actual population mean, can be reasonably

expected to lie with a 95 per cent degree of certainty. However, it

either does or does not lie within the interval; thus the 95 per cent

degree of confidence should not be interpreted as meaning that out of all

possible samples of size "n" which could be drawn 95% will fall within the

interval.

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL A

Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Sample Size: 6		Population: 18	
Principal as Leader	3.19	0.41	2.72 - 3.66
Teacher "qua" Teacher Group Perception	1.78	0.41	1.31 - 2.25
Non-Classroom Teacher Satisfaction	2.56	0.66	1.81 - 3.31
Working Conditions	2.42	0.50	1.85 - 2.99
Hindrance	2.42	0.64	1.68 - 3.15

NINETY PER CENT CONFIDENCE INTERVAL*

SCHOOL B

Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Sample size: 3		Population: 20	
Principal as Leader	2.28	0.76	1.00 - 4.00
Teacher "qua" Teacher Group Perception	1.81	0.60	1.00 - 3.06
Non-Classroom Teacher Satisfaction	1.78	0.34	1.07 - 2.48
Working Conditions	1.56	0.16	1.00 - 3.20
Hindrance	1.50	0.41	1.00 - 2.34

*Ninety-five per cent confidence interval is too wide to yield any meaningful information from this sample.

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL C

	$\bar{x}$	s	μ
Sample size: 3		Population: 16	
Factor	Sample Average	Standard Deviation	Population Average Lies Between
Principal as Leader	2.91	0.23	2.22 – 3.60
Teacher "qua" Teacher Group Perception	2.33	0.40	1.13 – 3.54
Non-Classroom Teacher Satisfaction	1.72	0.32	1.00 – 2.68
Working Conditions	1.33	0.24	1.00 – 2.05
Hindrance	1.81	0.14	1.41 – 2.20

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL D

	$\bar{x}$	s	μ
Sample size: 7		Population: 24	
Factor	Sample Average	Standard Deviation	Population Average Lies Between
Principal as Leader	2.30	0.15	2.15 – 2.46
Teacher "qua" Teacher Group Perception	1.60	0.35	1.26 – 1.95
Non-Classroom Teacher Satisfaction	2.38	0.29	2.09 – 2.67
Working Conditions	1.84	0.35	1.49 – 2.19
Hindrance	1.86	0.46	1.41 – 2.31

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL E

Sample size: 4			Population: 21
Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Principal as Leader	2.22	0.32	1.64 - 2.80
Teacher "qua" Teacher Group Perception	1.75	0.21	1.36 - 2.14
Non-Classroom Teacher Satisfaction	1.83	0.24	1.40 - 2.27
Working Conditions	2.37	0.37	1.69 - 3.05
Hindrance	2.00	0.25	1.54 - 2.46

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL F

Sample size: 8			Population: 25
Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Principal as Leader	2.98	0.32	2.69 - 3.26
Teacher "qua" Teacher Group Perception	1.32	0.67	0.72 - 1.92
Non-Classroom Teacher Satisfaction	2.25	0.46	1.84 - 2.66
Working Conditions	2.50	0.42	2.13 - 2.87
Hindrance	1.91	0.61	1.36 - 2.45

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL G

Sample size: 9			Population: 29
Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Principal as Leader	2.59	0.30	2.34 - 2.84
Teacher "qua" Teacher Group Perception	1.58	0.27	1.36 - 1.80
Non-Classroom Teacher Satisfaction	2.41	0.58	1.93 - 2.88
Working Conditions	2.58	0.58	2.11 - 3.06
Hindrance	2.03	0.34	1.75 - 2.31

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL H

Sample size: 5			Population: 19
Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Principal as Leader	2.94	0.27	2.56 - 3.32
Teacher "qua" Teacher Group Perception	1.67	0.68	1.00 - 2.61
Non-Classroom Teacher Satisfaction	2.13	0.59	1.31 - 2.95
Working Conditions	2.27	0.20	1.99 - 2.54
Hindrance	1.60	0.56	1.00 - 2.38

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL I

	x̄ Sample Average	s Standard Deviation	μ Population Average Lies Between
Sample size: 6		Population: 20	
Factor			
Principal as Leader	2.76	0.35	1.88 - 2.68
Teacher "qua" Teacher Group Perception	1.35	0.19	1.14 - 1.57
Non-Classroom Teacher Satisfaction	2.58	0.61	1.89 - 3.28
Working Conditions	1.33	0.32	1.00 - 1.70
Hindrance	1.33	0.24	1.06 - 1.61

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL J

	x̄ Sample Average	s Standard Deviation	μ Population Average Lies Between
Sample size: 5		Population: 19	
Factor			
Principal as Leader	2.47	0.40	1.92 - 3.02
Teacher "qua" Teacher Group Perception	1.69	0.52	1.00 - 2.41
Non-Classroom Teacher Satisfaction	2.47	0.78	1.38 - 3.56
Working Conditions	2.27	0.86	1.07 - 3.46
Hindrance	2.20	0.64	1.31 - 3.09

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL K

Sample size: 9			Population: 32
Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Principal as Leader	2.52	0.61	1.76 - 2.75
Teacher "qua" Teacher Group Perception	1.91	0.51	1.50 - 2.33
Non-Classroom Teacher Satisfaction	2.50	0.54	2.06 - 2.94
Working Conditions	2.19	0.23	2.01 - 2.38
Hindrance	2.53	0.64	2.01 - 3.49

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL L

Sample size: 4			Population: 17
Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Principal as Leader	3.00	0.17	2.70 - 3.31
Teacher "qua" Teacher Group Perception	1.56	0.21	1.17 - 1.94
Non-Classroom Teacher Satisfaction	2.25	0.43	1.45 - 3.05
Working Conditions	2.46	0.56	1.43 - 3.48
Hindrance	1.56	0.11	1.37 - 1.76

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL M

Sample size: 4			Population: 13
Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Principal as Leader	2.56	0.43	1.76 - 3.36
Teacher "qua" Teacher Group Perception	1.58	0.16	1.28 - 1.89
Non-Classroom Teacher Satisfaction	2.25	0.34	1.62 - 2.88
Working Conditions	2.79	0.30	2.25 - 3.34
Hindrance	2.13	0.28	1.61 - 2.64

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL N

Sample size: 5			Population: 15
Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Principal as Leader	3.00	0.34	2.53 - 3.47
Teacher "qua" Teacher Group Perception	1.42	0.31	1.00 - 1.85
Non-Classroom Teacher Satisfaction	2.73	0.66	1.82 - 3.64
Working Conditions	2.00	0.24	1.76 - 2.33
Hindrance	1.70	0.29	1.30 - 2.11

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL O

| Sample size: 7 | | | Population: 28 |
Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Principal as Leader	2.50	0.34	2.16 - 2.84
Teacher "qua" Teacher Group Perception	1.73	0.43	1.30 - 2.16
Non-Classroom Teacher Satisfaction	2.00	0.51	1.49 - 2.51
Working Conditions	1.79	0.06	1.73 - 1.84
Hindrance	1.86	0.63	1.23 - 2.48

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL P

| Sample size: 6 | | | Population: 19 |
Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Principal as Leader	2.76	0.42	2.27 - 3.24
Teacher "qua" Teacher Group Perception	1.81	0.57	1.16 - 2.47
Non-Classroom Teacher Satisfaction	2.19	0.24	1.92 - 2.47
Working Conditions	1.86	0.30	1.52 - 2.20
Hindrance	1.96	0.81	1.03 - 2.89

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL Q

Sample size: 5			Population: 24
Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Principal as Leader	2.27	0.22	1.96 - 2.58
Teacher "qua" Teacher Group Perception	1.93	0.26	1.57 - 2.29
Non-Classroom Teacher Satisfaction	2.03	0.52	1.31 - 2.76
Working Conditions	2.20	0.31	1.78 - 2.63
Hindrance	1.70	0.49	1.03 - 2.38

