

## INFORMATION TO USERS

This material was produced from a microfilm copy of the original document. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the original submitted.

The following explanation of techniques is provided to help you understand markings or patterns which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting thru an image and duplicating adjacent pages to insure you complete continuity.
2. When an image on the film is obliterated with a large round black mark, it is an indication that the photographer suspected that the copy may have moved during exposure and thus cause a blurred image. You will find a good image of the page in the adjacent frame.
3. When a map, drawing or chart, etc., was part of the material being photographed the photographer followed a definite method in "sectioning" the material. It is customary to begin photoing at the upper left hand corner of a large sheet and to continue photoing from left to right in equal sections with a small overlap. If necessary, sectioning is continued again — beginning below the first row and continuing on until complete.
4. The majority of users indicate that the textual content is of greatest value, however, a somewhat higher quality reproduction could be made from "photographs" if essential to the understanding of the dissertation. Silver prints of "photographs" may be ordered at additional charge by writing the Order Department, giving the catalog number, title, author and specific pages you wish reproduced.
5. PLEASE NOTE: Some pages may have indistinct print. Filmed as received.

**Xerox University Microfilms**

300 North Zeeb Road  
Ann Arbor, Michigan 48106

77-1852

STEFFENS, John Edward, 1941-  
EDUCATIONAL VALUES AND SCHOOL BOUNDARY  
PERMEABILITY.

The University of Oklahoma, Ph.D., 1976  
Education, administration

**Xerox University Microfilms**, Ann Arbor, Michigan 48106

THE UNIVERSITY OF OKLAHOMA  
GRADUATE COLLEGE

EDUCATIONAL VALUES AND SCHOOL  
BOUNDARY PERMEABILITY

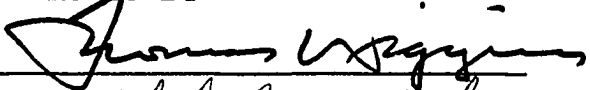
A DISSERTATION  
SUBMITTED TO THE GRADUATE FACULTY  
in partial fulfillment of the requirements for the  
degree of  
DOCTOR OF PHILOSOPHY

BY  
JOHN EDWARD STEFFENS  
Norman, Oklahoma

1976

EDUCATIONAL VALUES AND SCHOOL  
BOUNDARY PERMEABILITY

APPROVED BY

  
\_\_\_\_\_  
Michael Langenbach  
\_\_\_\_\_  
Richard Wisniewski  
\_\_\_\_\_  
Charles S. Butler  
\_\_\_\_\_  
Herbert S. Kekel, Ph.D.  
\_\_\_\_\_

DISSERTATION COMMITTEE

## EDUCATIONAL VALUES AND SCHOOL BOUNDARY PERMEABILITY

BY: JOHN E. STEFFENS

MAJOR PROFESSOR: THOMAS W. WIGGINS, Ph.D.

Public schools are influenced by the environments of their constituent system. This influence is increasing as Federally funded programs are implemented within these systems which require advisory committees of parents. The role of these committees is in the decision-making arena of the organization while still being a part of the environment of the organizational system.

The purpose of this study was to investigate perceptions of the permeability of the boundary dividing a school system from its constituent environment and examine these perceptions as they relate to educational values.

The general hypothesis of the study was that there exists a relationship among the educational values of school administrators, the educational values of Native American advisory committee members, and the Native American advisory committee members' perception of school boundary permeability. Demographic variables were investigated in ancillary hypotheses as was the added variable of ethnicity of committee members.

The design of the study included collection of data on the perceptions of permeability by means of the Parent School Communications Questionnaire (PSCQ) and educational values by means of the Educational Values Inventory (Val-Ed.)

The sampling unit and unit of analysis was the school system. The sample consisted of forty-seven Native American advisory committee members and thirty administrators representing thirty western Oklahoma school districts. The committee members and administrators completed both the PSCQ and the Val-Ed.

Statistical analysis of the hypothesis was accomplished by means of univariate and multivariate procedures including both canonical correlation analyses and multiple discriminant analyses.

Generally, perceptions of boundary permeability and educational values were not shown to be significantly related. Native American committee members' perception of school boundary permeability cannot be predicted from educational values they hold, educational values of school administrators, the relationship of values held by committee members and administrators, nor from any of the tested demographic variables of committee members.

## ACKNOWLEDGEMENT

To the Native American advisory committee members and school administrators who contributed the data, I express my gratitude and appreciation.

To Dr. Thomas W. Wiggins, my committee chairman, who provided professional encouragement and criticism throughout my doctoral program. His personal and professional concern through these several years certainly contributed to the realization of this goal.

I am indebted and appreciative to Dr. Charles Butler, Dr. Michael Langenbach, and Dr. Richard Wisniewski for caring enough to provide the positive criticism necessary to complete this study. I am grateful to Dr. Herbert G. Richek for his contributions of time and his helpful assistance with the statistical dimensions of this study.

I want to thank my parents, Walter and Flora Steffens, who shared with me the value of Life and Truth.

A very special thanks is expressed to Patsy, my wife, and to my sons, Shawn Eric and Aaron Lee, for their understanding, patience, and unfailing support throughout the entire doctoral program and especially during the completion of this investigation.

## TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS . . . . .	iii
LIST OF TABLES . . . . .	vi
CHAPTER	
I. INTRODUCTION . . . . .	1
Background of the Problem	
Statement of the Problem	
Significance of the Study	
II. RELATED LITERATURE AND THEORETICAL FRAMEWORK	11
III. RESEARCH DESIGN . . . . .	31
Restatement of the Problem and Hypotheses	
Definition of the Variables	
Description of the Sample	
Description of the Instruments	
Procedures for Collecting the Data	
Statistical Methods	
IV. RESULTS AND DISCUSSION . . . . .	50
Demographic Characteristics and their Relationship with <u>PSCQ</u> and <u>Val-Ed</u> Scales	
Comparison of Administrators and Com- mittee Members on the <u>PSCQ</u> Variables	
Comparison of Males and Females on the <u>PSCQ</u> Variables	
Comparison of High and Low Permeability Scores Using <u>Val-Ed</u> Variables as the Independent Variable	
Administrator High Permeability/ Administrator Low Permeability	
Comparison of High Permeability Adminis- trator Scorers with High Permeability Committee Member Scorers	
Comparison of Committee Low Permeability Scorers and Administrator Low Permeability Scorers	
Comparisons on Trichotimization of Groups by Size of District: Committee Members	
Comparisons on Trichotimization of Groups by Size of School District: Adminis- trators	
Canonical Correlation Analyses	
Multiple Discriminant Analyses	

CHAPTER	TABLE OF CONTENTS (Continued)	Page
IV. (Continued)		
	Final Analyses Summary	
V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS . . . .		79
	Summary Conclusions Recommendations	
APPENDIX A . . . . .		96
APPENDIX B . . . . .		140
APPENDIX C . . . . .		143
APPENDIX D . . . . .		146
APPENDIX E . . . . .		153
BIBLIOGRAPHY . . . . .		162



LIST OF TABLES

Table	Page
I. Alpha Cronbach Coefficients for Committee Members (N = 47) on Five Scale <u>PSCQ</u> . . . . .	97
II. Alpha Cronbach Coefficients for Committee Members (N = 47) on Three Scale <u>PSCQ</u> . . . . .	99
III. Alpha Cronbach Coefficients for Administrators (N = 30) . . . . .	101
IV. Pearson-Product-Moment Correlations Among Demographic Variables and <u>PSCQ</u> and <u>Val-Ed</u> Variables: Committee Members (N = 44) . . . . .	103
V. Pearson-Product-Moment Correlations Among Demographic Variables and <u>PSCQ</u> and <u>Val-Ed</u> Variables: Administrators (N = 29) . . . . .	104
VI. Demographic Variables for Forty-four Committee Members and Twenty-nine Administrators	105
VII. Analyses of Variance: Committee Members (N <sub>1</sub> = 31 Females; N <sub>2</sub> = 13 Males) . . . . .	106
VIII. Analyses of Variance: <u>PSCQ</u> Scales (N = 44 Committee Members) (N = 29 Administrators) . . . . .	110
IX. Analyses of Variance: Comparison of Mean Scores on <u>Val-Ed</u> Variables between Committee Members and Administrators . . . . .	113
X. Analyses of Variance: Comparison of Two Groups of Committee Members who are "High Permeability" (N = 24) and "Low Permeability" (N = 20) Scorers on Nineteen Variables . . . . .	114
XI. Analyses of Variance: Comparison of Two Groups of Administrators Who are "High Permeability" and "Low Permeability" Scorers on Nineteen Variables . . . . .	117
XII. Analyses of Variance: Comparison of Means of Committee Members (N = 24) and Administrators Who are "High Permeability" Scorers on Nineteen Variables . . . . .	120
XIII. Analyses of Variance: Comparison of Means of Committee Members (N = 20) and Administrators (N = 16) who are "Low Permeability" Scorers on Nineteen Variables . . . . .	123

LIST OF TABLES (Continued)

Table	Page
XIV. Analyses of Variance: Comparison of Three Groups of Committee Members (size of district) on Nineteen Variables . . . . .	126
XV. Analyses of Variance: Comparison of Three Groups of Administrators (size of district) on Nineteen Variables . . . . .	129
XVI. Canonical Correlation -- $X^2$ Tests of Latent Roots, Predictor Variables: Fourteen <u>Val-Ed</u> and Five <u>PSCQ</u> Scores . . . . .	132
XVII. Canonical Correlation -- $X^2$ Tests of Latent Roots, Predictor Variables: Fourteen <u>Val-Ed</u> and Three <u>PSCQ</u> Scores . . . . .	132
XVIII. Canonical Correlation: Committee Members and Administrators; $X^2$ Tests of Latent Roots, Predictor Variables: Fourteen <u>Val-Ed</u> and Three <u>PSCQ</u> Scores . . . . .	133
XIX. F Ratios for Six Groups: Committee Members and Administrators . . . . .	134
XX. F Ratios for Four Groups: Committee Members and Administrators . . . . .	137

## EDUCATIONAL VALUES AND SCHOOL

### BOUNDARY PERMEABILITY

#### CHAPTER I

#### INTRODUCTION

##### Background of the Problem

A current emphasis in the implementation of federally funded programs is the participative involvement of advisory boards in the decision-making processes affecting programs. This is now especially true for funds designed to affect the education of Native American students granted through the U.S. Office of Indian Education and the Johnson-O'Malley grants funded by the Bureau of Indian Affairs through their area offices. This emphasis has been imposed by the funding sources in an attempt to equalize the educational opportunity for minority students in the public schools.

For Native American students one needs only examine resource data such as The Second Year Report of Progress of the Indian Education Act of 1972 (DHEW Pub. No. (DE) 75-02401) and Indian Civil Rights Issues in Oklahoma - A report of the Oklahoma State Advisory Committee to the U.S. Commission on Civil Rights, January, 1974, to recognize the failure of the

public school system in attaining an equal educational product for Native American students.

Jack D. Forbes in The Education of the Culturally Different<sup>1</sup> addresses this failure of the education of Indian students. He indicates that both the Choctaw and the Cherokee Republic developed school systems which produced higher English literacy levels than the white population of this territory or neighboring states. Forbes further indicates that this literacy level began dropping after the control of these schools was transferred from the Choctaw and Cherokee Republics to the United States Government.

The effort to determine appropriate administrative principles and practices to synthesize the components of a school into an effective organization to meet these challenges is a continuing one. It is becoming increasingly more difficult to determine administrative principles and practices which effectively tie the behavioral variables of an organization into harmonious and productive units.

The current era in which advisory committees of parents are being moved into the decision-making structure of the school organization presents a situation about which the school administrator has little experience and knowledge.

While this specific experience is new to school organizations, numerous theoretical contributions apply toward

---

<sup>1</sup>J. D. Forbes, The Education of the Culturally Different A Multi-Cultural Approach, 1969 (Berkeley: Far West Lab. for Ed. Research and Dev.; Supt. of Documents. U.S. Gov. Printing Office).

efforts of reconciling the needs of the organization with those of the organizational members.

Barnard distinguished between effectiveness and efficiency. By effectiveness he meant the attainment of the goals of the organization, and by efficiency he meant their achievement with due regard for the people in the organization.<sup>2</sup> Cartwright and Zander identified similar dimensions as group achievement and group maintenance.<sup>3</sup> Argyris summarized the research in personality and human development and information on the properties of formal organizations and offered three propositions that suggested a lack of congruence between the needs of the individual and the demands of the organization. This incongruent relationship, he felt, caused personality disturbance characterized by frustration, failure, conflict, and lack of perspectives. These difficulties result in the creation of competition, rivalry, hostility, and an inability on the part of the individuals to view the problems from a broad perspective.<sup>4</sup> Getzels and Guba identified the concepts "nomothetic" which emphasized the requirements of the institution, and "idiographic" which treats the

---

<sup>2</sup>C. I. Barnard, The Functions of the Executive (Cambridge, Mass.: Harvard University Press, 1938), p. 60.

<sup>3</sup>D. Cartwright and A. Zander (eds.), Group Dynamics; Research and Theory, 2nd ed. (Evanston, Ill.: Row, Peterson & Company, 1960), p. 496.

<sup>4</sup>C. Argyris, "The Individual and Organization: Some Problems of Mutual Adjustment, Administrative Science Quarterly, II (June, 1957), pp. 1-24.

needs and demands of the individual.<sup>5</sup>

Getzels further postulates that the organization may be viewed from the sociological and the psychological dimension. The psychological dimension is interpersonal in nature; that is, individuals are involved. To understand and predict organizational behavior, the need-dispositions of organization members must be taken into account.<sup>6</sup> Guba indicates that the unique task of the administrator can be understood as that of mediating between the behavior eliciting forces of organization needs and individual needs so as to produce behavior which is organizationally useful as well as individually satisfying. Action leading to such behavior on the part of individual members is the highest expression of the administrator's art.<sup>7</sup> Likert reinforces this view by insisting that it is essential to recognize that the performance and output of any enterprise depends entirely upon the quality of the human organization and its capacity to function as a tightly knit, highly motivated, technically competent entity. High educational efforts are not accomplished by impersonal equipment and computers. These goals are achieved by human beings. Successful organizations are those making the best use of

---

<sup>5</sup>J. W. Getzels and E. G. Guba, "Social Behavior and the Administrative Process," School Review, LXV (Winter, 1957), pp. 423-41.

<sup>6</sup>R. C. Lonsdale, D. Griffiths, ed., "Maintaining the Organization in Dynamic Equilibrium," in Behavioral Science and Educational Administration, Sixty-third Yearbook of the National Society for the Study of Education, Part II (Chicago: University of Chicago Press, 1964), pp. 142-177.

<sup>7</sup>Ibid.

individuals to perform well and efficiently all the tasks required to accomplish the aims and objectives for which they, organizations, exist.<sup>8</sup>

Johnson-O'Malley funded programs impose the goal of changing the organizational accomplishments -- as related to educational accomplishments of Native American students.

Halpin suggests that changes in the organization's accomplishments are the best criteria of the administrator's effectiveness.<sup>9</sup> Culbertson added that the capacity to cope constructively with change is the important test of leadership.<sup>10</sup>

Referring to such change Lonsdale suggests that organizations need flexibility to accommodate to disturbances and to initiate new structures or to revise the goals of the organization.<sup>11</sup>

Values as they relate to organizational phenomena contribute to the background of this study. Blau described the integrative bonds of an organization as:

the common values and norms. . . .and the network of social relations in which processes of social interaction become organized.<sup>12</sup>

In the personality dimension of Getzels description of the social system, the need-disposition of the individual

---

<sup>8</sup>R. Likert, The Human Organization: Its Management and Value (New York: McGraw-Hill Book Company, 1967), p. 134.

<sup>9</sup>A. W. Halpin, Theory and Research in Administration (New York: The Macmillan Company, 1966), p. 50.

<sup>10</sup>J. A. Culbertson, "The Preparation of Administrators," Behavioral Science and Educational Administration, p. 315.

<sup>11</sup>R. C. Lonsdale, op. cit., p. 174.

<sup>12</sup>p. M. Blau, "Structural Effects," American Sociological Review, Vol. 25, No. 2 (April, 1960), p. 178.

are basic.<sup>13</sup> Parsons suggests that each need-disposition involves a combination of values. These values are internalized cultural standards, norms, and expectations that influence a person's behavior. While value systems are highly personal, they are also involved in and affect the organization to which one holds membership. Parsons stated this as:

A personal value system is in the social context, the network of rights and obligations in which an individual's value-commitment involves him in his social situation.<sup>14</sup>

Gouldner concluded that individuals can be described in terms of their orientation to the organization and that there is competition between those with different or varying organizational orientations or values.<sup>15</sup>

An individual's personal values form the basis for organizational orientation and provide the common framework for organizational conduct. These orientations govern individual and group behavior with regard to the organization. Simon differentiated between social values and organizational values on the basis of the frame of reference -- whether it

---

<sup>13</sup>J. W. Getzels, "Conflict and Role Behavior in the Educational Setting," in W. W. Charters and N. L. Gage, Readings in the Social Psychology of Education, (Boston: Allyn and Bacon, Inc., 1963), p. 311.

<sup>14</sup>T. Parsons, Structure and Process in Political Systems (Glencoe: The Free Press, 1960), p. 175.

<sup>15</sup>A. W. Gouldner, "Cosmopolitans and Locals: Toward an Analysis of Latent Social Roles - Part I & II, Administrative Science Quarterly, Vol. II, Nos. 3 & 4, (December, 1957 and March, 1958), pp. 281-306, 444-480.



was socially desirable or organizationally assigned.<sup>16</sup> Bass discovered that organizational orientation has a definite influence upon the social and interpersonal relationships of group members.<sup>17</sup> This influences the individual's own performance as well as his reaction to the performance of the other members. Blau indicates that it is this network of social relations that causes a diverse aggregate of individuals to be transformed into a group.<sup>18</sup> The emergent social structure is unique in that it is more than the sum of its parts. Schutz's theory of interpersonal behavior assumes that each individual has three interpersonal needs: inclusion, control, and affection.<sup>19</sup> His theory suggests that human beings have a need to establish and maintain a satisfactory relationship with other people in all three of these areas.