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL R

Sample size: 6			Population: 21
Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Principal as Leader	2.53	0.29	2.19 - 2.86
Teacher "qua" Teacher Group Perception	1.72	0.54	1.11 - 2.34
Non-Classroom Teacher Satisfaction	2.17	0.31	1.82 - 2.52
Working Conditions	1.75	0.19	1.53 - 1.97
Hindrance	2.21	0.34	1.82 - 2.59

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL S

Sample size: 6			Population: 28
Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Principal as Leader	1.96	0.41	1.50 - 2.43
Teacher "qua" Teacher Group Perception	1.83	0.46	1.31 - 2.36
Non-Classroom Teacher Satisfaction	1.86	0.66	1.11 - 2.61
Working Conditions	2.00	0.43	1.51 - 2.49
Hindrance	1.92	0.47	1.38 - 2.46

NINETY-FIVE PER CENT CONFIDENCE INTERVAL

SCHOOL T

Sample size: 8			Population: 28
Factor	$\bar{x}$ Sample Average	s Standard Deviation	μ Population Average Lies Between
Principal as Leader	2.66	0.22	2.46 - 2.85
Teacher "qua" Teacher Group Perception	1.83	0.86	1.07 - 2.60
Non-Classroom Teacher Satisfaction	2.29	0.46	1.88 - 2.71
Working Conditions	1.79	0.40	1.44 - 2.15
Hindrance	1.84	0.45	1.44 - 2.25

APPENDIX D

ROTATED ITEM FACTOR MATRIX FOR

64 ITEMS OF THE OCDQ FORM IV

HALPIN & CROFT

(n = 1151)

TABLE A

ROTATED ITEM FACTOR MATRIX FOR 64 ITEMS OF THE OCDQ, FORM IV
(n=1151)

OCDQ Subtest Item	I	II	III	IV	V	VI	VII	VIII	h^2
				DISENGAGEMENT					
1. Mannerism	-08	-49	-10	-01	06	06	16	-21	33
2. Oppose	-05	-44	-05	05	02	08	14	-30	31
3. Pressure	-10	-38	05	15	-06	11	15	-32	32
4. Seek fvr	-06	-36	11	-02	11	17	19	-33	33
5. Interrupt	-06	-63	06	-14	08	13	-09	03	46
6. Nonsense	-05	-58	-05	01	05	07	11	08	37
7. Ramble	-07	-68	-02	-01	12	-01	01	19	52
8. Stay by	-04	-20	-23	13	07	-08	12	-40	30
9. Leaving	-18	-29	05	26	17	-18	18	-15	31
10. Social	-02	-46	09	19	-11	-09	21	-13	34
				HINDRANCE					
11. Routine	-03	-13	03	06	68	-09	05	-06	49
12. Cttee	-05	-06	06	08	59	05	02	-11	38
13. Sent rep	-01	-06	-06	04	62	06	04	-16	42
14. Paperwork	05	-08	-01	09	66	-01	01	01	46
15. Admin Rep	21	-02	10	02	-51	08	-17	-09	35
16. Aids	35	14	05	12	-17	12	-37	-12	35
				ESPRIT					
17. Morale	34	19	19	-27	-13	32	-41	06	55
18. Vim vigour	221	29	18	-10	-09	34	-45	01	50
19. Spirit	22	25	21	-20	-03	43	-43	06	57
20. Cst Dial	25	10	04	10	-09	-06	-35	04	22
21. Faults	16	11	21	-06	04	04	-38	17	26
22. Supplies	26	02	-02	-08	-15	17	-05	-07	41

TABLE A (Continued)

OCDQ Subtest Item	I	II	III	IV	V	VI	VII	VIII	h^2
						ESPRIT			
23. Laughter	17	-08	55	-15	05	01	-18	16	42
24. Get done	35	18	12	13	00	18	-31	-20	35
25. Extra bks	21	04	02	04	-16	11	-41	04	25
26. Indiv pbm	12	11	20	01	01	22	-28	-20	23
						INTIMACY			
27. Friends	02	11	53	13	-01	20	09	03	36
28. Invite	04	13	62	10	-06	16	07	02	45
29. Background	-05	06	52	-02	01	12	-10	-03	31
30. Personal	04	-20	59	05	-05	-14	-09	-01	42
31. Have fun	09	-19	50	-09	02	-02	-10	07	31
32. Together	04	01	22	18	02	46	-07	12	31
33. Themslvs	-05	-00	-15	-06	13	-17	-26	-25	21
						ALOOFNESS			
34. Strict	-00	00	-06	33	16	01	-22	-33	30
35. Prinrept	-29	-16	-01	27	05	-23	-18	-26	33
36. Business	10	12	-08	37	07	05	-14	-35	32
37. Grounds	05	-15	22	02	-04	-24	00	-38	28
38. Eat lunch	00	02	-12	-12	12	02	02	-54	34
39. Rules	06	-26	09	03	04	-11	-11	-12	12
40. Contacted	29	04	14	05	-04	15	-22	-21	23
41. Secyxi	03	-05	-18	05	-14	42	-26	10	32
42. Inspection	24	00	00	31	-04	28	-14	15	27

TABLE A   (Continued)

OCDQ Subtest Item	I	II	III	IV	V	IV	VII	VIII	h^2
				PRODUCTION EMPHASIS					
43. Class	-03	-08	-00	58	01	-05	14	-01	36
44. Sched Wrk	-06	07	05	54	09	04	14	-02	33
45. Ability	20	-08	-05	47	-05	30	-19	-05	40
46. Corrects	12	-16	06	54	12	05	-17	06	38
47. Capacity	21	-01	-06	37	05	31	-20	-05	32
48. Extra Dty	11	-02	05	23	02	-04	-37	04	21
49. Talks	-20	-39	11	21	19	04	-10	16	31
				THRUST					
50. Out of way	74	06	10	-06	-09	23	03	-02	63
51. Example	70	05	-00	10	01	11	-12	07	54
52. Criticism	72	09	04	-04	-01	12	-17	03	58
53. Wel prep	60	10	-03	07	-09	04	-06	-06	40
54. Explains	64	02	07	05	01	17	-20	14	50
55. Welfare	49	-06	07	00	-01	-04	-27	00	32
56. Arrive	41	09	02	19	02	07	-11	-02	23
57. New ideas	51	-03	-02	07	06	29	-24	08	42
58. Essay	63	11	11	-17	-09	10	-05	-03	47
				CONSIDERATION					
59. Solve pblm	20	-09	19	-01	01	51	09	-05	36
60. Does fvrs.	30	-11	35	-10	-01	40	07	-16	43
61. Finish	21	-08	-01	15	06	52	-04	03	35
62. Minor	26	-08	08	09	03	38	-00	-11	25
63. Courses	06	01	15	-18	01	29	-15	-03	17
64. Salaries	32	-12	-04	-02	-17	37	-07	04	29

TABLE A   (Continued)

Eigenvalue [a] 8.15 3.79 2.60 2.05 1.82 1.62 1.47 1.44

Cumulative
Proportion
of total
variance   .24   .35   .42   .48   .53   .58   .62   .67

*Adapted from Halpin and Croft, Organizational Climate of Schools, (Chicago: Midwest Administrative Center, 1963, pp. 34, 35).

APPENDIX E

CLIMATE PROFILES BASED ON INDIVIDUAL SUBTESTS

Twenty Vancouver Schools

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School:. A   Area:48110   Staff: 18   Enrolment:497   Density:93

Subtest Score	I Principal as Leader 3.19	II Teacher "qua" Teacher Group Perception 1.78	III Non-Classroom Teacher Satisfaction 2.56	IV Working Conditions 2.43	V Hindrance 2.41

1.67 Disengagement 1	2.69 Hindrance 2	3.02 Esprit 3	2.40 Intimacy 4	2.63 Aloofness 5	2.15 Production Emphasis 6	3.69 Thrust 7	2.86 Consideration 8

School: B   Area:41267   Staff: 20   Enrolment: 527   Density:70

Subtest Score	I Principal as Leader	II Teacher "qua" Teacher Group Perception	III Non-Classroom Teacher Satisfaction	IV Working Conditions	V Hindrance
	2.28	1.81	1.78	1.56	1.50

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1.97	1.72	2.70	1.81	2.11	1.76 Production Emphasis	2.33	1.67
Disengagement 1	Hindrance 2	Esprit 3	Intimacy 4	Aloofness 5	6	Thrust 7	Consideration 8

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FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School:C   Area: 56555   Staff: 16   Enrolment:192   Density: 272

	I Principal as Leader 2.91	II Teacher "qua" Teacher Group Perception 2.33	III Non-Classroom Teacher Satisfaction 1.72	IV Working Conditions 1.33	V Hindrance 1.82
Subtest Score					

2.33	1.82	2.17	1.95	1.96	1.81	3.63	2.83
Disengagement 1	Hindrance 2	Esprit 3	Intimacy 4	Aloofness 5	Production Emphasis 6	Thrust 7	Consideration 8

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School: D   Area: 64950   Staff: 24   Enrolment: 679   Density: 92

Subtest Score	I Principal as Leader	II Teacher "qua" Teacher Group Perception	III Non-Classroom Teacher Satisfaction	IV Working Conditions	V Hindrance
	2.30	1.60	2.38	1.83	1.86

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1.61	2.12	2.84	2.31	2.22	1.56 Production Emphasis	2.24	1.68
Disengagement 1	Hindrance 2	Esprit 3	Intimacy 4	Aloofness 5	6	Thrust 7	Consideration 8

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School: E   Area: 48590   Staff: 21   Enrolment: 621   Density:76

	I Principal as Leader	II Teacher "qua" Teacher Group Perception	III Non-Classroom Teacher Satisfaction	IV Working Conditions	V Hindrance
Subtest Score	2.19	1.75	1.83	2.35	2.00

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1.68	2.13	2.33	1.78	2.19	2.15	2.22	1.75
					Production		
Disengagement 1	Hindrance 2	Esprit 3	Intimacy 4	Aloofness 5	Emphasis 6	Thrust 7	Consideration 8

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School: F   Area: 52192   Staff: 25   Enrolment: 606   Density: 83

	I	II	III	IV	V
Subtest Score	Principal as Leader	Teacher "qua" Teacher Group Perception	Non-Classroom Teacher Satisfaction	Working Conditions	Hindrance
	2.98	1.32	2.25	2.50	1.91

1.35	2.33	3.15	2.09	2.43	2.29	3.21	2.46
Disengagement 1	Hindrance 2	Esprit 3	Intimacy 4	Aloofness 5	Production Emphasis 6	Thrust 7	Consideration 8

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School: G   Area: 56405   Staff: 29   Enrolment: 832   Density: 66

Subtest Score	I Principal as Leader	II Teacher "qua" Teacher Group Perception	III Non-Classroom Teacher Satisfaction	IV Working Conditions	V Hindrance
	2.59	1.58	2.41	2.55	2.03

1.67	2.28	2.92	2.40	2.46	2.52	2.93	1.85
Disengagement 1	Hindrance 2	Esprit 3	Intimacy 4	Aloofness 5	Production Emphasis 6	Thrust 7	Consideration 8

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School: H   Area: 42080   Staff: 19   Enrolment: 351   Density: 114

	I	II	III	IV	V
Subtest Score	Principal as Leader	Teacher "qua" Teacher Group Perception	Non-Classroom Teacher Satisfaction	Working Conditions	Hindrance
	2.94	1.67	2.13	2.27	1.60

1.64	2.10	3.02	2.29	2.44	2.31	3.56	2.33
					Production		
Disengagement	Hindrance	Esprit	Intimacy	Aloofness	Emphasis	Thrust	Consideration
1	2	3	4	5	6	7	8

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School: I   Area: 42527   Staff: 20   Enrolment: 535   Density: 77

	I Principal as Leader 2.76	II Teacher "qua" Teacher Group Perception 1.35	III Non-Classroom Teacher Satisfaction 2.58	IV Working Conditions 1.33	V Hindrance 1.33
Subtest Score					

1.33	1.94	3.25	2.40	1.83	1.62	3.20	2.44
Disengagement 1	Hindrance 2	Esprit 3	Intimacy 4	Aloofness 5	Production Emphasis 6	Thrust 7	Consideration 8

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FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School: J   Area: 41345   Staff: 19   Enrolment: 457   Density: 87

Subtest Score	I Principal as Leader 2.47	II Teacher "qua" Teacher Group Perception 1.69	III Non-Classroom Teacher Satisfaction 2.47	IV Working Conditions 2.27	V Hindrance 2.20

	1.43	2.37	3.08	2.11	2.29	2.35	2.44	2.17
	Disengagement 1	Hindrance 2	Esprit 3	Intimacy 4	Aloofness 5	Production Emphasis 6	Thrust 7	Consideration 8

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School: K   Area: 73045   Staff: 32   Enrolment: 831   Density: 85

Subtest Score	I Principal as Leader 2.52	II Teacher "qua" Teacher Group Perception 1.91	III Non-Classroom Teacher Satisfaction 2.50	IV Working Conditions 2.19	V Hindrance 2.53

	1.79	2.52	2.68	2.41	2.30	2.12	3.10	2.33
	Disengagement 1	Hindrance 2	Esprit 3	Intimacy 4	Aloofness 5	Production Emphasis 6	Thrust 7	Consideration 8

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School: L   Area: 35709   Staff: 17   Enrolment: 428   Density: 80
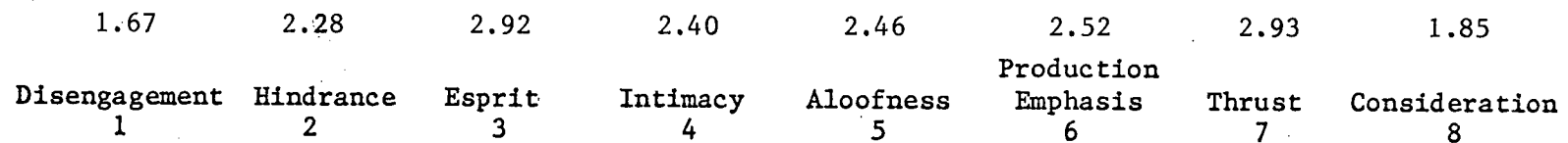
	I Principal as Leader	II Teacher "qua" Teacher Group Perception	III Non-Classroom Teacher Satisfaction	IV Working Conditions	V Hindrance
Subtest Score	3.00	1.58	2.25	2.48	1.56

1.58	2.17	3.15	2.31	2.44	3.86 Production	3.86	1.69
Disengagement 1	Hindrance 2	Esprit 3	Intimacy 4	Aloofness 5	Emphasis 6	Thrust 7	Consideration 8