Schutz further developed a series of measuring instruments derived from his original theory including the Educational Values Inventory (Val-Ed).<sup>20</sup> This instrument measures the values regarding the "shoulds" of relationships in the school setting among child, teacher, administrator, and

---

<sup>16</sup>H. A. Simon, Administrative Behavior (New York: The Free Press, 1965), p. 199.

<sup>17</sup>B. M. Bass, Leadership, Psychology and Organizational Behavior (New York: Harper and Brothers, 1960).

<sup>18</sup>P. M. Blau and W. R. Scott, Formal Organizations (San Francisco: Chandler Publishing Co., 1962), p. 3.

<sup>19</sup>W. C. Schutz, Firo: A Three-Dimensional Theory of Personal Behavior (New York: Holt, Rinehart and Winston, 1958).

<sup>20</sup>W. C. Schutz, Val-Ed (Palo Alto, California: Consulting Psychologists Press, Inc., 1967).

community. These relationships are measured in the areas of inclusion, control, and affection, and at the level of behavior and feelings. In addition, two scales were added to give a more complete assessment. These relate to (1) the social importance of education, and (2) the purpose of the school -- whether it is to develop the child's whole personality or just his mind.

The other area within organizational phenomena that is focused upon in this study is that of group boundary lines and their permeability. Organizational theorists have long accepted the existence of the "boundary" of the system. It is implicit in the contributions of Homans, Parsons, Lewin, and Blau. Few have dealt with the concept however, as have Katz and Kahn<sup>21</sup> elaborating on Lewin's concept of group boundary lines and their permeability. They suggest that a social system is surrounded by a psychological boundary insulating it from the environment. The degree to which this boundary is permeable to input from the environment of the social system is directly proportional to the openness of the internal system. This continuum may be applied to schools as social systems. The totally closed school suggests a solidification of system boundaries while the completely open school reflects permeable boundaries. This notion has been operationalized in the form of the Parent-School-Communication

---

<sup>21</sup>R. L. Kahn and D. Katz, The Social Psychology of Organizations. (New York: John Wiley and Sons, 1966).

Questionnaire (PSCQ).<sup>22</sup>

Statement of the Problem

Reports on the education of Native Americans often identify value differences between administrators and parents as problems.<sup>23</sup> Likewise, a "closed boundary" between the Native American parent and the school system is often identified as a problem.<sup>24</sup> There has been, however, a lack of empirical investigation on these concepts. This suggested the following problem for this research: What is the relationship among (1) the educational values of school administrators, (2) the educational values of Native American advisory committee members, (3) the Native American advisory committee member's perceptions of school boundary permeability (social distance), and (4) the school administrator's perception of school boundary permeability (social distance)?

The following research questions will be investigated:

1. Are there differences in the educational values of Native American advisory committee members?

---

<sup>22</sup>W. K. Wiener and A. Blumberg, "The Parent School Communications Questionnaire: A Measure of School Boundary Permeability" (Paper presented at the 1973 Convention of the American Educational Research Association, New Orleans, Louisiana).

<sup>23</sup>The Second Year Report of Progress of the Indian Education Act of 1972 (DHEW Pub. No. (DE) 75-02401) and Indian Civil Rights Issues in Oklahoma -- A report of the Oklahoma State Advisory Committee to the U.S. Commission on Civil Rights, January, 1974.

<sup>24</sup>Ibid.

2. Are there differences in the perceptions of school boundary permeability of Native American advisory committee members and perceptions of school boundary permeability of school administrators.
3. Is there a relationship between the educational values of Native American advisory committee members and their perceptions of school boundary permeability?
4. Is there a relationship between the educational values of school administrators and their perceptions of school boundary permeability?
5. Combining educational values and permeability perceptions is there a relationship between Native American committee members and school administrators on these two sets of variables?

The basic hypothesis of the study is that a relationship exists (1) among the educational values of school administrators, (2) the educational values of Native American advisory committee members, (3) the Native American advisory committee members' perceptions of school boundary permeability, and (4) the school administrators' perceptions of school boundary permeability.

#### Significance of the Study

School systems are challenged to make organizational adaptations that allow for greater participation of decision-making processes (open systems). This study of interpersonal organizational relations and perceptions is an effort to provide empirical data on one aspect of the challenge. The

study will contribute to research on the relationship of educational values to perceived school boundary permeability, and thus to the systems theory of organizations. Finally, for the educational administrator, the study may furnish an empirical basis for decisions concerning organizational adjustments to involve greater participation in decision-making.

## CHAPTER II

### RELATED LITERATURE AND THEORETICAL FRAMEWORK

Social systems theory, while operationally present before, did not significantly appear in the research and literature until the twentieth century with the contribution of Pareto. For him, a society includes the forces of the physical (soil, climate); external (other societies); and internal (feelings, ideologies) in a systematic state of equilibrium.<sup>1</sup> Merton's Social Theory and Social Structure<sup>2</sup> generated greater interest and activity which led to other writings including that of Homans. Homans' approach included the variables of activities, interactions, sentiments, and norms that result when management practices and personal factors are combined in organizations. These, he maintained, are the ultimate producers of organizational behavior. He suggested that an external and an internal system make up the total social system and that the basic unit, the group, varies in size and structure. He proceeds to assume that society is

---

<sup>1</sup>A. Livingston, ed. The Mind and Society (New York: Harcourt Brace, 1935).

<sup>2</sup>R. K. Merton, Social Theory and Social Structure (Glencoe: The Free Press, 1949).

organized into systems including small groups, communities, societies and civilizations. He concluded that as the definition of the group is relative, so must be that of the group's environment.<sup>3</sup>

Parsons emphasized that human behavior is best interpreted in the context of social theory and is concerned with both organizationally or culturally structured and individually defined elements, and their effect on the structure and functioning of social systems. The basic unit of analysis in Parson's social action theory is the society viewed as a system of interaction. He suggests that the functional prerequisites of social systems includes (1) meeting the needs of individuals, (2) control over disruptive behavior, and (3) maintenance of cultural resources.<sup>4</sup> Getzels, drawing from the works of Pareto, Merton, Homans, and Parsons developed a model designed to unite the various concepts in an integrated, operational and generalized whole applicable to a variety of issues.<sup>5</sup> He perceived this system as:

. . . involving two classes of phenomena which are at once conceptually independent and phenomenally interactive. There are first the institutions with certain

---

<sup>3</sup>G. C. Homans, The Human Group (New York: Harcourt, Brace, 1950).

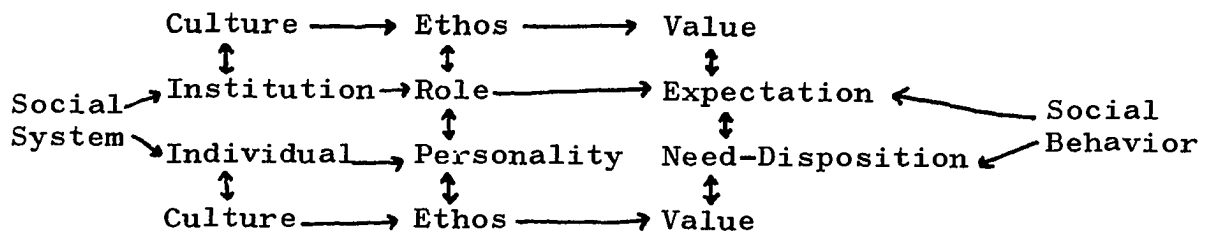
<sup>4</sup>T. Parsons, The Social System (Glencoe: The Free Press, 1951).

<sup>5</sup>J. W. Getzels, "Administration as a Social Process," in A. W. Halpin, ed., Administrative Theory in Education (New York: MacMillan Co., 1967).

roles and expectations that will fulfill the goals of the system. And there are second the individuals with certain personalities and need-dispositions inhabiting the system, whose observed interactions comprise what we generally call "social behavior." We shall assert that this social behavior may be understood as a function of these major elements: institution, role, and expectation, which together constitute what we shall call the nomothetic or normative dimension of activity in a social system; and individual, personality, and need-disposition, which together constitute the idiographic or personal dimension of activity in a social system.<sup>6</sup>

The model developed by Getzels has generated a great deal of research. Just as it has been applicable to hundreds of other research efforts, it contributes to the theoretical framework for this investigation and is graphically presented below:

Getzel's Social System Model<sup>7</sup>



While Getzel's model was based on Parsonian theory, Hills developed a model in which he attempted to apply all of the major elements of Parson's theories to the study of organizations. Hills assumed that all organizations are composed

<sup>6</sup>J. W. Getzels, op. cit., p. 152.

<sup>7</sup>J. W. Getzels, "Conflict and Role Behavior in the Educational Setting," in W. W. Charters and N. L. Gage, Readings in the Social Psychology of Education (Boston: Allyn and Bacon, Inc., 1963), pp. 309-318.



of the same structural elements. What differs from one organization to another is simply the arrangement and order of these elements as determined by the values held by the organization. These elements he explains as four functional imperatives: (1) goal-attainment; (2) adaptation; (3) integration; (4) pattern-maintenance. He further defines goal-attainment and adaptation as imperative functions directed toward the internal aspects of the organization.<sup>8</sup>

Within the framework of systems theory many contributions were developing that investigated the role of the human factor in organizational life. The genesis of this effort is generally attributed to Mayo and his associates in their research efforts at the Hawthorne Plant of the Western Electric Company. Their findings about the informal organization, informal communication, and the informal work group provided positive correlation between productivity and participation in decision-making.<sup>9</sup>

According to Gross, Barnard was the first to try to build a rounded theoretical system which recognized the inter-relatedness of organizational components including the human elements. He developed a theory including the organization as a cooperative system, the contribution-satisfaction

---

<sup>8</sup>R. J. Hills, Toward a Science of Organization (Eugene, Oregon: University of Oregon Press, 1968).

<sup>9</sup>B. M. Gross, "The Scientific Approach to Administration," in D. G. Griffiths, ed., Behavioral Science and Educational Administration, Sixty-third Yearbook of the National Society for the Study of Education, Part II (Chicago: University of Chicago Press, 1964), pp. 33-72.

equilibrium, the multiplicity of satisfactions and incentives, formal and informal organizations, and the functions and pathology of status systems.<sup>10</sup>

He presented the roles of both the executive and employee as interrelated behaviors bound together in a system of interaction. Therefore, an organization was regarded as "a system of consciously co-ordinated activities or forces of two or more persons."<sup>11</sup>

From this view, an organization can be only partially described by way of people and equipment. It is more accurately described in terms of the activities of the human beings of which it is comprised, a system of behavior in which the whole is always greater than the sum of its parts and

. . . each part is related to every other part in some significant way. As a system, it is held together by some common purpose, by the willingness of certain people to contribute to the operation of the organization, and by the ability of these people to communicate with each other.<sup>12</sup>

Barnard suggested this dual responsibility for the executive by distinguishing between effectiveness and efficiency. Effectiveness describes the attainment of the goals of the organization, and by efficiency describes their achievement with due regard for the people in the organization.<sup>13</sup>

---

<sup>10</sup>Ibid., p. 57.

<sup>11</sup>Ibid., p. 58.

<sup>12</sup>Ibid.

<sup>13</sup>C. I. Barnard, The Functions of the Executive (Cambridge, Mass.: Harvard University Press, 1938), p. 60.

Cartwright and Zander identified similar dimensions as group achievement and group maintenance.<sup>14</sup> Kahn and Katz identified two general types of supervisory behavior--"employee orientation" and "production-orientation."<sup>15</sup> Argyris expressed much the same idea in his treatment of "organization" and "personality" conflict.<sup>16</sup> Getzels and Guba identified "nomothetic," which emphasizes the requirements of the institution, and "idiographic," which treats the needs and demands of the individual.<sup>17</sup> Guba and Bidwell described two aspects of role occupancy as:

- (1) behavior which attains institutional or group goals, and
- (2) behavior which satisfies individual needs.<sup>18</sup>

Although as Hills states, none of these formulations is completely equivalent, the degree of convergence is apparent. Each identifies a set of concepts which refer to the same phenomenon--"the necessity for all groups, formal and informal, to accomplish both the goals of the individual members

---

<sup>14</sup>D. Cartwright and A. Zander (eds.), Group Dynamics: Research and Theory, 2nd ed. (Evanston, Ill.: Row, Peterson, and Company, 1960), p. 496.

<sup>15</sup>R. L. Kahn and D. Katz, "Leadership Practices in Relation to Productivity and Morals," Group Dynamics: Research and Theory, pp. 554-70.

<sup>16</sup>C. Argyris, Personality and Organization (New York: Harper & Brothers, 1960), p. 5.

<sup>17</sup>J. W. Getzels and Egon G. Guba, "Social Behavior and the Administrative Process," School Review, LXV (Winter, 1957), pp. 423-41.

<sup>18</sup>E. G. Cuba and C. E. Bidwell, Administrative Relationships, Monograph No. 4 (Chicago: Midwest Administration Center, University of Chicago), p. 1 in The Bulletin of the National Association of Secondary School Principals, Vol. XLIII, p. 97.

of the group and the collective goals."<sup>19</sup>

The interaction of these two sets of concepts generally define the organizational climate as Lonsdale describes it:

Indeed, organizational climate might be defined as the global assessment of the interaction between the task-achievement dimension and the needs-satisfaction dimension within the organization, or, in other words, of the extent of the task-needs integration.<sup>20</sup>

He further suggests that organizational climate "has a psychosocial flavor which reflects more concern with the need-satisfaction dimension."<sup>21</sup>

McGregor suggests that behind every administrative decision or action within the organization there are assumptions about human nature and human behavior. From this belief he developed two theories of administration known as:

"Theory X" and "Theory Y."<sup>22</sup>

"Theory X" suggests that (1) the average human being has inherent dislike of work and will avoid it if he can; (2) because of this human characteristic of dislike of work, most people must be coerced, controlled, directed, and threatened with punishment to get them to put forth adequate effort

---

<sup>19</sup>R. J. Hills, "The Representative Function: Neglected Dimension of Leadership Behavior," Administrative Science Quarterly, Vol. VIII (June, 1963), p. 85.

<sup>20</sup>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.

<sup>21</sup>Ibid.

<sup>22</sup>D. McGregor, The Human Side of Enterprise (New York: McGraw-Hill Book Company, Inc., 1960), pp. 33-48.

toward the achievement of organizational objectives; and (3) the average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition, and wants security above all.

"Theory Y" conversely suggests that: (1) the expenditure of physical and mental effort in work is as natural as play or rest; (2) external control and threat of punishment are not the only means for bringing about effort toward organizational objectives. Man will exercise self-direction and self-control in the service of objectives to which he is committed; (3) commitment to objectives is a function of the rewards associated with their achievement; (4) the average human being learns, under proper conditions, not only to accept but to seek responsibility; (5) the capacity to exercise a relatively high degree of imagination, ingenuity, and creativity in the solution of organizational problems is widely, not narrowly, distributed in the population; and (6) the intellectual potentialities of the average human being are only partially utilized.

The central principle derived from "Theory Y" is that of integration defined as the creation of conditions which help organization members achieve their own goals through the achievement of organizational goals.

Likert asserts that primarily two systems of management with different emphases developed side by side. The "job organization" system relies basically on the economic

motives of buying a man's time and then telling him precisely what to do, how to do it, and at what level to produce. The "cooperative-motivation" system tends to use the principles and methods of scientific management and related management principles to a degree. This system taps not only the economic motives but additionally other strong motives, such as the ego motive.<sup>23</sup> He attempted to include the desirable features of each into an integrating principle of management which states that:

The leadership and other processes of the organization must be such as to ensure a maximum probability that in all interactions and all relationships with the organization each member will, in light of his background, values, and expectations, view the experience as supportive and one which builds and maintains his sense of personal worth and importance.<sup>24</sup>

The basic principle of Likert's approach is that of "supportive relationships." He included four systems identified as: (1) exploitive authoritative; (2) benevolent authoritative; (3) consultative; and (4) participative.<sup>25</sup> He concluded that system four, "participative," is the most desirable because, he claimed as organizations move toward this system the more productive and satisfying they become. The utilization of this systems approach has been supported

---

<sup>23</sup>R. Likert, New Patterns of Management (New York: McGraw-Hill Book Company, 1964).

<sup>24</sup>R. Likert, The Human Organization: Its Management and Value (New York: McGraw-Hill Book Company, 1967), p. 47.

<sup>25</sup>R. Likert, New Patterns of Management, pp. 222-234.

by Bowers and Seashore,<sup>26</sup> Hickson,<sup>27</sup> Learned and Sproat,<sup>28</sup> as well as Young.<sup>29</sup>

In the personality dimension of the social system, the need-dispositions of the individual or personality are the basic analytic units.<sup>30</sup> Parsons and Shils suggest that each need-disposition involves a combination of values. Values are those aspects of the individual's orientation which commit him to norms, standards, and expectations when he is in a situation requiring him to make a choice.<sup>31</sup> Parsons has stated this as:

a personal value system is in the social context, the network of rights and obligations in which an

---

<sup>26</sup>D. G. Bowers and S. E. Seashore, "Predicting Organizational Effectiveness With a Four-factor Theory of Leadership," Administrative Science Quarterly, XI, No. 2 (September, 1966), pp. 138-263.

<sup>27</sup>D. F. Hickson, "A Convergence in Organization Theory," Administrative Science Quarterly, XI, No. 2 (September, 1966), pp. 224-237.

<sup>28</sup>E. P. Learned and Audrey T. Sproat, Organization Theory and Policy (Homewood, Illinois: Richard D. Irwin, Inc., 1966), p. 104.