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
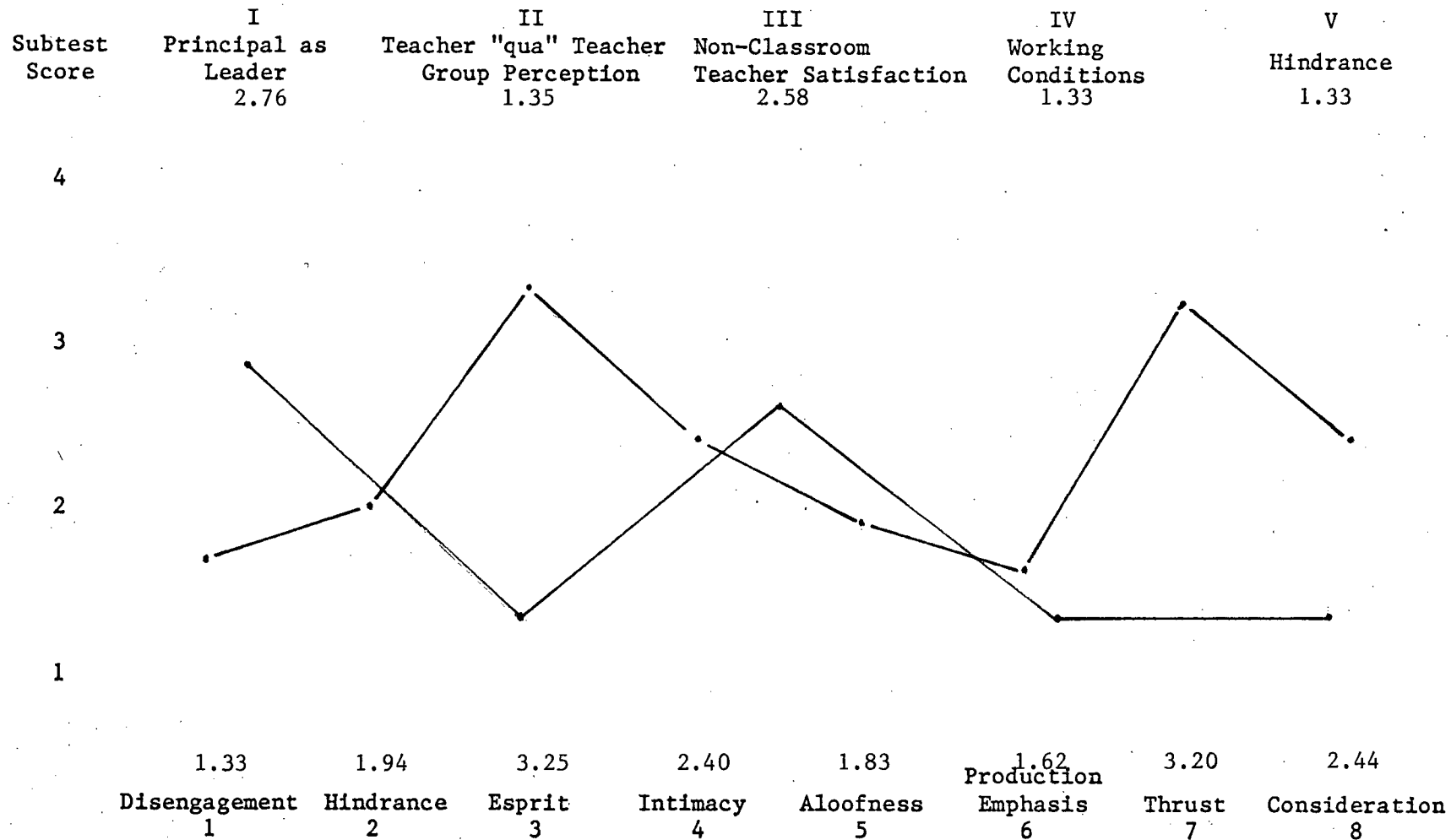(Vancouver Data (n=116)

School: M   Area: 30935   Staff: 13   Enrolment: 346   Density: 86
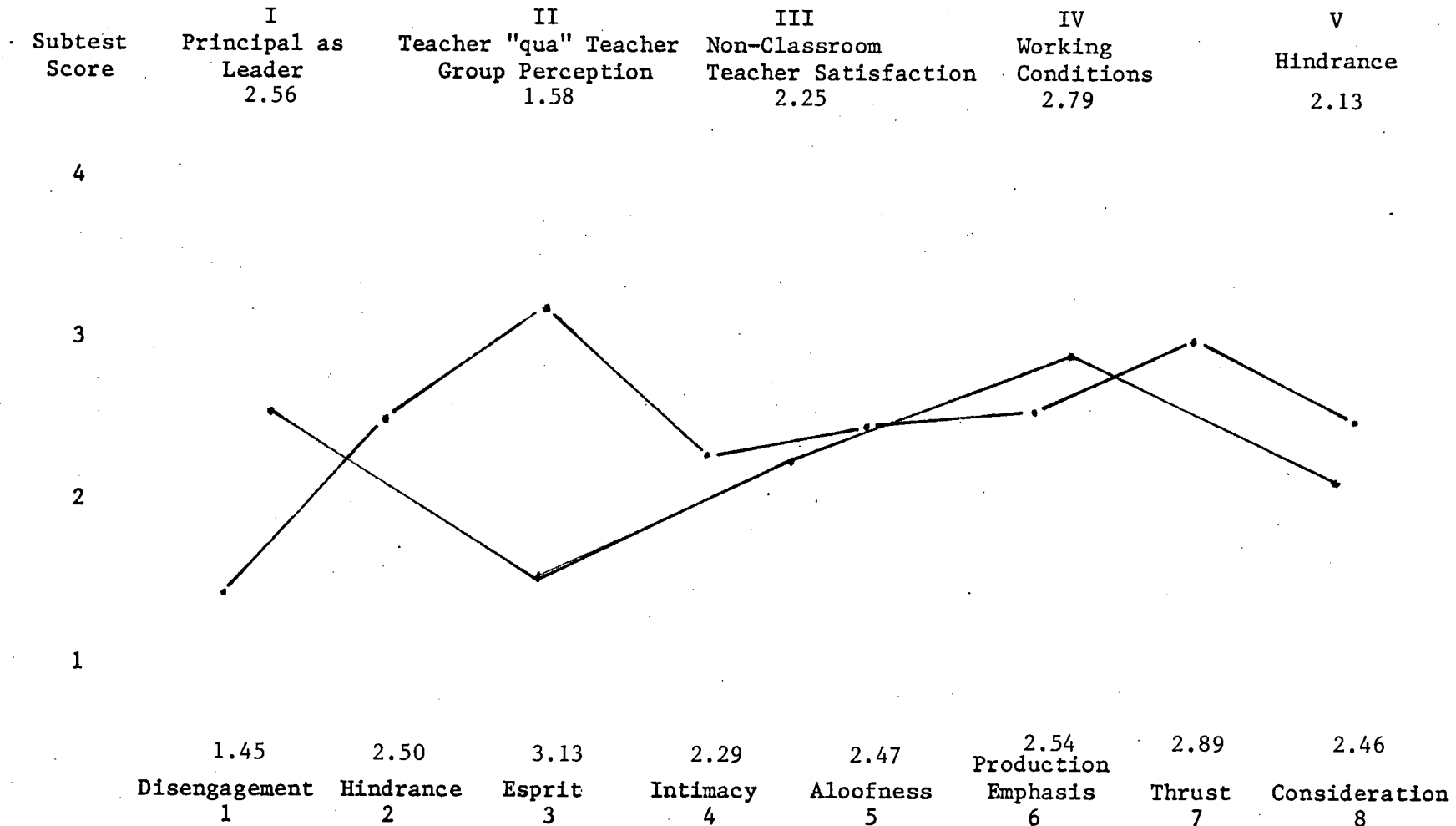
Subtest Score	I Principal as Leader 2.56	II Teacher "qua" Teacher Group Perception 1.58	III Non-Classroom Teacher Satisfaction 2.25	IV Working Conditions 2.79	V Hindrance 2.13

4

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1.45	2.50	3.13	2.29	2.47	2.54	2.89	2.46
Disengagement	Hindrance	Esprit	Intimacy	Aloofness	Production Emphasis	Thrust	Consideration
1	2	3	4	5	6	7	8

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

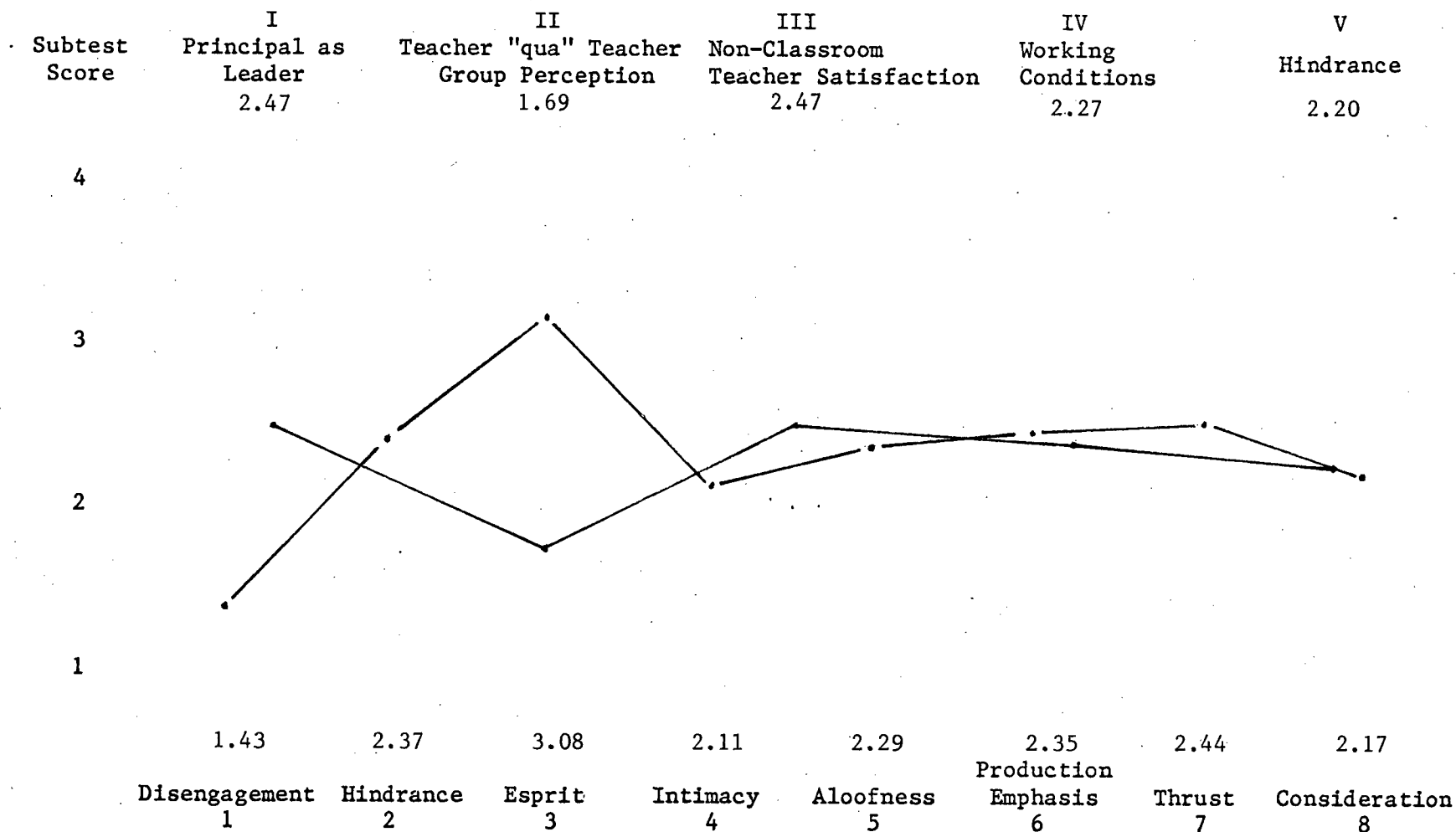School: N   Area: 32955   Staff: 15   Enrolment: 454   Density: 70

Subtest Score	I Principal as Leader	II Teacher "qua" Teacher Group Perception	III Non-Classroom Teacher Satisfaction	IV Working Conditions	V Hindrance
	3.00	1.42	2.73	2.00	1.70

1.70	2.07	3.37	2.48	2.11	1.83	3.33	3.00
Disengagement	Hindrance	Esprit	Intimacy	Aloofness	Production Emphasis	Thrust	Consideration
1	2	3	4	5	6	7	8

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FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

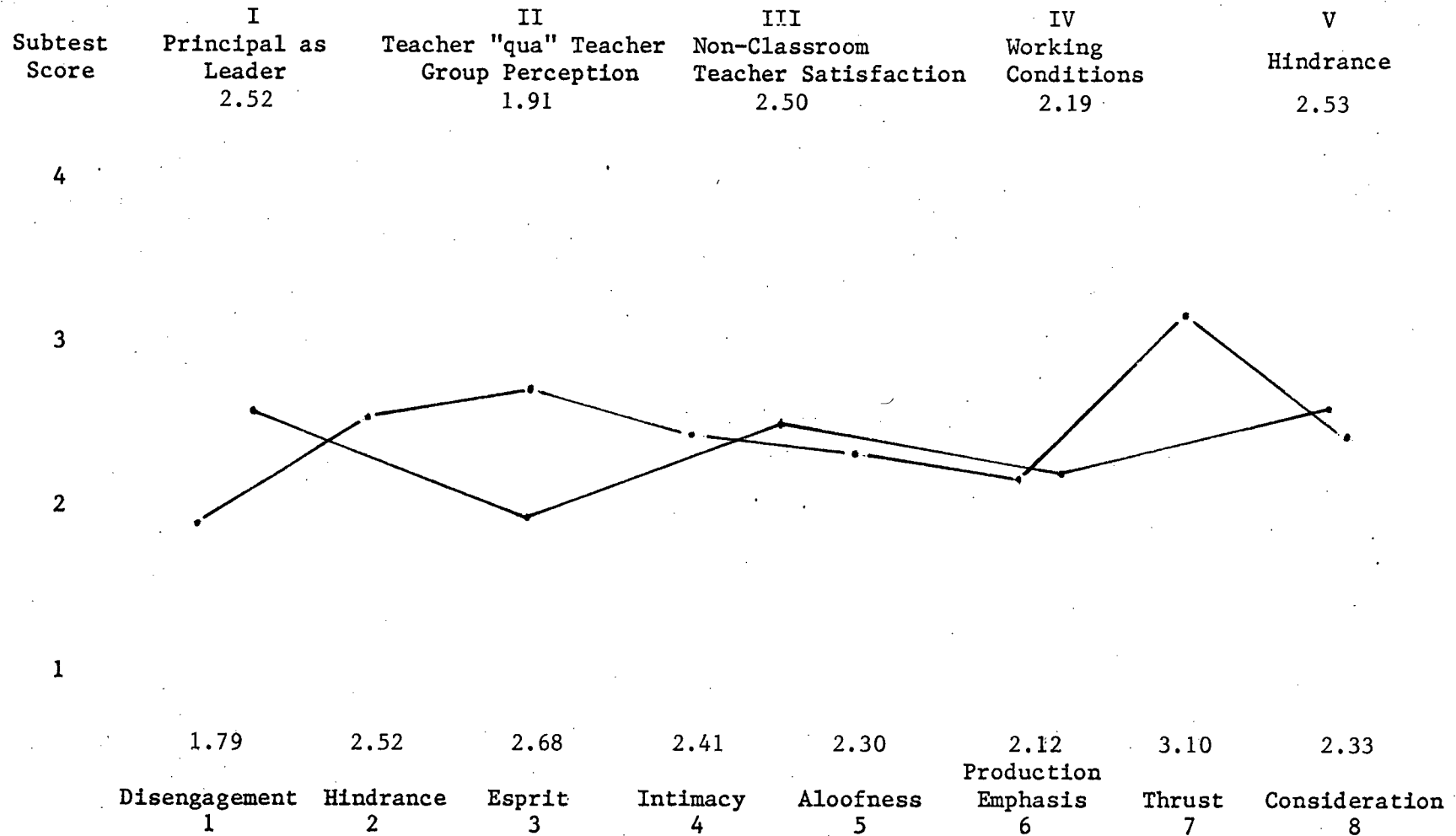School: 0   Area: 55925   Staff: 28   Enrolment:850   Density:64