<sup>29</sup>S. Young, Management: A Systems Analysis (Glenview, Illinois: Scott, Foresman and Co., 1966), p. 16.

<sup>30</sup>J. W. Getzels, "Conflict and Role Behavior in the Educational Setting," in W. W. Charters and N. L. Gage, Readings in the Social Psychology of Education (Boston: Allyn and Bacon, Inc., 1963), p. 311.

<sup>31</sup>T. Parsons and E. A. Shils, Toward a General Theory of Action (Cambridge: Harvard University Press, 1951), pp. 114-117.

individual's value-commitment involves him in his social situation.<sup>32</sup>

These value orientations which commit the individual to the observance of certain rules and behaviors are not random but tend to "form a system of value orientations which commit the individual to some organized set of rules."<sup>33</sup>

Culturally, the "organized set of rules" are system values. Blau also referred to the importance of values. He described the integrative bonds in his theory of social structure as:

the common values and norms embodied in a culture or subculture; and the network of social relations in which processes of social interaction become organized.  
 . . .<sup>34</sup>

The values dimension is of significance to this investigation and will, therefore be reviewed further. Savage indicates that the manner in which a person fulfills his needs and the behavior which he exhibits when his needs are not fulfilled are influenced by his values and the culture or society of which he is a part.<sup>35</sup>

Several investigators recognizing the relationship of values with human and interpersonal needs have formulated classification schemes for these needs. Schutz's theory of

---

<sup>32</sup>T. Parsons, Structure and Process in Political Systems (Glencoe: The Free Press, 1960), p. 175.

<sup>33</sup>T. Parsons and E. A. Shils, op. cit., p. 114.

<sup>34</sup>P. M. Blau, "Structural Effects," American Sociological Review, Vol 25, No. 2 (April, 1960), p. 178.

<sup>35</sup>W. W. Savage, Interpersonal and Group Relations in Educational Administration (Glenview, Illinois: Scott, Foresman and Company, 1968), pp. 35-38.



interpersonal behavior proposes that each individual has three interpersonal needs: (1) inclusion (2) control and (3) affection. His theory suggests that:

The term "interpersonal" refers to relations that occur between people as opposed to relations in which at least one participant is inanimate. It is assumed that, owing to the psychological presence of other people, interpersonal situations lead to a behavior in an individual that differs from the behavior of the individual when he is not in the presence of other persons.<sup>36</sup>

The interpersonal need of inclusion is behaviorally defined as the need to establish and maintain a satisfactory relation with people with respect to interaction and association. This is further defined as the need to establish and maintain a feeling of mutual interest with other people. This includes (1) being able to take an interest in other people to a satisfactory degree and (2) having other people interested in the self to a satisfactory degree. With regard to the self-concept, the need for inclusion is the need to feel that the self is significant and worthwhile.

The interpersonal need for control is behaviorally defined as the need to establish and maintain a satisfactory relation with people with respect to control and power. This is further defined as the need to establish and maintain a feeling of mutual respect for the competence and responsibility of others. This includes (1) being able to respect

---

<sup>36</sup>W. C. Schutz, FIRO: A Three Dimensional Theory of Interpersonal Behavior (New York: Holt, Rinehart and Winston, Inc., 1960), p. 14.

others to a satisfactory degree and (2) having others respect the self to a satisfactory degree. With regard to the self-concept, the need for control is the need to feel that one is a competent, responsible person.

The interpersonal need for affection is behaviorally defined as the need to establish and maintain a satisfactory relation with others with respect to love and affection. At the feeling level the need for affection is defined as the need to establish and maintain a feeling of mutual affection with others. This feeling includes (1) being able to love other people to a satisfactory degree and (2) having others love the self to a satisfactory degree. With regard to the self-concept, the need for affection is the need to feel that the self is lovable.

Schutz developed his efforts from the work of personality theorists. Of significance to his efforts was the work of Horney, Fromm, and Freud. Each of these identified three types or areas of interpersonal needs. Although the terminology is not identical in the descriptions of these areas, the definitions are quite similar. Horney identifies these areas as (1) moving towards people, (2) moving against people, and (3) moving from people.<sup>37</sup> Fromm identifies the areas as (1) withdrawal destructiveness, (2) symbiotic, and

---

<sup>37</sup>K. Horney, Our Inner Conflicts (New York: W. W. Norton and Company, 1945), pp. 40-43.

(3) love.<sup>38</sup> Freud identifies the three major systems as (1) erotic, (2) obsessional, and (3) narcissistic.<sup>39</sup>

Argyris suggests a four-dimensional classification including (1) inner needs and outer needs; (2) conscious and unconscious needs; (3) social needs; and (4) physiological needs.<sup>40</sup> Maslow developed his hierarchy of needs including five categories. In ascending order these are: (1) physiological needs; (2) safety needs; (3) belongingness and love needs; esteem needs; and (5) the need for self-actualization. A basic part of this theory is that other and higher needs emerge when lower needs are satisfied, but not until they are satisfied.<sup>41</sup> The contribution of values both to individual and organizational behavior is commonly accepted by these organizational theorists. Parsons suggests that values are internalized cultural standards, norms, and expectations that influence a person's behavior. While value systems are highly personal, they are also involved in and affect the organization to which one holds membership. Parsons states this as: "A personal value system is in the social context, the network

---

<sup>38</sup>E. Fromm, Man for Himself (New York: Holt, Rinehart and Winston, Inc., 1947), pp. 109-110.

<sup>39</sup>S. Freud, "Libidinal Types," in Collection Papers, Vol. 5 (London: Hogarth, 1950), pp. 247-248.

<sup>40</sup>C. Argyris, Personality and Organization (New York: Harper and Brothers, 1957), pp. 33-41.

<sup>41</sup>A. H. Maslow, Motivation and Personality (New York: Harper and Row Publishers, 1954), pp. 80-92.

of rights and obligations in which an individual's value-commitment involves him in his social situation."<sup>42</sup>

This would suggest that within the social systems context the individual's value orientations influence his perception of organizational components.

Research is inconclusive when examining ethnic differences in basic values. Parsons suggests that personal values relate to the individual's culture.<sup>43</sup> Hackbert's findings suggest that educational values of white parents differ from those of black and Indian parents.<sup>44</sup> Rokeach rejects the idea that there are racial differences in basic values.<sup>45</sup> Anderson and Johnson found no difference when Mexican-American families versus other families are compared regarding the amount of emphasis placed on education.<sup>46</sup>

While recognition of the environment is assumed in much of the organizational research previously reviewed the significance of this concept to this investigation warrants greater examination.

---

<sup>42</sup>T. Parsons, op. cit., p. 175.

<sup>43</sup>Ibid.

<sup>44</sup>P. Hackbert, "School Boundary Permeability: A Study of Parent Characteristics." (Unpublished doctoral dissertation, University of Oklahoma, 1976).

<sup>45</sup>M. Rokeach, and S. Parker, "Values as Social Indicators of Poverty and Race Relations in America," The Journal of the American Academy of Political and Social Science. 1970, 338, 97-112.

<sup>46</sup>J. G. Anderson, and W. H. Johnson, "Stability and Change Among Three Generations of Mexican-Americans: Factors Affecting Achievement," American Educational Research Journal, 1971, 1, 285-309.

The simple definition of "the climate" in which the organization functions seems quite clear until one begins to analyze its properties. Osborn has categorized the environment into (1) macro, (2) aggregation, and (3) task environment.<sup>47</sup> Macro and aggregation are somewhat general across organizations. Task environment, defined as that portion of the total setting which is relevant for goal setting and goal attainment, varies greatly and has been shown to affect the autonomy of top-level managers,<sup>48</sup> managerial perceptions,<sup>49</sup> time spent on internal vs. external activities,<sup>50</sup> management's approach to goal attainment,<sup>51</sup> as well as the goals set by the organization.<sup>52</sup>

---

<sup>47</sup>R. N. Osborn, Organizational Effectiveness: A Model and a Test. Unpublished doctoral dissertation, Kent State University, 1971.

<sup>48</sup>W. R. Dill, "Environment as an influence on Managerial Autonomy." Administrative Science Quarterly, 1958, 2, 409-443.

<sup>49</sup>R. B. Duncan, "Multiple Decision-Making Structure in Adapting to Environmental Uncertainty: The Impact on Organizational Effectiveness" (Working Paper No. 54-71). Evanston, Illinois: Northwestern University, 1971.

<sup>50</sup>A. Kefalas, "Scanning the External Business Environment: A Systems Viewpoint." Paper presented at the Fourteenth Annual Midwest Academy of Management Conference, Cleveland, Ohio, 1971.

<sup>51</sup>A. R. Negandi and B. C. Reimann, "Task Environment, Decentralization and Organizational Effectiveness." Human Relations, 1972, 26, 203-214.

<sup>52</sup>R. Simpson and W. Gulley, "Environmental Pressures and Organizational Characteristics." American Sociological Review, 1962, 27, 344-351.

The concept "boundary" is implicit in the study of environment. Much of the social systems theory reviewed recognized the existence of the boundary. Yet, few theorists focus attention directly on the boundary and its permeability. Katz and Kahn<sup>53</sup> elaborate on Lewin's<sup>54</sup> concept of group boundary lines and their permeability. They suggest that a social system is surrounded by a psychological boundary insulating it from the environment. The degree to which this boundary is permeable to input from the environment of the social system is directly proportional to the openness of the internal system. Applying this continuum to schools as social systems the totally closed school suggests a solidification of system boundaries while the completely open school reflects permeable boundaries. Hackbert reported differences in perceptions of boundary permeability between white parents when compared with perception of boundary permeability of Indian and black parents.<sup>55</sup>

Reports on the education of Native Americans identify value differences and "closedness" of school systems as major

---

<sup>53</sup>D. Katz and R. L. Kahn, The Social Psychology of Organizations. (New York: John Wiley & Sons, Inc. 1967).

<sup>54</sup>K. Lewin, Field Theory in Social Science. (New York: Harpers, 1951).

<sup>55</sup>p. Hackbert, op. cit.

obstacles in producing equal educational products for Native American students.<sup>56</sup>

Kohn's work suggests that parental values are a critical variable in the school-community interface.<sup>57</sup> However, Weiner found no relationship between boundary perceptions and educational values of parents when ethnicity of parents was not accounted for.

In view of the inconclusiveness of the research on values and boundary permeability this researcher must agree with Carlson when he indicates that as yet a solid body of knowledge about the organizational-environmental interface as it relates to educational organizations has not yet emerged from behavioral science research.<sup>58</sup>

This suggests that further research is warranted to contribute to the theoretical understanding of relationships between educational values and school boundary permeability.

To investigate the relationships among (1) the educational values of school administrators, (2) the educational values of Native American advisory committee members, (3)

---

<sup>56</sup>The Second Year Report of Progress of the Indian Education Act of 1972 (DHEW Pub. No. (DE) 75-02401) and Indian Civil Rights Issues in Oklahoma -- A report of the Oklahoma State Advisory Committee to the U. S. Commission on Civil Rights, January, 1974.

<sup>57</sup>M. L. Kohn, "Social Class and Parental Values." American Journal of Sociology, 1959, 64, 337-351.

<sup>58</sup>R. O. Carlson, "Environmental Constraints and Organizational Consequences: The Public School and Its Clients." In D. E. Griffiths (Ed.), Behavioral Science and Educational Administration. (Chicago: University of Chicago Press, 1964), 262-276.

Native American advisory committee members perceptions of school boundary permeability and (4) school administrators' perceptions of school boundary permeability the following theoretical hypotheses have been generated:

- HO<sub>1</sub>      There is a relationship between the educational values of Native American advisory committee members and school administrators.
- HO<sub>2</sub>      There is a relationship between Native American advisory committee members' perceptions of school boundary permeability and school administrators' perceptions of school boundary permeability.
- HO<sub>3</sub>      There is a relationship between the educational values of Native American advisory committee members and their perceptions of school boundary permeability.
- HO<sub>4</sub>      There is a relationship between the educational values of school administrators and their perceptions of school boundary permeability.
- HO<sub>5</sub>      Combining permeability perceptions (PSCQ scale scores) and educational values (Val-Ed scale scores) as sets of dependent variables there is a relationship between Native American committee members and school administrators on two sets of variables.

Ancillary Hypothesis

- HO<sub>6</sub>      There is a relationship between the degree of Indian ethnicity of Native American advisory committee members and their perceptions of school boundary permeability.



- HO<sub>7</sub> There is a relationship between the years of education status of Native American advisory committee members and their perceptions of school boundary permeability.
- HO<sub>8</sub> There is a relationship between the sex of Native American advisory committee members and their perceptions of school boundary permeability.
- HO<sub>9</sub> There is a relationship between the age of Native American advisory committee members and their perceptions of school boundary permeability.
- HO<sub>10</sub> There is a relationship between the size of the school district and Native American advisory committee members' perceptions of school boundary permeability.

## CHAPTER III

### RESEARCH DESIGN

#### Restatement of the Problem and Hypotheses

The research problems to which this investigation addresses itself are: What are the relationships among (1) the educational values of school administrators (2) the educational values of Native American advisory committee members, (3) Native American advisory committee member's perceptions of school boundary permeability and (4) school administrator's perceptions of school boundary permeability.

To answer the research questions specified above the following hypotheses have been generated and tested. Each hypothesis is first stated theoretically and then cast into statistical form.

#### Central Hypothesis

HO<sub>1</sub> There is a relationship between the educational values of Native American advisory committee members and school administrators.

Statistical Hypothesis--There is no statistically significant differences between mean scores for Native American advisory committee members and school administrators on Val-Ed scale scores.

- HO<sub>2</sub> There is a relationship between Native American advisory committee members' perceptions of school boundary permeability and school administrators' perceptions of school boundary permeability.  
Statistical Hypothesis--There is no statistically significant difference between mean scores for Native American advisory committee members and school administrators on PSCQ scale scores.
- HO<sub>3</sub> There is a relationship between the educational values of Native American advisory committee members and their perceptions of school boundary permeability.  
Statistical Hypothesis--The correlation between PSCQ scale scores and Val-Ed scale scores of committee members is not statistically significant.
- HO<sub>4</sub> There is a relationship between the educational values of school administrators and their perceptions of school boundary permeability.  
Statistical Hypothesis--The correlation between PSCQ scale scores and Val-Ed scale scores of school administrators is not statistically significant.
- HO<sub>5</sub> Combining permeability perceptions (PSCQ scale scores) and educational values (Val-Ed scale scores) as sets of dependent variables there is a relationship between Native American committee members and school administrators on two sets of variables.  
Statistical Hypothesis--to cast this theoretical hypothesis into statistical form three statistical

hypotheses are presented on page 75.

Ancillary Hypotheses

HO<sub>6</sub> There is a relationship between the degree of Indian ethnicity of Native American advisory committee members and their perceptions of school boundary permeability.

Statistical Hypothesis--The correlation between degree of Indian ethnicity of committee members and their perceptions of school boundary permeability is not statistically significant.

HO<sub>7</sub> There is a relationship between the years of education status of Native American advisory committee members and their perceptions of school boundary permeability.

Statistical hypothesis--The correlation between years of education status of committee members and their perceptions of school boundary permeability is not statistically significant.

HO<sub>8</sub> There is a relationship between the sex of Native American advisory committee members and their perceptions of school boundary permeability.

Statistical hypotheses--The correlation between the sex of committee members and their perceptions of school boundary permeability is not statistically significant.

HO<sub>9</sub> There is a significant relationship between the age of Native American advisory committee members and

their perceptions of school boundary permeability. Statistical hypothesis--the correlation between the age of committee members and their perceptions of school boundary permeability is not statistically significant.

HO<sub>10</sub>

There is a significant relationship between the size of the school district and Native American advisory committee members' perceptions of school boundary permeability.

Statistical hypothesis--The correlation between the size of the school district and committee members' perceptions of school boundary permeability is not statistically significant.

#### Definitions of the Variables

Educational Values: Educational values as utilized in this study are those regarding the "shoulds" of relationships in the school setting among child, teacher, administrator, and community as measured by the Val-Ed survey designed by Schutz.<sup>1</sup> These relationships are measured in the areas of inclusion, control, and affection, and at the level of behavior and feelings.

School Boundary Permeability: This variable refers to the perceptions of the permeability (openness) of the psychological boundary of the school system as measured by the

---

<sup>1</sup>W. C. Schutz, op. cit.

Parent School Communication Questionnaire (PSCQ) developed by Wiener and Blumberg.<sup>2</sup>

To facilitate the statistical analyses, both the administrator group and the committee member group were categorized by their total PSCQ scores into "high" permeability scorers and "low" permeability scorers. A median split was not utilized to form these two groups. A gap in the distribution of the scores was the procedure whereby two groups were formed both for administrators and committee members. Twenty-four committee members were categorized as "high" permeability scorers and twenty committee members were categorized as "low" permeability scorers. Of administrators, thirteen were categorized as "high" permeability scorers and sixteen were categorized as "low" permeability scorers.

Native American Committee Member: An adult Native American parent elected by the community to serve on the advisory board of the local Johnson O'Mally Program, which is federally funded by the Bureau of Indian Affairs to local school systems.

Administrator: A school administrator employed by a public school who is representing that school district at the March 3-6, 1975, training program.

School District Size: To facilitate the statistical

---

<sup>2</sup>Wiener & Blumberg, The Parent School Communication Questionnaire: A Measure of School Boundary Permeability. Paper delivered at the Meeting of the American Educational Research Association, New Orleans, Louisiana, April, 1973.

analyses school districts were categorized into (a) largest district, (b) intermediate district, and (c) smallest district. These districts were categorized by the number of teachers employed. The largest districts employed forty-one or more teachers. Intermediate districts employed between twenty-one and forty. The smallest districts employed less than twenty-one teachers.

#### Description of the Sample

Thirty western Oklahoma school districts applying for Johnson-O'Malley federal funds and sending participants to the March 3-6, 1976, training session were chosen for the investigation.

Native American advisory committee members of Johnson-O'Malley programs from these thirty western Oklahoma school districts and school administrators from those same districts constitute the sample for this study. The sampling unit and unit of analysis is the individual (N = 77). Both administrators and committee members had no prior knowledge of the fact that they were to be included in this study. The sample of advisory committee members and administrators marginally fits the description of a stratified sample in that it operates with sub-groups of more homogeneous composition within the larger population of Native American parents and administrators. This sample is incidental in that it only included all advisory committee members and administrators present during the morning session, Thursday, March 6,

1975, of a four-day training program funded by the Anadarko Area of the Bureau of Indian Affairs and developed by the Southwest Center for Human Relations Studies, University of Oklahoma. This investigator believes, however, that the sample is representative to that population of school administrators and Native Americans throughout the nation serving on advisory committees of Johnson-O'Malley projects in public schools. Public schools receiving Johnson-O'Malley funds during fiscal '75 were required to have a minimum of 10% Native American student populations.

#### Descriptions of the Instruments

Val-Ed: To operationalize the construct "Educational Values," The Educational Values Instrument was utilized. This instrument is widely used in educational research and one on which considerable reliability and validity have been accumulated. The history, validation, and reliability are described by its author, William Schutz.<sup>3</sup> For this reason no effort will be made to provide reliability data on this instrument in this investigation. The instrument measures respondents' values on fourteen scales designated as follows:

1. Administrator-Teacher: Affection (AF:A): The administrator should be personally close with teachers and express his feelings openly.
2. Administrator-Teacher: Inclusion (AF:I): The administrator should take account of teachers' opinions when

---

<sup>3</sup>W. C. Shutz, op. cit.



making policy decisions.

3. Administrator-Community: Control (ACm:C): The desire of the community should determine school policy.
4. Administrator-Community: Inclusion (ACm:I): The administrator and the people in the community should be involved jointly in school and community affairs.
5. Importance (Imp): Education has intrinsic value beyond its occupational advantages.
6. School-Child: Control (SC:C): The school should help the child to realize and use his own abilities and judgment most effectively.
7. Mind (Mind): The school should concern itself primarily with developing the mind of the student rather than with developing his whole personality.
8. Administrator-Community: Affection (ACm:A): The administrator and the people in the community should be personally friendly with each other.
9. Administrator-Teacher: Control (AT:C): The administrator should control the activities of the teachers, both in the classroom and in the community.
10. Teacher-Child: Control (TC:C): The teacher should regulate completely classroom lessons and activities.
11. Teacher-Child: Affection (TC:A): The teacher should be personally friendly and warm toward the children.

12. Teacher-Community: Control (TCm:C): The teacher should conform to the dominant values of the community.
13. Teacher-Community: Inclusion (TCm:I): The teacher should participate in community activities and be encouraged to do so by community members.
14. Teacher-Community: Affection (TCm:A): The teachers and people in the community should be personally friendly with each other.

The School Boundary Permeability Questionnaire (PSCQ)

To operationalize the construct "School Boundary Permeability," the Parent School Communication Questionnaire, developed by Wiener and Blumberg was utilized.<sup>4</sup> This instrument measures the degree to which this boundary is permeable to input from the environment of the social system. This concept subsumes the following dimensions:

1. Mechanical -- which concerns the process through which the parents make contact with school personnel. This dimension elicits information as to the best way to contact school personnel, difficulties encountered in contacting a teacher or the principal, and the layers of the organization that must be penetrated before contact with the desired individual is made.
2. Outreach -- concerns the attempts by school personnel to

---

<sup>4</sup>W. K. Wiener and A. Blumberg, op. cit.

contact parents. This deals with the conditions surrounding a school-to-parent contact, perceptions about the parent-teacher relationship, perceptions of the principal as a facilitator of parents input and parent-teacher problem solving.

3. Organizational Climate -- concerns parental perceptions of the general character of the school organization. It elicits information about the atmosphere of the school and parent-teacher contacts, the perceived feelings of teachers toward parents and the ability of teachers to receive negative feedback. It further concerns itself with the parents' feelings about the total school organization, rather than their relationship with specific members of the organization.
4. Interpersonal Climate -- refers to the quality and nature of parent-teacher interaction. It concerns itself with the parents' perception of interpersonal atmosphere surrounding their contacts with school personnel; the feeling of the parent when contacted by the school; the degree of honesty or evasiveness of school personnel during contact; and the perceived attitude of school personnel toward parents. This dimension examines parental perceptions of their relationship with specific members of the school organization.
5. Influence -- refers to the parents' perception of the impact of their relations with school personnel. Included

is the amount of attention school personnel pay to parental input, response to group and individual input and the role of school personnel and parents in problem solving.

6. Total Score--as an artifact of the computer scoring program a Total Score was generated. This Total Score represented the sum of the five scale scores and constitutes a single measure of the positiveness of the perceptions of school boundary permeability. The higher the score, the more positive (permeable) the boundary is seen to be.

Unlike the other instrument the PSCQ is still in experimental form. The investigator received permission to utilize this instrument from its constructors, W. K. Wiener and Arthur Blumberg.

#### Reliability Data on the PSCQ

It must first be emphasized that the Committee members (N = 47) did not complete the same PSCQ form as did the administrators. The original "permeability" form contains fifty items and yields five factorially derived scales. The authors consider the first scale to be best described by the adjective "Mechanical"; an example of one of the items which load on this particular scale is, "Before talking with the teacher, I feel that I must first contact the principal." Factor II or Scale II has been named the "Outreach" scale; one of the items in this particular scale is, "My youngster's teacher contacts me personally when something goes wrong with his work." The third scale is named "Organizational Climate," and an exemplifying item is, "Teachers seem threatened by

parents who ask questions." The fourth scale is called "Interpersonal Climate," one of the items subsumed under this particular scale is; "The principal sees parents as a source to help him." The fifth scale was named "Influences" with a typical item being, "Parent groups have no real influence on the school."

The reader who is interested in the original 50-item PSCQ is referred to Appendix E in which all 50 items are listed, as well as the five scales to which all the items belong. As previously indicated the computer program utilized in this investigation in scoring the original 50-item PSCQ yields a Total score, (in addition to the five scale score), therefore this Total score (the sum of the scale scores) is included in the series of tables beginning with Table 1 which describes the reliability characteristics of the five scales of the 50-item PSCQ. As perusal of Table 1 indicates it will be noted that when the original five scales are utilized, Scale I consisting of seven items has an Alpha reliability co-efficient (internal consistency) of .45, while Scale II with 11 items has a Cronbach Alpha of .66; Scale III with 11 items has a Cronbach Alpha of .84; Scale IV with 12 items has a Cronbach Alpha of .81; and Scale V with 9 items has a Cronbach Alpha of .77. If one were to use the Total Score, the Cronbach Alpha is .91.

Computer Program: TESTAT

The particular computer program utilized in this investigation to score the PSCQ is the program TESTAT, originally written by Donald J. Veldman. This program was called from the computer library of the University of Oklahoma computer ("EDSTAT" package). TESTAT yields the data shown in Tables 1 through 3, i.e., means, sigmas (virtually the same as the standard deviations except that the "sample" is treated as a population) and also Cronbach Alpha reliability coefficients. Additionally, the output of program TESTAT yields item analyses and, as will be noted in the five scale, 50-item PSCQ scores items range in score from a high of .82 on its scale score to a low of .14. While the 50-item form has been utilized in inferential statistics in this investigation, it should be made clear at the outset that the PSCQ completed by the administrators contained only 25 items. The rationale for the reduction in the number of items was provided to the investigator via a letter from Drs. Weiner and Blumberg; the rationale may be briefly summarized here (although a copy of the complete letter is to be seen in Appendix E); continued use of the PSCQ had resulted in ongoing factor analyses. In these later factor analytic procedures, three scales (rather than the original five) were extracted, and these three factors (25 items) seem to yield as much information as did the original instrument of five factors and 50 items. It was decided to use the 25-item form rather than the 50-item form with the administrators since another psychometric axiom is:

given two instruments which purport to measure the same construct and which have similar validity and reliability coefficients, choose the less time consuming version, this is, of course, another way of stating the principle of parsimony or Occam's Razor.<sup>5</sup>

It should be noted that in the 25-item form the factors have different names from those of the 50-item form. Factor I is called "Teacher/Parent Interaction"; Factor II is "Parent/Principal Interaction"; Factor III is "Accessibility." It is also important to note that these 25 items are also on the 50-item form, so that it was possible after scoring the Administrators' protocols, first to reduce the 25 items to 21 items so that reliability could be enhanced (see Table II) and then to return to the original protocols for the Committee members and obtain three new scale scores.

Note from Table III that PSCQ scale I for administrators (N = 30) consisting of 5 items has a rather low Cronbach Alpha (.34), but scales II and III are gratifyingly high (.87 and .77 respectively). The total score of 21 items yields a Cronbach Alpha reliability coefficient of .86. (Item analyses for the 21 items are shown in Table 3. The investigator is also including in Table III the particular items along with data regarding item reversals and the percentages of responses by the administrators.)

---

<sup>5</sup>F. J. McGuigan, Experimental Psychology: A Methodological Approach (Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1965), p. 40.

Table II includes the data on the three-scale PSCQ for Committee members. It must be emphasized that Committee members were not asked to repeat the instrument, but rather their responses to the items were extracted from the original protocol. It is interesting to note that, for committee members Scale I has a Cronbach Alphas of .74, whereas for the administrators it is .34. For Scale II the committee members responses yielded a Cronbach Alpha of .68, whereas for administrators it is .77. While a statistical comparison between the Cronbach Alphas for administrators and for committee members could have been accomplished (via Fisher's z Test) it was believed that this was not necessary; the reader should note the fact that the reliability coefficients for the total scores of the 21 item instruments is virtually identical both for administrators and for committee members: .85 in the case of the latter, and .86 in the case of the former.



### Procedures for Collecting Data

The collection of data was done during the morning of March 6, 1975, the fourth session of a four-day training workshop attended by Native American advisory committee members and administrators from school districts in Western Oklahoma having at least a 10% Native American student population and currently receiving Johnson-O'Malley funds through the Anadarko Area Office of the Bureau of Indian Affairs.

Native American advisory committee members were asked to complete (1) a demographic data sheet, (2) a Val-Ed instrument, and (3) a 50-item version of the PSCQ. Each instrument was coded for identification purposes only. Confidentiality was assured respondents.

School administrators were asked to complete (1) a demographic data sheet, (2) a Val-Ed instrument, and (3) a 25-item version of the PSCQ. Each instrument was coded for identification purposes only. Confidentiality was again assured respondents.

### Statistical Methods

Both univariate and multivariate procedures were utilized to test the hypotheses. All statistical analyses were accomplished on the University of Oklahoma's I.B.M. 360/178 computer.

To score the PSCQ the program TESTAT, originally written by Donald J. Veldman, was called from the computer library of the University of Oklahoma computer (EDSTAT package)

this program yields means, sigmas, Cronbach Alpha reliability coefficients and item analyses.

To determine if demographic variables influenced either PSCQ or Val-Ed scores two statistical techniques were utilized. The correlational Matrix was utilized to indicate the relationship between the demographic variable and the PSCQ and Val-Ed scales. Single classification analysis of variance was utilized for two groups (in the case of sex). Here the F ratio is equivalent to a test of the statistical significance of the point-biserial correlational co-efficient between sex (a dichotomous variable) and the PSCQ and Val-Ed which are both continuous variables.

A number of methods were utilized for inferential statistical analyses of the data. Single classification analysis of variance was utilized to make a series of comparisons applicable to this study. These comparisons include:

1. PSCQ administrator and PSCQ committee member
2. Val-Ed administrator and Val-Ed committee member
3. "High permeability" committee member and "Low permeability" committee members
4. "High" permeability administrators and "low-permeability administrators
5. "High permeability" administrators and "high-permeability" committee members
6. "Low permeability" administrators and "low permeability" committee members.

Utilizing the ANDVAR program from the EDSTAT package committee members were compared according to the categorizations of size of the school district. The categorization of size included (a) largest districts, (b) intermediate districts, and (c) smallest districts. A similar comparison was accomplished for administrators. These comparisons for both committee members and administrators were made on PSCQ scale scores, PSCQ total score, and on the Val-Ed scale scores.

Multivariate techniques utilized both canonical correlation analysis and multiple discriminant analysis. Committee members are categorized as a "single population" as are administrators. The two measurement batteries are the PSCQ scale scores and the Val-Ed scale scores. A total of four canonical correlations were accomplished: One for committee members utilizing the fifty item PSCQ, one for committee members utilizing the twenty-five item PSCQ, one for administrators, and one for the combined total of administrators and committee members. Multiple discriminant analysis was utilized when two groups were formed via dichotomization of the total PSCQ score. This was accomplished for both committee members and administrators. The second utilization of the multiple discriminant analysis was when three groups were defined on the basis of the size of the school district for both administrators and committee members.

Finally, a computer program generated at the University of Alberta, Canada, was utilized which produced a Scheffé probability matrix as well as an analysis of variance source

table which would allow for missing data and yielded means, variances, standard deviation, and also tests of homogeneity of variance. The first comparison was among six groups formed on the basis of size of district with nineteen dependent variables. The second comparison was among four groups, i.e. two committee member groups and two administrator groups categorized by their "high" or "low" permeability scores.

## CHAPTER IV

### RESULTS AND DISCUSSION

The presentation of results and the consequent discussion in this chapter are based upon the administration of the PSCQ and Val-Ed instruments described in Chapter III. Generally, completed protocols totaled forty-four for committee members and twenty-nine for administrators. These data are presented in the form and sequence in which the data were analyzed. In the summary beginning on page 71 these data are related to the specific hypotheses as stated in Chapter III.

#### Demographic Characteristics and their Relationships with PSCQ and Val-Ed Scale

Before proceeding to the analyses of the data utilizing inferential statistics, it was important to ascertain whether such variables as age, sex, and number of children, influenced either the PSCQ or Val-Ed scores. For this particular purpose, two statistical techniques were utilized. First, the traditional correlational matrix indicating the relationship between the demographic variable and the PSCQ and Val-Ed scales was obtained. These correlational matrices are to be found in Tables IV and V.

Also, single classification analysis of variance was utilized since when there are two groups (as in the case of sex), the F ratio is equivalent to a test of the statistical significance of the point-biserial correlational coefficient between sex (a dichotomous variable) and the PSCQ and Val-Ed variables, both continuous variables. These data are shown

in Table VI. It may be briefly noted here that there are virtually no high correlation coefficients, so that the statement can be made that sex or any of the other demographic variables did not contaminate later comparisons in which the committee member scores were utilized.

It should be noted, however, that additional demographic data were also obtained (See Table VII). For the committee members, in addition to the usual data such as age, number of children, marital status, and sex, information was also obtained on the degree of Indian blood and tribal affiliation. For the administrators, the same demographic data were obtained except since virtually none of the administrators were Indian tribal affiliation was not requested.

Note from Table IV that in the case of the committee members age does correlate with PSCQ scale one, i.e., Parent-teacher interaction. While the relationship is inverse and moderate (.38) and while causation cannot be inferred nonetheless older committee members have more positive perceptions concerning parent-teacher interaction. Only 14.44% of the variance is accounted for. Age does not correlate with any of the Val-Ed scores. The degree of Indian blood is correlated inversely with only Val-Ed scale XIV. The correlation is moderately low (-.37) and only 13.6% of the variance is accounted for.

Val-Ed scale XIV is "Teacher-Community, Affection." It is further described as "the teachers and people in the

community should be personally friendly with each other." The relationship in this case is inverse and moderate but indicates that the greater the degree of Indian blood the less value is placed on the "Teacher-Community-Affection" dimension. As indicated, the years of education for the Indian committee members was 11.36 and was positively correlated with Val-Ed scale V and XIII although both r's are only significant at the .05 level and do not account for much of the variance.

Scale V is the "Importance of Education" and scale XIII is "Teacher-Community, Inclusion." It can be said of the former and to some extent of the latter that one would expect more positive scores from committee members as their years of education increased.

The average number of children, under eighteen, was 2.79. The sole statistically significant correlation of this variable was inverse with Val Ed, scale XIV ( $r = -.33$ ,  $p. < .05$ ). As the family became larger the parent's perceived value of the "Teacher-Community, Affection" dimension decreased.

Correlation with PSCQ and Val-Ed variables are also listed in Table IV. Of the 14 Val-Ed variables it is Val-Ed, scale III which has the largest number of significant r's with four PSCQ scales. In fact it is only PSCQ, scale III (Accessibility) which does not correlate with Val-Ed scale III. The other three PSCQ scores correlate inversely and in no instance is the correlation larger than  $-.38$ .

This latter fact is mentioned in that in none of these instances can much of the variance be accounted for. On Val-Ed scale X there are two statistically significant correlations, one with accessibility ( $r = .41, p < .01$ ) and PSCQ IV ( $r = .39, p < .05$ ). PSCQ scale III yields an ( $r = .31, p > .05$ ) with Val-Ed Scale I and finally PSCQ scale I correlates with Val-Ed scale IV ( $r = .33, p > .05$ ) PSCQ scale I is "mechanical" and Val-Ed scale IX is "teacher-administrator, control."