Subtest Score	I Principal as Leader	II Teacher "qua" Teacher Group Perception	III Non-Classroom Teacher Satisfaction	IV Working Conditions	V Hindrance
	2.50	1.73	2.00	1.79	1.85

1.70	2.24	2.74	1.83	2.06	1.84 Production Emphasis	2.78	2.39
Disengagement 1	Hindrance 2	Esprit 3	Intimacy 4	Aloofness 5	6	Thrust 7	Consideration 8

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School: P   Area: 43050   Staff: 19   Enrolment: 597   Density: 70

	I	II	III	IV	V
Subtest Score	Principal as Leader	Teacher "qua" Teacher Group Perception	Non-Classroom Teacher Satisfaction	Working Conditions	Hindrance
	2.76	1.81	2.19	1.86	1.96

1.77	2.22	2.78	1.69	1.76	2.12	3.35	2.31
Disengagement 1	Hindrance 2	Esprit 3	Intimacy 4	Aloofness 5	Production Emphasis 6	Thrust 7	Consideration 8

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School:Q　　　　Area:39515　　　　Staff: 24　　　　Enrolment: 524　　　　Density:72

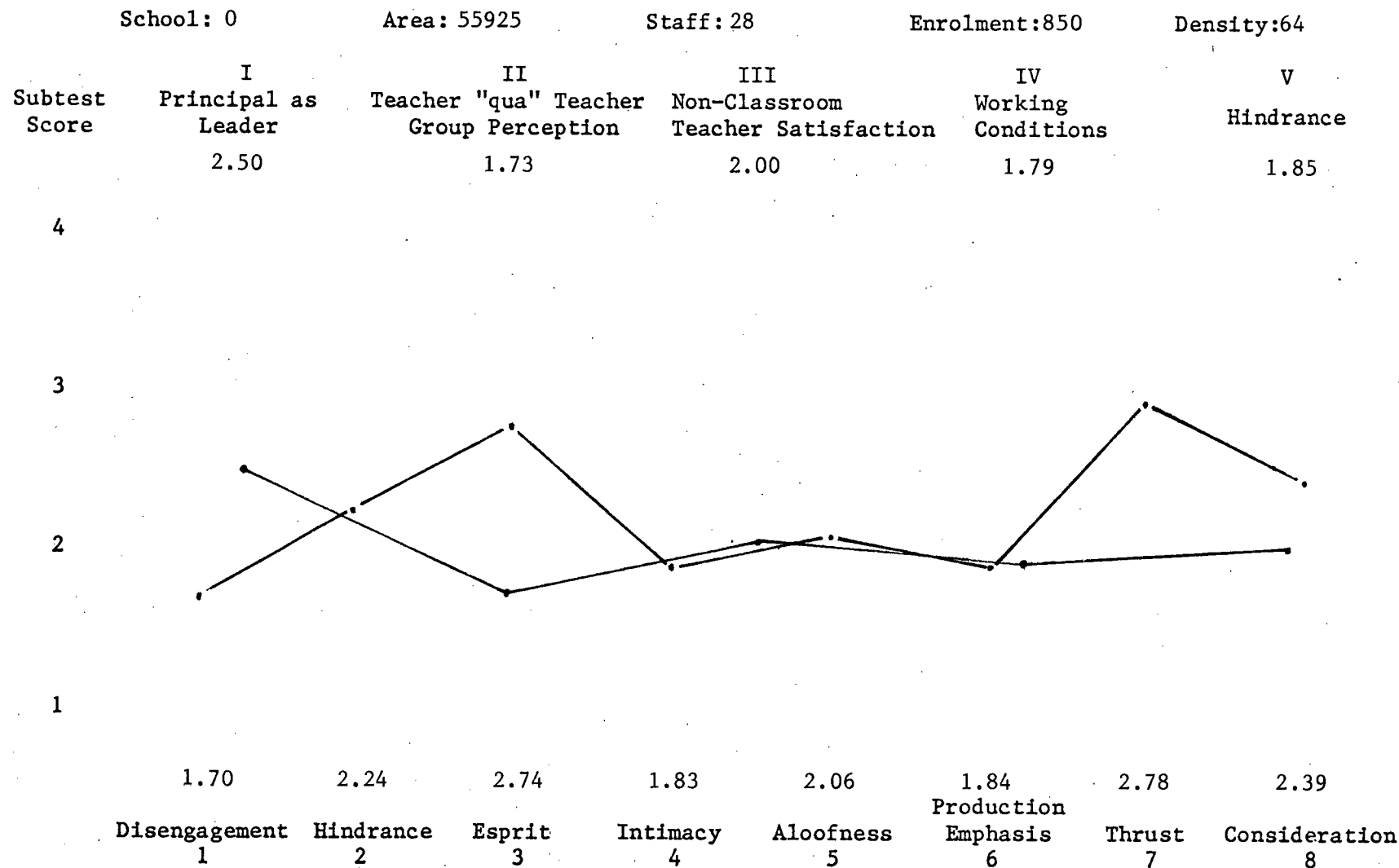| Subtest Score	I Principal as Leader	II Teacher "qua" Teacher Group Perception	III Non-Classroom Teacher Satisfaction	IV Working Conditions	V Hindrance
	2.27	1.93	2.03	2.20	1.70

	2.08	2.03	2.38	1.71	2.00	2.14 Production	2.64	2.07
	Disengagement 1	Hindrance 2	Esprit 3	Intimacy 4	Aloofness 5	Emphasis 6	Thrust 7	Consideration 8

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School:R   Area: 42270   Staff: 21   Enrolment: 589   Density:63

	I	II	III	IV	V
Subtest	Principal as	Teacher "qua" Teacher	Non-Classroom	Working	
Score	Leader	Group Perception	Teacher Satisfaction	Conditions	Hindrance
	2.53	1.72	2.17	1.75	2.21

4

3

2

1

1.72	1.86	3.30	1.81	1.96	1.98	2.85	2.18
					Production		
Disengagement	Hindrance	Esprit	Intimacy	Aloofness	Emphasis	Thrust	Consideration
1	2	3	4	5	6	7	8

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School:S   Area: 57960   Staff:28   Enrolment:767   Density:73