Even though there were seven statistically significant  $r$ 's it must be remembered that the correlation matrix was a four by fourteen and seven out of a possible sixty-four statistically significant correlations could happen by chance alone over ten times in a hundred. For the administrators, there were only two statistically significant correlations between the demographic variables and the fourteen Val-Ed scales. There were none between demographic variables and the PSCQ scales. Years of experience and number of years at present location correlated only with Val-Ed Scale VII. Correlation for both  $r$ 's are greater than .40 and both are significant at the .05 level. A possible explanation for this relationship is that Val-Ed, Scale III, "mind," focuses on developing the mind and on intellectual teaching. Another way of describing this is that Scale VII measures the value that the school should concern itself primarily with developing the mind of the student rather than with



developing his whole personality. The significant correlation of years of experience and the number of years at the present location with Val-Ed, Scale VII would seem to indicate that among the administrators included in this study those whose formal education occurred more remotely in time and those who have been less mobile, value intellectual development more than they do the development of the whole personality. There was one statistically significant correlation between PSCQ, Variable II and Val-Ed Scale VI ( $r = .45$ ,  $p < .01$ ). In general the reader should note that in the case of school administrators that out of sixty-four Pearson-product-correlations, only one statistically significant correlation emerges and this could very well have happened by chance only. However, the correlation does suggest that administrators who value the parent-principal interaction (PSCQ's Scale II) also value the school-child relationship (Val-Ed, scale VI).

In Appendix B are to be found the frequency data for committee members regarding age, degree of Indian blood, years of education, number of children under eighteen. In Appendix C the same data are to be found for administrators. These data are to meet the requirements set for incidental sampling by Guilford and Fruchter.<sup>1</sup>

---

<sup>1</sup>J. P. Guilford and B. Fruchter, Fundamental Statistics in Psychology and Education (New York: McGraw-Hill, 1973).

A Tangential Comment on Incidental Sampling

Since two of the country's most prominent statisticians will accept "incidental sampling" only with the proviso that the characteristics of the samples be made known, the series of tables (from Table I to Table VII) may be categorized primarily as containing descriptive statistics. Perhaps, however, it would be appropriate here to quote rather briefly from Guilford and Fruchter the rationale behind the stricture that before data obtained from an incidental sample may be treated with inferential statistical techniques, the characteristics of the sample must be known:

The term "incidental sample" is applied to those samples that are taken because they are the most available. Many a study has been made in psychology with students in classes of beginning psychology as the samples merely because they are most convenient. Results thus obtained can be generalized beyond such groups with considerable risk.

Generalizations beyond any sample can be made safely only when we have defined the population that the sample represents in every significant detail. If we know the significant properties of the incidental sample well enough and can show that those properties apply to new individuals, those new individuals may be said to belong to the same population as the members of the sample. By "significant properties" is meant those variables that correlate with the experimental variables involved. They are the kind of properties considered above in connection with stratification of samples.<sup>2</sup>

---

<sup>2</sup>Ibid., p. 125.

Comparison of Males and Females on the PSCQ Variables

Before proceeding further with the univariate inferential statistical analyses of the data it might be appropriate to invite the reader's attention to Table VII which compares the males and females among the committee members on the five scale PSCQ instrument. Note that there were 31 females and only 13 males; however, the only statistically significant difference on the five scale PSCQ was on Scale III which yielded an F ratio of 6.32 ( $p < .05$ ). The means for the 13 males were considerably higher than the means for the 31 females, but the N's vary widely. This comes about by virtue of the fact that not all 47 committee members completed the Val-Ed as well as the PSCQ. As will be noted later, in one instance the PSCQ scale scores and, therefore, the Val-Ed scale scores were eliminated from consideration because the total PSCQ scale score for one of the administrators was so low as to cast doubt as to whether the instrument had been completed by him in a serious manner. In general, for most of the comparisons it is to be noted that there were 44 complete protocols from committee members and 29 from administrators.

Also to be found in Table VII is a comparison of means for the Val-Ed scales. Here it will be noticed that there is only one statistically significant difference. This is on Val-Ed scale VII where the mean for the males was 4.22 while that for the females was 2.57. Below there will be

found another comparison between males and females among committee members on the PSCQ three scale instrument along with the appropriate Val-Ed scores. However, one may safely conclude from the one sex difference on the five scale permeability instrument and from the one Val-Ed variable where there was also one statistically significant difference that sex does not influence either the PSCQ or the Val-Ed variable with perhaps one exception.

#### Univariate Inferential Statistical Analysis

In this part of the investigation there will be reported the analyses of the data using primarily single classification analyses of variance; the dependent variables will be the 14 Val-Ed variables. The independent variables in these analyses of variance will be described as the findings are discussed.

The first inferential statistical analysis to be accomplished was between 47 committee members and 30 administrators. The results are shown in Table VIII in which is to be found the results of a comparison of the mean scores on the 14 Val-Ed scales between committee members and administrators. Of the 14 comparisons, the two group means differ significantly only on three variables, namely Val-Ed variable VI where the administrators have the larger group mean, an F ratio of 4.58, yields a probability value of .03. On Val-Ed variable VIII again the administrators have the larger group mean, an F ratio of 6.79 is found and the probability of this

with such relationships. In any event it may be concluded that neither committee member or professional school administrator, is a particularly potent predictor of Val-Ed scale scores. What is important when one compares the mean of groups is not whether the difference in means happens by chance but rather the potency of the predictive caliber of the independent variables.

Comparison of Administrators and Committee Members  
on the PSCQ Variables

For this comparison, analysis of variance (single classification) was utilized with results shown in Table IX. Please note that on Scale I of the 21-item PSCQ form, the committee members perceived themselves as feeling freer to communicate directly with the teachers than the administrators thought they did. Another phrasing of this would be in terms of the perceptions of the committee members in comparison with those of the administrators; in other words, the particular perceptions of the administrators were not as positive as were the perceptions of the Committee members on this dimension of Parent/Teacher Interaction (as measured by PSCQ Scale I). An F ratio of 6.56 emerged, which is statistically significant at the .02 level.

On Scale II of the PSCQ (Parent/Principal Interaction) the principals' perceptions of their communicability were higher than those of the committee members. In this comparison, an F ratio of 7.24 was found; an F ratio of such magnitude could happen by chance less than nine times in 1000. On

the Accessibility Scale, the difference in means was not statistically significant, nor was the total score statistically significant. It does suggest that the administrator may perceive himself or herself to be available to the parent while the committee members feel that their first line of communication is with the teacher.

Comparison of High and Low Permeability Scores Using  
Val-Ed Variables As the Independent Variable

The Val-Ed instrument does not produce a total Val-Ed score for each individual, either committee member or administrator. This, however, is not the situation with the PSCQ instrument which lends itself to the process of dichotomization via the so called "Total" PSCQ score. The next series of analyses, therefore, pertains to comparisons after both committee members' and administrators' scores on the PSCQ total score were utilized to form two groups, one of which was called "High Permeability Scorers" and the other "Low Permeability Scorers." In all, there were four such groups, and comparisons were made of at least 19 variables using these four categorical predictors. We shall begin first with the results of a single classification analysis of variance wherein the committee members are divided into "High Permeability Scorers" and "Low Permeability Scorers" on the basis of the total PSCQ score.

the Accessibility Scale, the difference in means was not statistically significant, nor was the total score statistically significant. It does suggest that the administrator may perceive himself or herself to be available to the parent while the committee members feel that their first line of communication is with the teacher.

Comparison of High and Low Permeability Scores Using  
Val-Ed Variables As the Independent Variable

The Val-Ed instrument does not produce a total Val-Ed score for each individual, either committee member or administrator. This, however, is not the situation with the PSCQ instrument which lends itself to the process of dichotomization via the so called "Total" PSCQ score. The next series of analyses, therefore, pertains to comparisons after both committee members' and administrators' scores on the PSCQ total score were utilized to form two groups, one of which was called "High Permeability Scorers" and the other "Low Permeability Scorers." In all, there were four such groups, and comparisons were made of at least 19 variables using these four categorical predictors. We shall begin first with the results of a single classification analysis of variance wherein the committee members are divided into "High Permeability Scorers" and "Low Permeability Scorers" on the basis of the total PSCQ score.

Note that in Table X the two N's are 24 subjects whose total scores categorized them as "high permeability respondents" and 20 subjects, i.e., committee members whose total permeability scores categorized them as "low permeability" members. It should be mentioned that a median split was not utilized to form these two groups but rather that a gap in the distribution of the scores was the procedure whereby the two groups were formed. Another factor of some import is that the 19 dependent variables in Table X include the four permeability scores, the 14 Val-Ed scale scores, and also age. In this particular analysis, age was the only demographic variable utilized because there was reason to believe from the correlational analyses previously discussed that neither sex, number of children, nor percentage of Indian blood influenced either permeability nor Val-Ed scores but that age might.

In any event, it is to be noted that the two groups of high and low permeability scores do not differ on age. The next four highly significant F ratios are essentially meaningless since the reader should recall that it was on the basis of the permeability score that the groups were dichotomized. One would, therefore, expect such high F ratios, and in fact, these particular variable mean scores could very well have been excluded, but they serve as a check on the accuracy of the dichotomization. In any event, there will be no discussion of these highly significant F ratios.

We turn now to any statistically significant differences on Val-Ed scores between high permeability and low permeability



respondents reported in Table X. Of the 14 Val-Ed scale score comparisons there was only one statistically significant difference; this was on Val-Ed scale I, "Administrator-Teacher: Affection," where the group mean for the high permeability respondents (4.67) is seen to be statistically significantly different from the mean of the 3.6 of the low permeability scorers. An F ratio of 4.49 is yielded ( $p = .038$ ). One cannot rule out however, the possibility that this one difference could have happened by chance is 1 time out of 14 or .07.

Administrator High Permeability/Administrator Low Permeability

In Table XI it should be noted that although there were 30 completed permeability protocols from the administrators, when an attempt was made to have these 30 dichotomized it was found that one administrator scored so low on the PSCQ scales as to raise the issue of credibility of responses in his particular instance. Hence, his protocol was disregarded and the dichotomization yielded 13 subjects in the administrative "high" permeability scorers and 16 subjects in the Administrative "low" permeability scorers. Again, there is found to be no difference between the two groups on age, although the high permeability scorers have a mean age of over 44 whereas the mean age of the low permeability score is 41.38 years. This difference is not statistically significant, it is simply pointed out as an interesting datum. Another interesting finding is that even though the dichotomization was based on Total PSCQ score, the two groups do not differ on

the first scale of the permeability questionnaire, namely the parent-teacher interaction scale. However, the two groups differ on "parent-principal interaction" where a F ratio of 21.08 emerges but the difference in the means is greater on the mean scores of the "accessibility" scale where a F ratio of 39.66 is yielded. Again, all the PSCQ scale scores, including the total score, are shown primarily as a check on the accuracy of the dichotomization. Perceptions of permeability do not influence educational values of school administrators.

Comparison of High Permeability Administrator Scorers  
with "High Permeability Committee Members Scorers"

The results of this comparison are to be found in Table XII. It is evident that the committee member group perceived more positively the "teacher-parent" interaction than did the administrators, but the administrators held more positive perceptions of the "parent-principal" interaction. Also, the "accessibility" mean was seen to be greater in the "high permeability" administrators than in the case of "high permeability" committee members.

When the fourteen Val-Ed scale scores are the dependent variables there is found a difference on Val-Ed Scale VI, "School-Child," where administrators have a mean of 5.92 and committee members a mean of 4.13. The F ratio is 5.83 which is significant at the .02 level. Finally, on Val-Ed scale score XIV, "Teacher-Community: Affection," the "high permeability" administrators have a mean of 5.85. This comparison yields an F ratio of 5.06 ( $p = .029$ ). One can speculate why there should be only two statistically significant

mean differences out of fourteen comparisons. The probability that two out of fourteen comparisons could be significant by chance alone is .14.

Comparison of the Committee Member Low Permeability  
Scorers and the Administrator Low Permeability  
Scorers

The results of this analysis are to be found in Table XIII. There is no difference in mean age but on Val-Ed Scale score I, "Administrator - Teacher: Affection," the administrators have a higher mean (5.19) as compared to 2.36 for the committee members. This yields an F ratio of 8.94 ( $p = .0053$ ) which could happen by chance exactly 53 times in 10,000. Also, on Val-Ed Scale III the committee members have a higher score (6.20 as compared to 4.88). The F ratio here is 4.87 ( $p = .03$ ). Finally, the low permeability administrators score significantly higher on the Val-Ed scale XIV, "Teacher-Community: Affection," (a mean of 6.25 compared with a mean of 4.50). The F ratio is 6.09 ( $p = .017$ ).

Comparisons on Trichotimization of Groups by Size  
of District: Committee Members

It would seem that a logical categorical predictor to utilize in the formation of groups and to test for possible mean differences in "permeability" and educational values is the size of the school district. Examination of the school districts indicated that on the dimension of size, i.e., size of population, there could be accomplished categorization into (a) largest district, (b) intermediate district, and (c)

smallest district. When this categorization was applied to the protocols of committee members, there were 16 from the smallest school districts, 18 from the intermediate size, and 10 from the largest size. These three groups were compared again using program ANDVAR from the "Edstat" package. The results of the comparisons among these three groups are to be found in Table XIV. There is no difference in the mean age of the three groups, although in the "largest" group (on the dimension of size of district) the average age of the committee members is 31 as compared with 40 years of age in both the smallest and intermediate districts.

However, the size of school district apparently does relate with permeability scores. Thus, it is to be noted that in the "smallest" school district the mean for PSCQ, scale I (teacher-parent interaction) was the highest among the three groups and the difference in means is statistically significant. It is however interesting to note that the means of both the intermediate and the larger school districts are identical. In this comparison the F ratio was 3.51 ( $p = .038$ ). The three groups also differ on the total score of the PSCQ. The means of the "smallest" group again is indicative of the greater positiveness of perceptions of parent-school interaction. The F ratio of 4.68 yields a probability of approximately .02.

The Val-Ed Scores and Size of School District

It will be noted that the size of the school district does not influence the fourteen Val-Ed scale scores except for the Val-Ed scale VII. Again, the highest mean score is that of committee members from the smaller-sized school district. The F ratio is 4.92 ( $p = .05$ ). It is difficult to speculate why the sole mean difference out of fourteen comparisons occurs on Val-Ed scale VII. This finding could occur by chance alone approximately seven times in a hundred.

Comparisons on Trichotomization of Groups by Size of School Districts: Administrators

In Table XV are shown the results when three groups of administrators are compared on the PSCQ variables and the Val-Ed variables. In the larger-size school district the N was 10 administrators, in the smallest size school district the N was 9, and in the intermediate the N was 11. Out of nineteen comparisons (one being age) there was only one statistically significant mean difference. This is on Val-Ed Scale II where the highest mean is that of the 11 "intermediate" administrators while the other two groups have virtually the same mean (4.2 in the case of the "largest" group and 4.33 in the case of the smallest group, while the intermediate group had a mean of 5.82). This comparison of means yielded an F ratio of 3.73 which is significant at approximately the .04 level. Val-Ed scale II is "Administrator-Teacher: Inclusion" and this finding suggests that administrators from intermediate size districts value more highly teacher involvement in decision making than do the administrators from either the larger or the smaller districts.

Multivariate Analyses

From the univariate analyses it becomes apparent which particular multivariate techniques are appropriate. For example, the 44 committee members on whom virtually complete data were available, can be categorized as a "single population" as can the 29 administrators. In this particular instance canonical correlation is the method of choice. Cooley and Lohnes write:

The canonical correlation model appears at first to be a complicated way of expressing the relationship between measurement batteries. In fact, it is the simplest analytic model that can begin to do justice to the difficult problem of scientific generalization. A useful supplement to, but no substitute for, the canonical structure is provided by the multiple correlation analysis of each variable of each set regressed on all the variables of the other set.<sup>3</sup>

In the present instance, the two measurement batteries are the PSCQ scale scores and the Val-Ed scale scores. In fact, three canonical correlations can be accomplished. One for the 44 committee members, one for the 29 administrators and one for the total, namely 73 subjects, i.e., the 29 administrators along with the 44 committee members. Depending upon the outcome of the canonical correlation, the decision could then be made as to whether it was necessary, as Cooley and Lohnes write, to "do a multiple correlation analysis of each variable of each set regressed on all the variables of the other set."<sup>4</sup> In fact, not only three canonical correlation analyses could

---

<sup>3</sup>W. W. Cooley and P. R. Lohnes, Multivariate Data Analysis (New York: John Wiley & Sons, 1971), p. 176.

<sup>4</sup>Ibid.

be accomplished, but four since there was also available the 50-item form of the PSCQ, i.e., the original PSCQ which yielded five scale scores. It is important to note that in canonical correlation, the total score cannot be utilized since this would violate the rule of no linear dependencies, and a total score is simply the sum of the scale scores.

Committee Members: 50 Item PSCQ Form

In Table 16 are shown the results of the canonical correlation for 44 committee members. There are five roots extracted, none of which is statistically significant although root one yields a chi square of 25.19 which with 18 degrees of freedom could occur by chance approximately 12 times out of 100.

Committee Members: 25-Item PSCQ Form

Table 17 contains the results of this particular analysis the first root of which has a probability value of .175. Thus, it may be concluded there is no significant way in which the 14 Val-Ed variables and the three PSCQ scale scores are significantly related. However, only a small N is involved.

Canonical Correlation Analyses: Administrators

In this analysis the N was 30 and again no statistically significant canonical root was extracted. Again, it may be concluded that there was no significant way in which Val-Ed and the three PSCQ variables were related.

Final Canonical Correlation Analysis

In Table 18 appear the results of the only canonical correlation analysis which yielded a statistically significant root. By grouping the committee member and the administrator data, an N of 73 was obtained and the first canonical root extracted was .38, which yielded a chi square of 30.75 which, with 16 degrees of freedom, makes the chi square value statistically significant, i.e., a chi square of 30.75 with 16 degrees of freedom could have happened by chance less than .02 times in a hundred. For this larger-size sample, it may be concluded that there is one significant way in which the two sets of measurement batteries are related. But what is the nature of this statistically significant canonical root? The nature of the root may be obtained by interpreting the loadings of the original variables, i.e., the 14 Val-Ed variables and the 3 PSCQ variables, on the one statistically significant canonical function. On the PSCQ side it is to be noted that two of the three variables, teacher-parent interaction and principal-parent interaction, best define the nature of this one significant root. However, note should be taken that the relationship between the parent-teacher interaction and the canonical variate is negative, i.e., note that the loading is (-.56). However, the principal-parent interaction is quite high (+.71). On the Val-Ed side, the significant root is best determined by Val-Ed scale V (loading = .56), scale VI (loading = .47), scale 7 (loading = -.57), and scale 10 (loading = -.43). Note



should be taken of the fact that the value of  $R_c = .38$ . While statistically significant, it is important to point out that this size of  $R_c$  meets the "rule of thumb" set forth by Cooley and Lohnes,<sup>4</sup> namely that any  $R_c$  of 30 or less is considered trivial.

In this same connection it should be at least mentioned that fairly recently there has been a controversy in the statistical literature as to whether the redundancy statistic should be utilized along with canonical correlation. Professor A. Nicewander of the Department of Psychology of the University of Oklahoma believes that the redundancy statistic is unsound. However, Dr. Nicewander has, in a personal communication (1975) indicated to the investigator that it is safe to interpret the first statistically significant canonical correlation, but interpretation of any other statistically significant canonical variates beyond the first are, at best, dubious.

#### Multiple Discriminant Analysis

As perusal of the behavioral sciences research literature in recent years indicates, the discriminant analysis statistical procedure has become increasingly popular. The great value in the discriminant analysis technique is that it allows for the simultaneous analysis of a number of

---

<sup>4</sup>Ibid.

components between two or more criterion groups. Our data do lend themselves to discriminant analysis in two instances: the first is when two groups are formed via dichotomization of the total PSCQ score and the second instance, when three groups are defined on the basis of the size of school district. In discussing the results of the discriminant analysis, we shall first use the dichotomization of committee members into high and low permeability scores, to be followed by administrators categorized as either high permeability scorers or low permeability scorers. Following these analyses we shall discuss the discriminant analysis which results when three groups of committee members are formed on the basis of the size of the school district they represent and the final discriminant analysis on the three groups of administrators also formed on the basis of the size of the school district in which they work.

On the high and low permeability discriminant analysis for committee members as well as for administrators, it was found in both analyses that the one discriminant function extracted was not statistically significant. Thus, it was safe to conclude that the Val-Ed is not a discriminating battery of variables when permeability scores are used for categorization purposes. When three groups of committee members are formed via the criterion of size of school district and also three groups of administrators, both the PSCQ variables and the Val-Ed are used as "predictors." Also, in these instances, both for committee members and for administrators, the roots extracted for the Val-Ed

variables were not statistically significant nor were the permeability variables statistically significant discriminating variables.

### Final Analyses

To end this chapter the investigator thought it would be of some interest to compare all groups in this study using a computer program generated at the University of Alberta in Alberta, Canada. A unique characteristic of this computer program is its use of a Scheffé probability matrix. But the output of this rather remarkable program is not limited to the Scheffé probability matrixes, it also yields an analysis of variance source table which allows for missing data and yields, means, variances, standard deviation, and also tests of homogeneity of variance.

As indicated in Table XIX the first comparison was among six groups formed on the basis of size of district with 19 dependent variables. In Table XX, there are shown the comparisons of four groups, i.e., two committee members and two administrator groups categorized by their "high" or "low" permeability scores. This however permits the immediate comparison of any two of these four groups.

### Summary of Results

Listed below are the theoretical hypotheses followed by the statistical hypotheses into which these have been cast. The statement of acceptance or rejection follows each statistical hypothesis.

Central HypothesisHO<sub>1</sub>

There is a relationship between the educational values of Native American advisory committee members and school administrators.

Statistical Hypothesis--There is no statistically significant difference between mean scores for Native American advisory committee members and school administrators on Val-Ed scale scores.

1. When group means of all administrators and committee members are compared, three of the fourteen group means on the Val-Ed scale scores are found to be statistically significantly different (see Table VIII, p. 110).
2. When group means of administrators and committee members dichotomized as "high permeability scorers" are compared two of the fourteen group means on the Val-Ed scale scores are found to be statistically significantly different (see Table XII, p. 120).
3. When group means of administrators and committee members dichotomized as "low permeability scorers" are compared, three of the fourteen group means on the Val-Ed scale scores are found to be statistically significantly different (see Table XIII, p. 123).

4. None of the multiple discriminant analyses were significant and therefore were not tabled (see pp. 69-71).

The hypothesis cannot be rejected.

HO<sub>2</sub>

There is a relationship between Native American advisory committee members' perceptions of school boundary permeability and school administrators' perceptions of school boundary permeability.

Statistical Hypothesis-- There is no statistically significant difference between mean scores for Native American advisory committee members and school administrators on PSCQ scale scores.

1. When group means of all administrators and committee members are compared two of the four scale scores are found to be statistically significantly different although group means of the total score is not found to be significantly different (see Table IX, p. 113).
2. None of the multiple discriminant analyses were significant, and, therefore, they were not tabled.

The hypothesis cannot be rejected.

HO<sub>3</sub>

There is a relationship between the educational values of Native American advisory committee members and their perceptions of school boundary permeability. Statistical Hypothesis--The correlation between PSCQ scale scores and Val-Ed scale scores of committee members is not statistically significant.

1. Utilizing univariate procedures (Pearson-Product-Moment) seven statistically significant r's resulted. The correlation matrix was a four by fourteen matrix and seven out of a possible fifty-six statistically significant correlations could happen by chance alone over ten times in one hundred (Table IV, p. 103).
2. Utilizing multivariate procedures (canonical correlation) no significant correlations resulted (see Tables XVI, p. 132 and XVII, p. 132).

The hypothesis cannot be rejected.

HO<sub>4</sub> There is a relationship between the educational values of school administrators and their perceptions of school boundary permeability.

Statistical Hypothesis--The correlation between PSCQ scale scores and Val-Ed scale scores of school administrators is not statistically significant.

1. Utilizing bivariate procedures (Pearson-Product-Moment) no statistically significant r's resulted (see Table V, 104 ).
2. Utilizing multivariate procedures (canonical correlation) no significant correlations resulted (see Table XVII, p. 132).

HO<sub>5</sub> Combining permeability perceptions (PSCQ scale scores)

and educational values (Val-Ed scale scores) as sets of dependent variables there is a relationship between Native American committee members and school administrators on two sets of variables.

Statistical Hypothesis--to cast this theoretical hypothesis into statistical form the following statistical hypotheses are presented:

- A) Among committee members the two sets of dependent variables (PSCQ and Val-Ed) do not yield a statistically significant canonical correlation. No statistically significant canonical correlation resulted. (See Table XVI, p. 132 and XVII, p. 132 ).
- B) Among school administrators the two sets of dependent variables (PSCQ and Val-Ed) do not yield a statistically significant  $R_c$ . No statistically significant canonical correlation resulted. (See Table XVII, p. 132).
- C) When, for the purpose of discriminant function analyses, groups are formed on the basis of Total PSCQ scores of administrators and committee members, no statistically significant functions will be extracted.
  - 1. No statistically significant functions were extracted (see pp. 69 - 71).

The hypothesis cannot be rejected.

#### Ancillary Hypotheses

H0<sub>6</sub>      There is a relationship between the degree of Indian

ethnicity of Native American advisory committee members and their perceptions of school boundary permeability.

Statistical Hypothesis--The correlation between degree of Indian ethnicity of committee members and their perceptions of school boundary permeability is not statistically significant.

1. No statistically significant correlations resulted. (See Table IV, p. 103).

The hypothesis cannot be rejected.

HO<sub>7</sub> There is a relationship between the years of education status of Native American advisory committee members and their perceptions of school boundary permeability.

Statistical hypothesis--The correlation between years of education status of committee members and their perceptions of school boundary permeability is not statistically significant.

1. No statistically significant correlations resulted (see Table IV, p.103 ).

The hypothesis cannot be rejected.

HO<sub>8</sub> There is a relationship between the sex of Native American advisory committee members and their perceptions of school boundary permeability.



Statistical hypotheses--The correlation between the sex of committee members and their perceptions of school boundary permeability is not statistically significant.

1. No statistically significant correlations resulted (see Table VII, p. 106).

The hypothesis cannot be rejected.

HO<sub>9</sub> There is a significant relationship between the age of Native American advisory committee members and their perceptions of school boundary permeability. Statistical hypothesis--The correlation between the age of committee members and their perceptions of school boundary permeability is not statistically significant.

1. No statistically significant correlations resulted (see Table IV, p. 103).

The hypothesis cannot be rejected.

HO<sub>10</sub> There is a significant relationship between the size of the school district and Native American advisory committee members' perceptions of school boundary permeability. Statistical hypothesis--The correlation between the size of the school district and committee members' perceptions of school boundary permeability is not

statistically significant.

1. Committee members from the smallest districts have more positive perceptions of "Teacher-Parent Interaction." The difference is significant at the .05 level.
2. Committee members from the smallest districts have higher total PSCQ scores. The F ratio is 4.68 ( $P < .02$ ).

The hypothesis is rejected.

## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### Summary

The organizational environment of public education in the 70's is becoming increasingly complex. With the passage of the Civil Rights Act of 1964, ethnically minority parents have taken an increased interest in public education as the educational process affects or fails to affect their children. The Department of Health, Education, and Welfare has assisted minority parents to become involved in the educational process in numerous advisory capacities.

A specific federally funded educational program, the Johnson O'Malley program, has provided the setting for this study. This program is funded to assist local school districts whose Indian student populations exceed 10% of its total school population to work toward producing an educational product for Indian students equal to that being experienced by the non-Indian student population.

In this program educational systems have witnessed

the progressive role of an advisory committee of parents evolve through the 70's from a role of non-involvement, to strictly an advisory role, and into the decision-making arena.

The situation described above involves a totally new phenomenon related to the interface between the school as a social system and its environment. It has presented insurmountable obstacles to numerous administrators while others have successfully implemented programs. An often cited reason for failure of positive interface between Native American parent committee and administrator has often been given as the cultural difference and its consequential value difference.

To this investigator there appears a void in the research pertaining to the interface of the school as a social system and its environment, most especially as this environment dimension adds the complexity of ethnicity including its cultural and value differences. This total phenomenon interested the investigator and motivated his activity toward examination of two aspects of the system; (1) the psychological boundary dividing the social system from its environment, and (2) the interplay of value similarities and/or differences of school administrators and Native American parental committee members. Data were gathered from 47 Native American parental committee members and 30 school administrators representing thirty western Oklahoma school districts. This sample was incidental in that it represented all respondents

available at a morning session of a four-day training program for committee members and administrators sponsored by the Anadarko Area Office of the Bureau of Indian Affairs and developed by the Southwest Center for Human Relations Studies, University of Oklahoma.

### Conclusions

HO<sub>1</sub>        There is a relationship between the educational values of Native American advisory committee members and school administrators.

Statistical Hypothesis--There is no statistically significant difference between mean scores for Native American advisory committee members and school administrators on Val-Ed scale scores.

Of all comparisons made there are few significant differences between mean scores for Native American advisory committee members and school administrators on the Val-Ed variables. Exceptions include Val-Ed scale XIV, "Teacher-Community: Affection, which is further described as, "Teachers and people in the community should be personally friendly." The second exception is found in Val-Ed Scale VI, "School-Child: Control", further described as, "The school should help the child to realize and use his own abilities and judgment most effectively." The third exception is Val-Ed scale VIII, "Administrator-Community: Affection" further described as, "The administrator and the people in the community should be personally friendly with each other."

The hypothesis cannot be rejected.

This finding agrees with those of Rokeach<sup>1</sup> as well as those of Anderson and Johnson.<sup>2</sup> It differs however with the findings of Hackbert.<sup>3</sup>

Parsons<sup>4</sup> related personal values with the individual's culture. This finding does not support this theory, however.

HO<sub>2</sub> There is a relationship between Native American advisory committee members' perceptions of school boundary permeability and school administrators' perceptions of school boundary permeability. Statistical Hypothesis--There is no statistically significant difference between mean scores for Native American advisory committee members and school administrators on PSCQ scale scores.

A significant difference resulted from an analysis of variance of PSCQ scale I, "Parent-Teacher Interaction" where committee members' perceptions were more positive than were the administrator's perceptions. In other words, the committee members perceived themselves as feeling freer to communicate directly with teachers than the administrators thought they did. A significant difference also resulted on PSCQ, Scale II, "Parent-Principal Interaction) where administrator's perceptions of their communicability were higher than those on

<sup>1</sup>M. Rokeach, op. cit.

<sup>2</sup>J. G. Anderson, and W. H. Johnson, op. cit.

<sup>3</sup>P. Hackbert, op. cit.

<sup>4</sup>T. Parsons, op. cit.

committee members. The third PSCQ scale nor the Total PSCQ scale score were significantly different. None of the multiple discriminant analyses were significant.

The hypothesis cannot be rejected.

The findings of this study do not support the conclusion of Hackbert in a study of white, black, and Indian parents. Though inconclusive, he suggested that ethnicity of parents influenced PSCQ scores. This hypothesis tested for differences between Indian committee members and non-Indian administrators and exhibited no significant differences.

HO<sub>3</sub> There is a relationship between the educational values of Native American advisory committee members and their perceptions of school boundary permeability. Statistical Hypothesis---The correlation between PSCQ scale scores and Val-Ed scale scores of committee members is not statistically significant.

For committee members, Val-Ed, scale III, "Administrator-Community: Control" further defined as "The desire of the community should determine school policy" is correlated with PSCQ scale I, "Parent-Teacher Interaction," and the PSCQ Total score. This suggests that committee members who positively perceive interaction with teachers and administrators also value participation in decision-making.

Val-Ed, scale X, "Teacher-Child Control" further defined as, "The teacher should regulate completely classroom

lessons and activities" is correlated with PSCQ, scale I, "Parent-Teacher Interaction" as well as the Total PSCQ score. Val-Ed, scale I, "Administrator-Teacher: Accessibility," and Val-Ed, scale IV "Administrator-Community: Inclusion" further defined as, "The administrator and the people in the community should be involved jointly in school and community affairs," is correlated with PSCQ, scale I, "Parent-Principal Interaction." This suggests that committee members who perceive positively the interaction with administrators also value their involvement in community affairs.

Seven of a possible fifty-six Pearson-Product-Moment correlations are statistically significant. This could happen by chance over ten times in a hundred ( $p > .10$ ) and accounts for less than 17% of the variance. No canonical correlations were significant.

The hypothesis cannot be rejected.

The overwhelming background of social systems theory would lead one to conclude that this hypothesis would be rejected. Since the analysis of variance results are approaching significance it could be speculated that given a larger sample, significance may have been reached.

The findings suggest that educational values and perceptions of school boundary permeability are essentially independent.

HO<sub>4</sub> There is a relationship between the educational values



of school administrators and their perceptions of school boundary permeability.

Statistical Hypothesis--The correlation between PSCQ scale scores and Val-Ed scale scores of committee members is not statistically significant.

The correlational matrix does not contain any significant correlations. No canonical correlations were significant.

The hypothesis cannot be rejected.

The theory base would suggest that personal values relate to individual and organizational perceptions. This however, was not supported.

The findings suggest that educational values and school boundary permeability are essentially independent.

H<sub>05</sub> Combining permeability perceptions (PSCQ scale scores) and educational values (Val-Ed scale scores) as sets of dependent variables there is a relationship between Native American committee members and school administrators on two sets of variables.

Statistical Hypothesis--To cast this theoretical hypothesis into statistical form the following statistical hypotheses are presented:

- A) Among committee members the two sets of dependent variables (PSCQ and Val-Ed) do not yield a statistically significant canonical correlation.

No canonical correlations were statistically significant. The first root on the five scale instrument yielded a probability equal to .12. The first root on the three scale instrument yielded a probability equal to .18.

The hypothesis cannot be rejected.

- B) Among school administrators the two sets of dependent variables (PSCQ and Val-Ed) do not yield a statistically significant  $R_c$ .

No canonical correlations were significant. The first root on the canonical correlation for school administrators yielded a probability equal to .16.

The hypothesis cannot be rejected.

- C) When, for the purpose of discriminant function analyses groups are formed on the basis of total PSCQ scores of administrators and committee members no statistically significant functions will be extracted.

No significant functions were extracted when discriminant function analysis was utilized.

The hypothesis cannot be rejected.

In summary, none of the three statistical hypotheses generated from the theoretical hypothesis could be rejected.

This finding also supports the independence of the two measurement batteries utilized in this research.

#### Ancillary Hypotheses

HO<sub>6</sub> There is a relationship between the degree of Indian ethnicity of Native American advisory committee members and their perceptions of school boundary permeability.

Statistical Hypothesis--The correlation between degree of Indian ethnicity of committee members and their perceptions of school boundary permeability is not statistically significant.

No statistically significant correlations resulted.

The hypothesis cannot be rejected.

HO<sub>7</sub> There is a relationship between the years of education status of Native American advisory committee members and their perceptions of school boundary permeability.

Statistical hypothesis--The correlation between years of education status of committee members and their perceptions of school boundary permeability is not statistically significant.

No statistically significant correlations resulted.

The hypothesis cannot be rejected.

- HO<sub>8</sub> There is a relationship between the sex of Native American advisory committee members and their perceptions of school boundary permeability. Statistical hypotheses--The correlation between the sex of committee members and their perceptions of school boundary permeability is not statistically significant. No statistically significant correlations resulted.

The hypothesis cannot be rejected.

- HO<sub>9</sub> There is a significant relationship between the age of Native American advisory committee members and their perceptions of school boundary permeability. Statistical hypothesis--The correlation between the age of committee members and their perceptions of school boundary permeability is not statistically significant. No statistically significant correlations resulted.

The hypothesis cannot be rejected.

Demographic variables do not significantly influence either educational values as measured by Val-Ed or permeability perceptions as measured by PSCQ.

- HO<sub>10</sub> There is a significant relationship between the size of the school district and Native American advisory

committee members' perceptions of school boundary permeability.