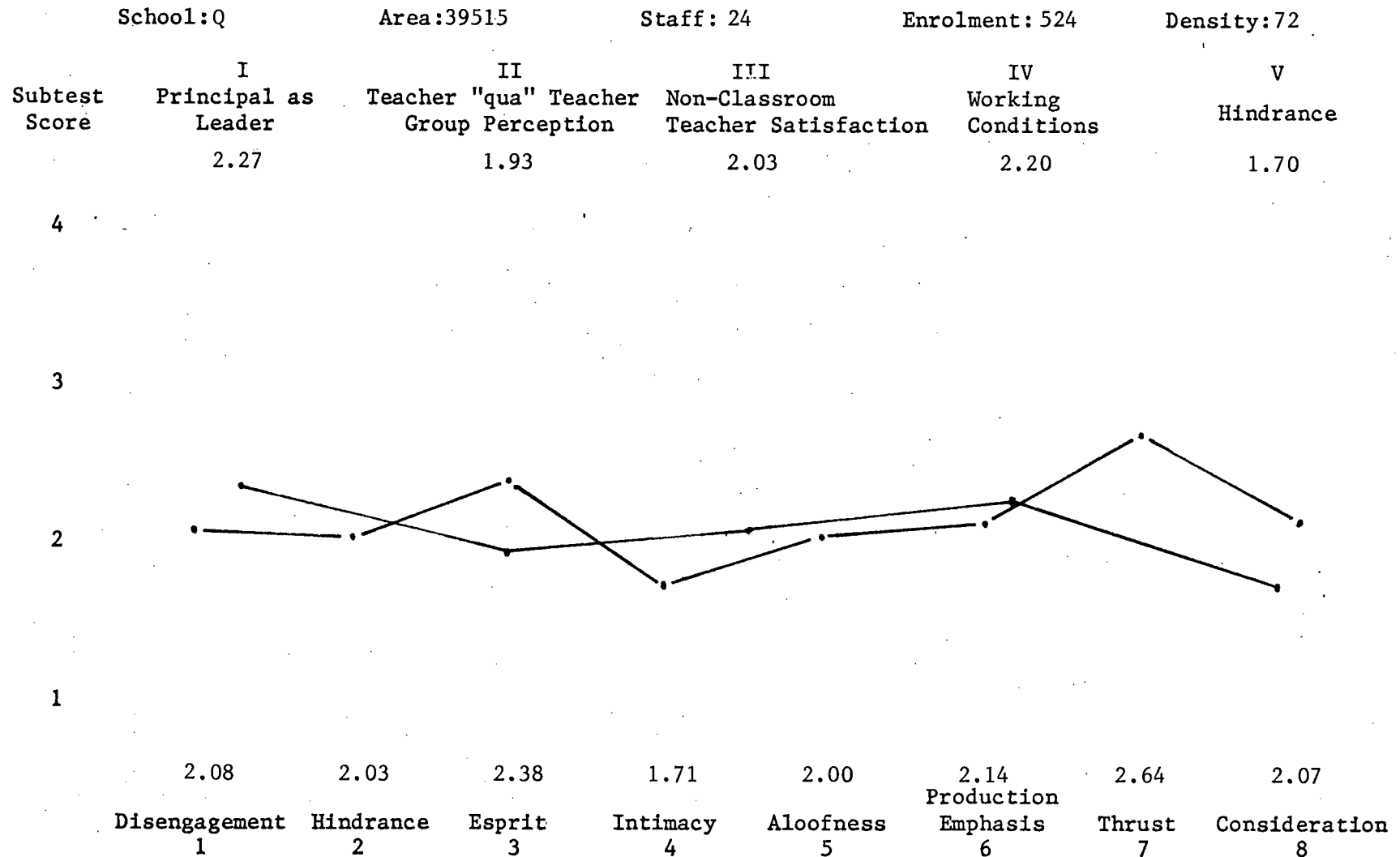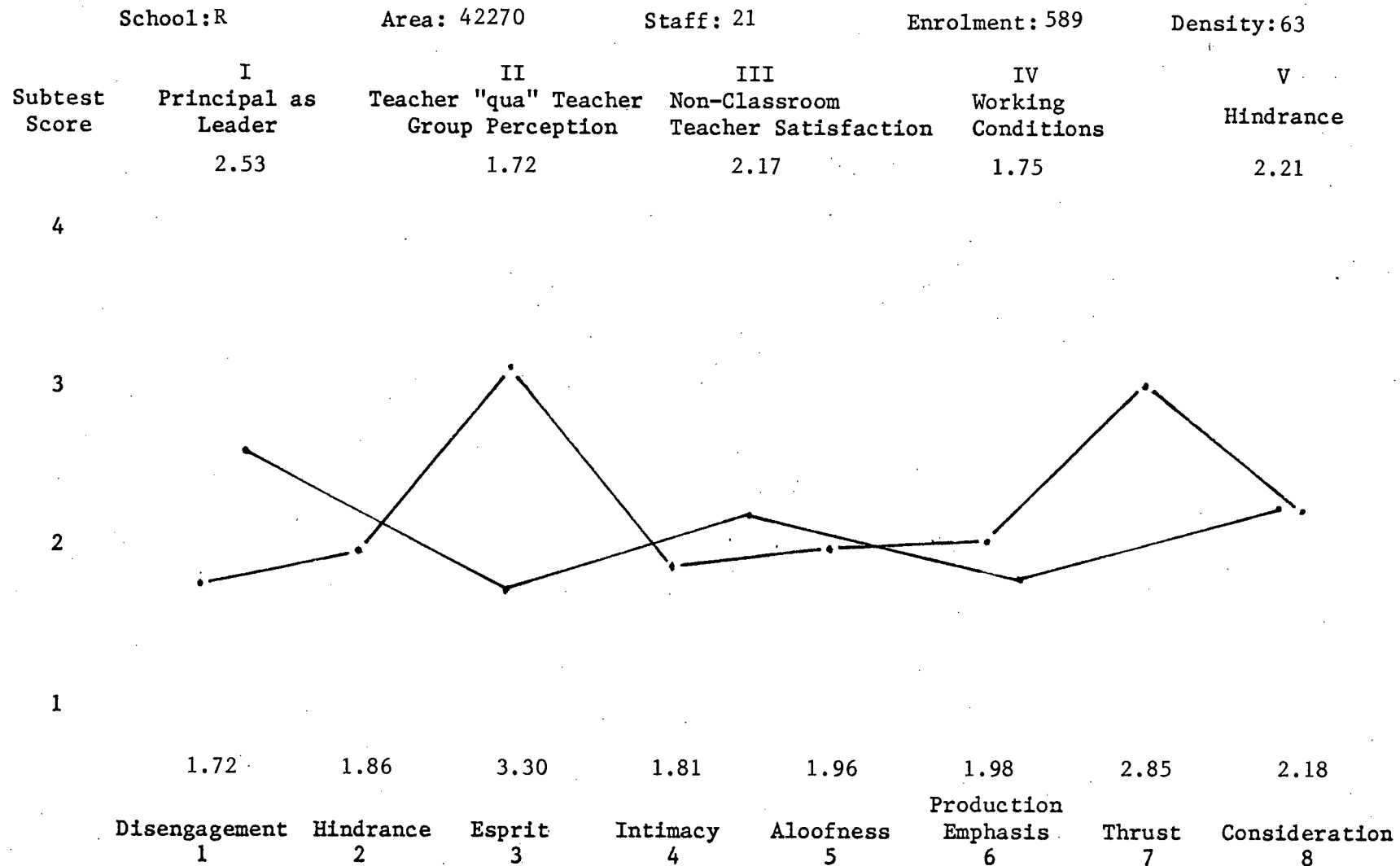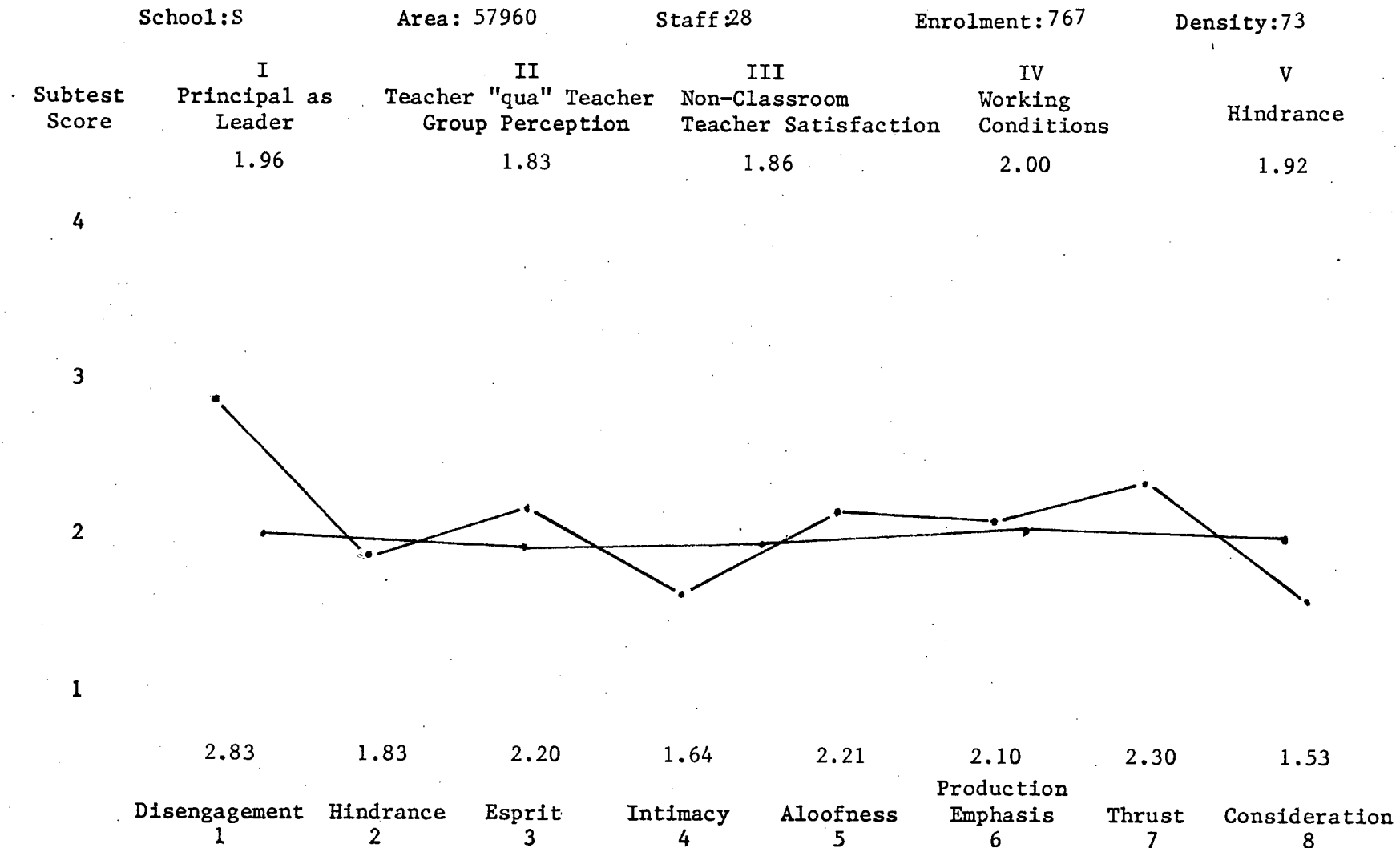| Subtest Score	I Principal as Leader	II Teacher "qua" Teacher Group Perception	III Non-Classroom Teacher Satisfaction	IV Working Conditions	V Hindrance
	1.96	1.83	1.86	2.00	1.92