Statistical hypothesis--The correlation between the size of the school district and committee members' perceptions of school boundary permeability is not statistically significant.

Committee members' from the smallest districts have more positive perceptions of "Teacher-Parent Interaction" than committee members from either intermediate or largest districts. Smallest districts' committee members also perceive total parent-school communications more positively.

The total score is statistically significant at the .02 level.

The hypothesis is rejected.

Size of the school district does relate with committee members' perceptions of school boundary permeability. This finding is congruent with the theoretical basis. The openness of a system is inversely correlated with its size.

Although none of the central and only one of the ancillary hypotheses could be supported, the use of multivariate statistical procedures provided the opportunity to discover some significant correlations among various scales. These have been reported in Chapter IV and will be summarized here:

1. Older Native American advisory committee members have

- a more positive perception concerning parent-teacher interaction than do younger committee members.
2. The greater the degree of Indian blood of committee members the less value is placed on "Teacher-Community-Affection." (The teachers and people in the community should be personally friendly with each other.)
  3. As would be expected, as the number of years of formal education increase more value is placed by committee members on the importance of education.
  4. As the number of children of committee members increase teacher-community-affection (described in #2) decreases in the member's value perception.
  5. As years of experience and number of years at the present location increase for administrators more value is placed on the development of the student's mind rather than developing his whole personality.
  6. Administrators who value the parent-principal relationship also value the school-child relationship.
  7. Committee members perceived themselves more free to communicate directly with teachers than the administrators thought they did. However, administrators perceptions of their own communicability were higher than committee member perceptions of administrators communicability; thus administrators feel they are open for communication but committee members feel that the first line of communication is with the teacher.

8. Teacher-Community: Inclusion (the teacher should participate in community activities and be encouraged to do so by community members), Teacher-Community: Affection (The teachers and people in the community should be personally friendly with each other), and Administrator-Community: Affection (the administrator and the people in the community should be involved jointly in school and community affairs) consistently were scored significantly higher by administrators than by Native American advisory committee members which would lead one to speculate that committee members value less the social interaction of professional educators in the community than do administrators.

What accounts for the seeming inconsistency between the theoretical constructs and the results of quantitative inquiry? Among the possible answers to this question are:

- A. The instruments utilized to test the hypothesis. The Val-Ed is a well designed and widely used commercial instrument. The reliability and validity data were accepted from its manual. A weakness of this instrument as a data gathering device for this research was its inability to yield a Total score. This resulted in difficulty when analyzing the data. Another possible weakness is the length of time to complete the instrument. According to the manual the instrument is almost totally free of racial bias however, the length and complexity

of the instrument may discriminate against parents whose formal educational level is low.

The PSCQ instrument, is still in experimental form. When reliability tests were run Cronbach Alpha reliability coefficients were quite high. It is a short usable instrument. Its applicability as a diagnostic instrument for school communities is supported.

B. Design of the study:

1. Even though robust methods of data analyses were utilized there is reason to believe that the size of the sample may have inflicted a bias in establishing the levels of significance predicted.
2. Data gathering through instrumentation may better be accomplished for future research by qualitative research methods such as participant observation, exploratory field methods, and other approaches which investigate ethnic differences.

Implications of this Research to the  
Theoretical Constructs underlying  
The Research

This study suggests that educational values and perceptions of school boundary permeability are essentially independent. Does this study then raise question with many noted organizational system theories, as reviewed in Chapter IV? This researcher suggests not.

Parsons related personal values with the individual's culture. This study agrees with the findings of



Rokeach<sup>5</sup> as well as those of Anderson and Johnson<sup>6</sup> in finding no significant differences in educational values across ethnic groups. Parsons related personal values with ones' culture. This study suggests that there is no cultural difference related to educational values in the public school systems. It further suggests that there is no cultural difference related to perceptions of boundary permeability in the public school systems.

To the school administrator, the research indicates that the Native American advisory committee member can be an involved member of the school organization meeting both "ideographic" and "nomothetic" needs. This is consistent with the cited theory.

The Native American advisory committee member presents a new phenomenon to organizational theory. Their role is developing into one which places them in the environment of the system and also in the internal decision-making arena of the system.

To accomplish both "effectiveness" and "efficiency" this suggests new applications of some organizational theories and supports the approaches such as McGregor's "Theory Y" and Likert's "Participative" approach.

---

<sup>5</sup>M. Rokeach, op. cit.

<sup>6</sup>J. G. Anderson, and W. H. Johnson, op. cit.

### Recommendations

After accomplishing virtually every comparison utilizing both univariate and multivariate statistics it was found that Native American committee members' perceptions of school boundary permeability cannot be predicted from educational values they hold, educational values which administrators hold, the relationship of values held by committee member and administrator, nor from any of the tested demographic variables of committee members.

The results of this study suggest that additional research be done concerning the aspects of the school-community interface which were the focus of this investigation. The educational values of committee members and of administrators as measured by the Val-Ed do not significantly contribute to the system-environmental interchange. This study suggested the elimination of one area of variability--that of educational values as measured by Val-Ed.

The question remaining unanswered asks: What variables do affect perceptions of boundary permeability? Eliminating value perceptions leads this researcher to speculate that administrative behaviors may significantly correlate with permeability perceptions of committee members.

It is recommended that:

- A) Future research regarding boundary permeability utilize a larger randomly selected sample.
- B) Future research efforts explore the possible

relationships between administrative behavior and Native American advisory committee members' perceptions of school boundary permeability.

- C) Increased research activities regarding the organizational phenomena with which this study was concerned be encouraged, for it is within the arena of the school-community interactions that will provide the administrator of the 70's with his greatest challenges.

APPENDIX A  
TABLES

TABLE I

Alpha Cronbach Coefficients  
(Internal Consistency) for  
Committee Member (N = 47)

	1	2	3	4	5	6
Item N	7.00	11.00	11.00	12.00	9.00	50.00
Means	24.28	38.06	39.11	44.28	31.57	177.30
Sigmas	3.63	5.10	6.511	6.27	5.07	20.86
Alphas	0.45	0.66	0.84	0.81	0.77	0.91

## Item Analyses

<u>Item</u>	<u>Scale</u>	<u>Mean</u>	<u>Sigma</u>	<u>R(Scale)</u>
1	1	3.64	1.26	0.43
2	1	3.26	1.23	0.37
3	1	3.17	0.95	0.37
4	1	4.00	0.77	0.51
5	1	3.21	1.17	0.55
6	1	3.32	1.21	0.75
7	1	3.68	0.83	0.42
8	2	3.32	1.21	0.65
9	2	2.98	1.12	0.64
10	2	3.49	1.13	0.56
11	2	3.64	0.93	0.46
12	2	3.53	0.94	0.31
13	2	3.36	0.96	0.41
14	2	4.11	0.72	0.06
15	2	3.55	0.90	0.39
16	2	3.40	0.94	0.55
17	2	3.81	0.87	0.62
18	2	2.87	0.91	0.46
19	3	3.60	0.96	0.64
20	3	3.43	0.98	0.73
21	3	3.62	1.00	0.71
22	3	3.87	0.82	0.18
23	3	3.53	0.92	0.82
24	3	3.72	0.92	0.80
25	3	3.62	1.08	0.79
26	3	3.51	1.01	0.72
27	3	3.23	0.90	0.65
28	3	3.38	0.96	0.14
29	3	3.60	0.87	0.61
30	4	4.09	0.68	0.52

TABLE I (Cont)

<u>Item</u>	<u>Scale</u>	<u>Mean</u>	<u>Sigma</u>	<u>R(Scale)</u>
31	4	3.96	0.77	0.52
32	4	3.72	0.87	0.74
33	4	3.30	1.09	0.44
34	4	3.70	0.90	0.69
35	4	3.38	1.06	0.49
36	4	3.81	1.00	0.57
37	4	3.53	0.94	0.25
38	4	3.43	1.03	0.70
39	4	3.57	0.89	0.71
40	4	3.85	0.83	0.66
41	4	3.94	0.95	0.60
42	5	3.85	0.80	0.43
43	5	3.34	0.88	0.66
44	5	3.55	0.85	0.56
45	5	3.72	0.84	0.56
46	5	3.38	1.00	0.66
47	5	3.57	0.98	0.72
48	5	3.55	0.92	0.69
49	5	3.17	1.15	0.70
50	5	3.43	1.05	0.38

TABLE II

Alpha Cronbach Coefficient  
(Internal Consistency) for  
Committee Member (N = 47)  
Three Scale PSCQ

	1	2	3	4
Item N	5.00	8.00	8.00	21.00
Means	17.74	28.49	26.76	73.00
Sigmas	3.41	4.19	4.42	10.21
Alphas	0.74	0.68	0.66	0.85

## Item Analyses

<u>Item</u>	<u>Scale</u>	<u>Mean</u>	<u>Sigma</u>	<u>R(Scale)</u>
1	3	3.17	0.95	0.44
2	3	3.21	1.17	0.55
3	3	3.32	1.21	0.72
4	3	2.98	1.12	0.56
5	2	3.49	1.13	0.46
6	2	3.64	0.93	0.44
7	1	3.40	0.94	0.58
8	3	2.87	0.91	0.45
9	1	3.62	1.00	0.74
10	1	3.72	0.92	0.77
11	2	3.60	0.87	0.66
12	3	3.81	1.00	0.58
13	2	3.53	0.94	0.41
14	1	3.43	1.03	0.71
15	2	3.57	0.89	0.75
16	3	3.85	0.83	0.63
17	3	3.55	0.85	0.41
18	2	3.72	0.84	0.80
19	2	3.38	1.00	0.55
20	1	3.57	0.98	0.70
21	2	3.55	0.92	0.62

TABLE II (Cont)

Item	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)
1 (Not reverse)	2	32	13	53	0
2 (Reverse)	9	45	17	19	11
3 (Reverse)	9	55	9	15	13
4 (Reverse)	4	43	6	40	6
5 (Reverse)	15	51	6	23	4
6 (Reverse)	11	60	17	9	4
7 (Reverse)	2	62	15	17	4
8 (Not reverse)	2	40	28	28	2
9 (Reverse)	6	72	6	6	9
10 (Reverse)	11	66	15	2	6
11 (Reverse)	6	64	15	13	2
12 (Reverse)	17	66	4	6	6
13 (Reverse)	9	57	15	17	2
14 (Not Reverse)	2	23	15	49	11
15 (Reverse)	6	62	19	9	4
16 (Reverse)	17	62	11	11	0
17 (Reverse)	9	53	23	15	0
18 (Reverse)	13	60	15	13	0
19 (Not reverse)	4	17	23	47	9
20 (Reverse)	13	51	21	11	4
21 (Reverse)	13	45	30	11	2



TABLE III

Alpha Cronbach Coefficients  
(Internal Consistency) for  
Superintendents and Administrators (N=30)

	1	2	3	4
Item N	5.00	8.00	8.00	21.00
Means	15.93	31.40	28.27	75.60
Sigmas	2.17	5.10	5.03	9.96
Alpha	0.34	0.87	0.77	00.86

## Item Analyses

<u>Item</u>	<u>Scale</u>	<u>Mean</u>	<u>Sigma</u>	<u>R (Scale)</u>
1	1	2.47	0.72	0.47
2	1	3.67	0.79	0.45
3	1	2.60	1.05	0.73
4	1	3.67	0.70	0.40
5	1	3.53	0.85	0.51
6	2	4.00	0.73	0.64
7	2	3.83	0.97	0.73
8	2	3.93	0.89	0.83
9	2	3.90	0.94	0.88
10	2	4.13	0.67	0.76
11	2	3.83	1.00	0.38
12	2	4.13	0.88	0.88
13	2	3.63	0.91	0.74
14	3	3.80	1.19	0.68
15	3	4.27	0.85	0.71
16	3	2.83	1.00	0.43
17	3	3.67	1.08	0.52
18	3	2.63	0.71	0.57
19	3	3.27	0.89	0.53
20	3	3.80	1.17	0.67
21	3	4.00	1.13	0.85

TABLE III (Cont)

<u>Item</u>	1	2	3	4	5
	(%)	(%)	(%)	(%)	(%)
1 (Reverse)	0	7	40	47	7
2 (Not reverse)	0	10	23	57	10
3 (Reverse)	3	17	33	30	17
4 (Reverse)	3	70	17	10	0
5 (Reverse)	10	47	30	13	0
6 (Reverse)	20	67	7	7	0
7 (Reverse)	27	40	27	3	3
8 (Reverse)	27	47	23	0	3
9 (Reverse)	27	47	20	3	3
10 (Reverse)	27	63	7	3	0
11 (Not reverse)	3	10	10	53	23
12 (Reverse)	33	57	3	3	3
13 (Reverse)	13	50	27	7	3
14 (Reverse)	37	30	13	17	3
15 (Reverse)	47	40	7	7	0
16 (Not reverse)	7	37	27	27	3
17 (Not reverse)	0	17	30	23	30
18 (Reverse)	0	10	47	40	3
19 (Reverse)	3	40	43	7	7
20 (Reverse)	37	27	20	13	3
21 (Reverse)	43	30	13	10	3

TABLE IV

Pearson Product Moment Correlations Among  
Demographic Variables and PSCQ and Val-Ed Variables  
(Committee Members)

PSCQ Scales	Val-Ed Scales																		
Demographic Variables	I	II	III	IV	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	
1. Age - 38**																			
2. Degree of Indian Blood																			.37**
3. Years of Education									.33**										.37**
4. Number of Children																			.33**
PSCQ Variables																			
5. 1st PSCQ																			
6. 2nd PSCQ																			
7. 3rd PSCQ																			
8. 4th PSCQ																			

Note 1: Only statistically significant r's are tabled.

Note 2: Missing data correlation program was utilized. Thus, 44 committee members completed the PSCQ and Val-Ed. However, not all committee members provided the demographic. All significant r's are based on the actual N.

\*  $P < .01$

\*\*  $P < .05$

TABLE V

Pearson Product Moment Correlations Among  
Demographic Variables and Permeability and Val-Ed Variables  
(n = 29 School Administrators)

Permeability Scales	Val-Ed Scales																			
Demographic Variables	I	II	III	IV	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV		
1. Age																				
Years of Experience																				
Present Location																				
Number of Children																				
Years of Education																				
Permeability Variables																				
2. Teacher-Parent Interaction																				
3. Parent-Principal Interaction																				
4. Accessibility																				
5. Total Permeability																				

Note: Only statistically significant r's are tabled, also inter-correlations of permeability scales within PSCQ and of Val-Ed scales within the Val-Ed instrument are not listed.

\*  $P < .01$   
\*\*  $P < .05$

TABLE VI

Demographic Variables for 44 Committee Members  
and 29 School Administrators (See Appendix A  
and B for Frequency Data)

## A. Committee Members

Variable	No. of Responses	Mean	S.D.	Range
1. Age	41	41.39	8.97	25-65
2. Percentage of Indian Blood	40	88.65	20.83	25%-100%
3. Years of Education	39	11.36	1.29	8-12
*4. Marital Status	43	1.37	0.66	
5. Number of Children Under 18 Years of Age	39	2.79	1.47	1-7

## B. Administrators

1. Age	29	42.59	8.30	30-63
2. Years of Experience	29	18.69	8.64	3-38
3. Years in Present School District	29	8.17	7.17	1-29
**4. Level of Education	29	3.07	0.46	BA-MA+
5. Number of Children Under 18 Years of Age	28	2.61	1.16	1-6

\* Based on coded data: 1=married 2=separated, widowed, or divorced; 3=never married

\*\* Based on coded data: 1=masters degree; 2=education beyond the masters degree; 3=earned doctorate

TABLE VII

Analyses of Variance  
22 Variables  
Committee Members  
(TL<sub>1</sub> = 31 Females; N<sub>2</sub> = 13 Males)

Variable 1 - Age

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	80.55	40		
Groups	58.69	1	0.72	0.5953
Error (G)	81.10	39		
G Mean	1*	2*		
	40.62	43.25		

Variable 2 - Percentage of Indian Blood

Total	434.08	39		
Groups	177.63	1	0.40	0.5363
Error (G)	440.83	38		
G Mean	1	2		
	89.87	85		

Variable 3 - Years of Education

Total	1.66	38		
Groups	1.73	1	1.05	0.3136
Error (G)	1.66	37		
G Mean	1	2		
	11.48	11		

Variable 4 - Number of Children

Total	2.17	38		
Groups	0.39	1	0.17	0.6822
Error (G)	2.22	37		
G Mean	1	2		
	2.86	2.64		

Variable 5 - Teacher-Parent Interaction

Total	13.39	43		
Groups	22.66	1	1.72	0.1939
Error (G)	13.17	42		
G Mean	1	2		
	17.58	19.15		

Variable 6 - Parent-Principal Interaction

Total	11.92	43		
Groups	9.76	1	0.81	0.6249
Error (G)	11.98	42		
G Mean	1	2		
	26.97	28		

\*Group 1 = 31 Females; Group 2 = 13 Males

TABLE VII (Cont)

Variable 7 - Accessibility

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	10.75	43		
Groups	1.77	1	0.16	0.6927
Error (G)	10.97	42		
G Mean	1	2		
	27.48	27.92		

Variable 8 - Total Permeability

Total	72.67	43		
Groups	84.88	1	1.17	0.2849
Error (G)	72.38	42		
G Mean	1	2		
	72.03	75.08		

Variable 9

Total	2.99	43		
Groups	0.01	1	0.00	0.9440
Error (G)	3.06	42		
G Mean	1	2		
	4.19	4.15		

Variable 10

Total	2.21	43		
Groups	7.39	1	3.54	0.0638
Error (G)	2.09	42		
G Mean	1	2		
	4.13	3.25		

Variable 11

Total	2.55	43		
Groups	0.87	1	0.34	0.5727
Error (G)	2.59	42		
G Mean	1	2		
	6	5.69		