2.83	1.83	2.20	1.64	2.21	2.10	2.30	1.53
Disengagement 1	Hindrance 2	Esprit 3	Intimacy 4	Aloofness 5	Production Emphasis 6	Thrust 7	Consideration 8

FIVE AND EIGHT FACTOR ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE SUBTEST SCHOOL PROFILE SCORES
(Vancouver Data (n=116)

School:T   Area:66920   Staff: 28   Enrolment: 772   Density:87

	I Principal as Leader	II Teacher "qua" Teacher Group Perception	III Non-Classroom Teacher Satisfaction	IV Working Conditions	V Hindrance
Subtest Score	2.66	1.83	2.29	1.79	1.84

1.75	2.17	2.99	2.32	2.21	1.86	2.88	2.21
Disengagement 1	Hindrance 2	Esprit 3	Intimacy 4	Aloofness 5	Production Emphasis 6	Thrust 7	Consideration 8

APPENDIX F

EFFECT OF SCHOOL C ON DENSITY

AND ITS RELATIONSHIP WITH THE FIVE

FACTOR SOLUTION

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While analysing the data two apparent anomolies seemed to stand

out. First, and probably most important, why did the type of behavior

described by Teacher "qua" Teacher Group Perception increase with

"expansive" density, i.e., with an increase in the number of square feet

available per person? Second, why would the Esprit scores decrease with

"expansive" density? (Because the five-factor pattern does "fit" the data

better than the eight-factor pattern, the concern was not so much related

to the seemingly unusual relationship between Esprit and Density as it was

to what the effect might be on Principal as Leader subtest which contained

the Esprit items.) Although there was no reason to believe that the more

"uncrowded" a school was the more likely the climate conditions would tend

to be "closed" (in terms of Teacher "qua" Teacher Group Perception behavior

and Esprit), "common sense" would nevertheless seem to dictate that some

investigation of the matter should be undertaken before any such a

conclusion could be drawn from the data.

In order to determine what might be "happening" the extreme scores

obtained for Teacher "qua" Teacher Group Perception and Esprit were checked

by scanning the individual school profiles shown in Appendix E. Only a

cursory check beyond School C was necessary. Its profile revealed that

this particular school had obtained not only the highest extreme score for

Teacher "qua" Teacher Group Perception and the lowest extreme score for

Esprit, but it also had by far the least "crowded" conditions in terms of

Human Density. Whereas the sample average for Teacher "qua" Teacher Group

Perception was 1.71 (sample standard deviation equal to 0.23), School C obtained the high extreme of the sample range, i.e., 2.33; for Esprit the sample average was 2.84 (sample standard deviation equal to 0.35) while School C obtained the low extreme of the sample range, i.e.; 2.17; for Density the sample average was 89.1 square feet (sample standard deviation equal to 4.46), while School C obtained the high extreme of the sample range, i.e., 272.

Having obtained all three extremes in question out of the entire Vancouver sample the only feasible alternative seemed to revolve around the reconstruction of each of the questionable statistics excluding School C. In this manner it was hoped that any contaminating influence caused by the conglomeration of extremes would be clearly revealed. This decision was further reinforced by a check of Appendix C in that School C is one of the few schools with a sample size too small to obtain a relatively narrow confidence interval.

Pearson's product-moment correlation coefficient, defined as

$$r_{XY} = \frac{N\Sigma XY - \Sigma X(\Sigma Y)}{\sqrt{N\Sigma X^2 - (\Sigma X)^2}\sqrt{N\Sigma Y^2 - (\Sigma Y)^2}}$$

was calculated for Density, i.e., X and Y, i.e., Principal as Leader, Teacher "qua" Teacher Group Perception, Non-Classroom Teacher Satisfaction, Working Conditions and Hindrance (V), respectively, and N is the number of cases excluding School C. The degree of contamination caused by the three extremes attributable to a single sample are illustrated in page 3.

	r_{XY}	
Subtests	N=20	N=19
Principal as Leader	0.292	0.339
Teacher "qua" Teacher	0.614	−0.054
Non-Classroom Satisfaction	−0.346	0.221
Working Conditions	−0.337	0.268
Hindrance (V)	−0.039	0.093

The effect of the extremes is dramatic with regard to Teacher "qua" Teacher Group Perception--even to a change in direction--but the extreme Esprit score effect on Principal as Leader is negligible.