Variable 12

Total	3.79	43		
Groups	0.00	1	0.00	0.9720
Error (G)	3.88	42		
G Mean	1	2		
	4.52	4.54		

Variable 13

Total	1.81	43		
Groups	2.28	1	1.27	0.2662
Error (G)	1.8	42		
G Mean	1	2		
	3.81	3.31		

TABLE VII (Cont)

Variable 14

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	4.67	43		
Groups	0.66	1	0.14	0.7131
Error (G)	4.76	42		
G Mean	1	2		
	4.19	4.46		

Variable 15

Total	2.81	43		
Groups	14.44	1	5.69	0.0204
Error (G)	2.54	42		
G Mean	1	2		
	3.13	4.38		

Variable 16

Total	2.67	43		
Groups	0.19	1	0.07	0.7891
Error (G)	2.72	42		
G Mean	1	2		
	4.55	4.69		

Variable 17

Total	2.47	43		
Groups	0.98	1	0.39	0.5411
Error (G)	2.50	42		
G Mean	1	2		
	4.90	5.25		

Variable 18

Total	1.88	43		
Groups	2.61	1	1.40	0.2418
Error (G)	1.86	42		
G Mean	1	2		
	4.77	5.31		

Variable 19

Total	2.70	43		
Groups	0.33	1	0.12	0.7295
Error (G)	2.76	42		
G Mean	1	2		
	5.19	5.31		

Variable 20

Total	1.81	43		
Groups	0.02	1	0.01	0.9181
Error (G)	1.85	42		
G Mean	1	2		
	5.03	5.08		



TABLE VII (Cont)

Variable 21

	109			
Source	Mean Square	D.F.	F-ratio	Probl.
Total	2.72	43	.	
Groups	0.30	1	0.11	0.7430
Error (G)	2.78	42		
G Mean	1	2		
	5.26	5.08		

Variable 22

Total	3.09	43		
Groups	0.68	1	0.22	0.6489
Error (G)	3.15	42		
G Mean	1	2		
	4.58	4.31		

TABLE VIII

Analyses of Variance  
Comparison of Mean Scores on  
14 Val-Ed Variables Between  
Committee Members and Administrators

Variable 1 - Val-Ed I

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	2.91	79		
Groups	8.85	1	3.12	0.0775
Error (G)	2.83	78		
G Mean	1	2		
	4.24	4.91		

Variable 2 - Val-Ed II

Total	2.08	79		
Groups	0.04	1	0.02	0.8840
Error (G)	2.10	78		
G Mean	1	2		
	3.87	3.82		

Variable 3 - Val-Ed III

Total	2.67	79		
Groups	9.18	1	3.55	0.0601
Error (G)	2.59	78		
G Mean	1	2		
	5.89	5.21		

Variable 4 - Val-Ed IV

Total	3.98	79		
Groups	3.92	1	0.98	0.6745
Error (G)	2.99	78		
G Mean	1	2		
	4.43	4.88		

Variable 5 - Val-Ed V

Total	2.15	79		
Groups	5.51	1	2.61	0.1064
Error (G)	2.11	78		
G Mean	1	2		
	3.59	4.12		

Variable 6 - Val-Ed VI

Total	5.11	79		
Groups	22.40	1	4.58	0.0333
Error (G)	4.89	78		
G Mean	1	2		
	4.28	5.35		

TABLE VIII (Cont)

Variable 7 - Val-Ed VII

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	2.61	79		
Groups	7.83	1	3.08	0.08
Error (G)	2.54	78		
G Mean	1	2		
	3.46	2.82		

Variable 8 - Val-Ed VIII

Total	3.14	79		
Groups	19.85	1	6.79	0.0106
Error (G)	2.92	78		
G Mean	1	2		
	4.52	5.53		

Variable 9 - Val-Ed IX

Total	2.39	79		
Groups	0.18	1	0.07	0.78
Error (G)	2.42	78		
G Mean	1	2		
	4.98	4.88		

Variable 10 - Val-Ed X

Total	2.38	79		
Groups	0.04	1	0.02	0.89
Error (G)	2.41	78		
G Mean	1	2		
	4.87	4.82		

Variable 11 - Val-Ed XI

Total	3.01	79		
Groups	4.81	1	1.61	0.2054
Error (G)	2.99	78		
G Mean	1	2		
	5.24	5.74		

Variable 12 - Val-Ed XII

Total	2.09	79		
Groups	2.16	1	1.04	0.3130
Error (G)	2.09	78		
G Mean	1	2		
	5.11	5.44		

Variable 13 - Val-Ed XIII

Total	3.30	79		
Groups	5.37	1	1.64	0.2012
Error (G)	3.27	78		
G Mean	1	2		
	5.15	5.68		

TABLE VIII (Cont)

Variable 14 - Val-Ed XIV

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	4.26	79		
Groups	45.65	1	12.24	0.0011
Error (G)	3.73	78		
G Mean	1	2		
	4.41	5.94		

TABLE IX

Analyses of Variance  
PSCQ Scales  
(N = 44 Committee Members)  
(N = 29 Administrators)

Variable 1 - Teacher-Parent Interaction

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	9.83	76		
Groups	60.08	1	6.56	0.01
Error (G)	9.16	75		
G Mean	1*	2*		
	17.74	15.93		

Variable 2 - Parent-Principal Interaction

Total	23.19	76		
Groups	155.13	1	7.24	0.009
Error (G)	21.43	75		
G Mean	1	2		
	28.49	31.40		

Variable 3 - Accessibility

Total	22.57	76		
Groups	41.24	1	1.85	0.17
Error (G)	22.32	75		
G Mean	1	2		
	26.77	28.27		

Variable 4 - Total Permeability Score

Total	105.23	76		
Groups	123.88	1	1.18	0.28
Error (G)	104.98	75		
G Mean	73.00	75.60		

\* 1 = Committee Member  
2 = Administrators

TABLE X

Analyses of Variance  
Comparison of Two Groups of Committee Members  
Who Are "High Permeability" (N=24) and "Low  
Permeability" (N=20) Scorers on 19 Variables

Variable 1 - Age

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	80.54	40		
Grups	95.06	1	1.19	0.2827
Error (G)	80.17	39		
G Mean	1*	2*		
	40.04	43.11		

Variable 2 - Teacher-Parent Interaction

Total	13.39	43		
Groups	219.27	1	25.82	0.0001
Error (G)	8.49	42		
G Mean	1	2		
	20.08	15.60		

Variable 3 - Parent-Principal Interaction

Total	11.92	43		
Groups	242.69	1	37.75	0.0000
Error (G)	6.43	42		
G Mean	1	2		
	29.42	24.70		

Variable 4 - Accessibility

Total	10.75	43		
Groups	179.67	1	26.69	0.0000
Error (G)	6.73	42		
G Mean	1	2		
	29.46	25.40		

Variable 5 - Total Permeability Score

Total	72.67	43		
Groups	1917.56	1	66.71	0.0000
Error (G)	28.74	42		
G Mean	1	2		
	78.96	65.70		

Variable 6 - Administrator - Teacher: Affection

Total	2.99	43		
Groups	12.41	1	4.49	0.0378
Error (G)	2.76	42		
G Mean	1	2		
	4.67	3.60		

\* 1 = High Permeability

2 = Low Permeability

TABLE X (Cont)

Variable 7 - Val-Ed - Scale 2 Administrator-Teacher: Inclusion

Total	2.21	43		
Groups	0.15	1	0.06	0.7949
Error (G)	2.26	42		
G Mean	3.92	3.80		
	1	2		

Variable 8 - Val-Ed - Scale 3 Administrator - Community: Control

Total	2.55	43		
Groups	3.10	1	1.22	0.2745
Error (G)	2.54	42		
G Mean	1	2		
	5.67	6.20		

Variable 9 - Val-Ed - Scale 4 Administrator - Community: Inclusion

Total	3.79	43		
Groups	0.59	1	0.15	0.6991
Error (G)	3.87	42		
G Mean	1	2		
	4.42	4.65		

Variable 10 - Val-Ed - Scale 5 Importance

Total	1.81	43		
Groups	0.30	1	0.16	0.6901
Error (G)	1.85	42		
G Mean	1	2		
	3.58	3.75		

Variable 11 - Val-Ed - Scale 6 School - Child: Control

Total	4.67	43		
Groups	1.15	1	0.24	0.6305
Error (G)	4.75	42		
G Mean	1	2		
	4.12	4.45		

Variable 12 - Val-Ed - Scale 7 Mind

Total	2.81	43		
Groups	7.42	1	2.75	0.1012
Error (G)	2.70	42		
G Mean	1	2		
	3.88	3.05		

Variable 13 - Val-Ed - Scale 8 Administrator-- Community: Affection

Total	2.67	43		
Groups	1.34	1	0.50	0.5077
Error (G)	2.70	42		
G Mean	1	2		
	4.75	4.40		

TABLE X (Cont)

Variable 14 - Val-Ed - Scale 9 Administrator - Teacher: Control

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	2.47	43		
Groups	5.87	1	2.46	0.1205
Error (G)	2.38	42		
G Mean	1	2		
	5.33	4.60		

Variable 15 - Val-Ed - Scale 10 Teacher - Child: Control

Total	1.88	43		
Groups	2.91	1	1.57	0.2148
Error (G)	1.85	42		
G Mean	1	2		
	5.17	4.65		

Variable 16 - Val-Ed - Scale 11 Teacher - Community: Affection

Total	2.70	43		
Groups	0.82	1	0.30	0.5932
Error (G)	2.75	42		
G Mean	1	2		
	5.12	5.40		

Variable 17 - Val-Ed - Scale 12 Teacher - Community: Control

Total	1.81	43		
Groups	4.61	1	2.64	0.1079
Error (G)	1.74	42		
G Mean	1	2		
	4.75	5.40		

Variable 18 - Val-Ed - Scale 13 Teacher - Community: Inclusion

Total	2.72	43		
Groups	0.78	1	0.28	0.6058
Error (G)	2.77	42		
G Mean	1	2		
	5.08	5.35		

Variable 19 - Teacher - Community: Affection

Total	3.09	43		
Groups	0.0	1	0.0	1.0000
Error (G)	3.17	42		
G Mean	1	2		
	4.50	4.50		



TABLE XI

Analyses of Variance  
 Comparison of Two Groups of Administrators Who  
 Are "High Permeability" (N=13) and "Low Permeability"  
 (N=16) Scorers on 19 Variables

Variable 1 - Age

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	68.89	28		
Groups	52.35	1	0.75	0.6027
Error (G)	69.51	27		
G Mean	1*	2*		
	44.08	41.38		

Variable 2 - Teachers-Parent Interaction

Total	5.07	28		
Groups	3.34	1	0.65	0.5680
Error (G)	5.13	27		
G Mean	1	2		
	16.31	15.62		

Variable 3 - Parent-Principal Interaction

Total	14.00	28		
Groups	171.80	1	21.08	0.0002
Error (G)	8.15	27		
G Mean	1	2		
	34.77	29.88		

Variable 4 - Accessibility

Total	16.05	28		
Groups	267.39	1	39.66	0.0000
Error (G)	6.74	27		
G Mean	1	2		
	32.23	26.12		

Variable 5 - Total Permeability Score

Total	56.77	28		
Groups	978.94	1	43.29	0.0000
Error (G)	22.61	27		
G Mean	1	2		
	83.31	71.62		

Variable 6 - Val-Ed-Scale 1 Administrator - Teacher: Affection

Total	2.89	28		
Groups	00.84	1	0.28	0.6060
Error (G)	2.97	27		
G Mean	1	2		
	4.85	5.19		

\* 1 = High Permeability  
 2 = Low Permeability

TABLE XI (Cont)

Variable 7 - Val-Ed - Scale 2 Administrator - Teacher: Inclusion

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	2.31	28		
Groups	0.74	1	0.31	0.5863
Error (G)	2.37	27		
G Mean	1	2		
	3.62	3.94		

Variable 8 - Val-Ed - Scale 3 Administrator - Community: Control

Total	3.02	28		
Groups	1.86	1	0.61	0.5514
Error (G)	3.07	27		
G Mean	1	2		
	5.38	4.88		

Variable 9 - Val-Ed - Scale 4 Administrator - Community: Inclusion

Total	3.32	28		
Groups	1.59	1	0.47	0.5055
Error (G)	3.39	27		
G Mean	1	2		
	4.85	4.38		

Variable 10 - Val-Ed - Scale 5 Importance

Total	2.62	28		
Groups	0.48	1	0.18	0.6784
Error (G)	2.70	27		
G Mean	1	2		
	4.38	4.12		

Variable 11 - Val-Ed Scale 6 School - Child: Control

Total	5.24	28		
Groups	6.97	1	1.34	0.2552
Error (G)	5.18	27		
G Mean	1	2		
	5.92	4.94		

Variable 12 - Val-Ed Scale 7 Mind

Total	1.95	28		
Groups	4.19	1	2.25	0.1421
Error (G)	1.86	27		
G Mean	1	2		
	3.08	2.31		

Variable 13

Total	3.12	28		
Groups	0.72	1	0.22	0.6436
Error (G)	3.20	27		
G Mean	5.31	5.62		
	1	2		

TABLE XI (Cont)

Variable 14 - Val-Ed Scale 9 Administrator - Teacher: Control

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	2.77	28		
Groups	4.68	1	1.74	0.1961
Error (G)	2.70	27		
G Mean	1	2		
	5.31	4.50		

Variable 15 - Val-Ed Scale 10 Teacher - Child: Control

Total	2.95	28		
Groups	1.69	1	0.56	0.5348
Error (G)	2.99	27		
G Mean	1	2		
	4.92	4.44		

Variable 16 - Val-Ed Scale 11 Teacher - Child: Affection

Total	2.86	28		
Groups	0.0002	1	0.00	0.9899
Error (G)	4.01	27		
G Mean	1	2		
	5.69	5.69		

Variable 17 - Val-Ed Scale 12 Teacher - Community: Control

Total	2.33	28		
Groups	0.01	1	0.004	0.9464
Error (G)	2.42	27		
G Mean	1	2		
	5.54	5.50		

Variable 18 - Val-Ed Scale 13 Teacher - Community: Inclusion

Total	3.36	28		
Groups	0.13	1	0.04	0.8425
Error (G)	3.48	27		
G Mean	1	2		
	5.62	5.75		

Variable 19 - Val-Ed Scale 14 Teacher - Community: Affection

Total	4.50	28		
Groups	1.17	1	0.25	0.6243
Error (G)	4.62	27		
G Mean	1	2		
	5.85	6.25		

TABLE XII

Analysis of Variance  
Comparison of Means of Committee Members (N=24) and  
Administrators (N=13) Who Are "High Permeability"  
Scorers on 19 Variables

Variable 1 - Age

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	86.48	35		
Groups	135.12	1		
Error (G)	85.06	34	1.59	0.2138
G Mean	1*	2		
	40.04	44.08		

Variable 2 - Teacher-Parent Interaction

Total	6.69	36		
Groups	120.21	1	34.88	0.0000
Error (G)	3.44	35		
G Mean	1	2		
	20.08	16.31		

Variable 3 - Parent-Principal Interaction

Total	12.16	36		
Groups	241.58	1	43.11	0.0000
Error (G)	5.60	35		
G Mean	1	2		
	29.42	34.77		

Variable 4 - Accessibility

Total	7.47	36		
Groups	64.81	1	11.11	0.0024
Error (G)	5.84	25		
G Mean	1	2		
	29.46	32.23		

Variable 5 - Total Permeability Score

Total	19.42	36		
Groups	159.44	1	10.34	0.0031
Error (G)	15.42	35		
G Mean	1	2		
	78.96	83.31		

Variable 6 - Administrator - Teacher: Affection

Total	3.09	36		
Groups	0.27	1	0.09	0.7687
Error (G)	3.17	35		
G Mean	1	2		
	4.67	4.85		

\* 1 = Committee Members  
2 = Administrators

TABLE XII (Cont)

Variable 7 - Administrator - Teacher: Inclusion

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	2.16	36		
Groups	0.76	1	0.35	0.5657
Error (G)	2.20	35		
G Mean	1	2		
	3.92	3.62		

Variable 8 - Administrator - Community: Control

Total	2.25	36		
Groups	0.67	1	0.29	0.5987
Error (G)	2.30	35		
G Mean	1	2		
	5.67	5.38		

Variable 9 - Administrator - Community: Inclusion

Total	3.36	36		
Groups	1.56	1	0.46	0.5110
Error (G)	3.42	35		
G Mean	1	2		
	4.42	4.85		

Variable 10 - Importance

Total	1.95	36		
Groups	5.41	1	2.92	0.0928
Error (G)	1.85	35		
G Mean	1	2		
	3.58	4.38		

Variable 11 - School - Child: Control

Total	5.30	36		
Groups	27.27	1	5.83	0.0199
Error (G)	4.67	35		
G Mean	1	2		
	4.12	5.92		

Variable 12 - Mind

Total	2.19	36		
Groups	5.37	1	2.56	0.1152
Error (G)	2.10	35		
G Mean	1	2		
	3.88	3.08		

Variable 13 - Administrator - Community: Affection

Total	2.11	36		
Groups	2.62	1	1.25	0.2700
Error (G)	2.09	35		
G Mean	2	2		
	4.75	5.31		

TABLE XII (Cont)

Variable 14 - Administrator - Teacher: Control

Total	2.45	36		
Groups	0.01	1	0.002	0.9624
Error (G)	2.52	35		
G Mean	1	2		
	5.33	5.31		

Variable 15 - Teacher - Child: Control

Total	2.24	36		
Groups	0.50	1	0.22	0.6481
Error (G)	2.29	35		
G Mean	1	2		
	5.17	4.92		

Variable 16 - Teacher - Child: Affection

Total	3.28	36		
Groups	2.71	1	0.82	0.6263
Error (G)	3.30	35		
G Mean	1	2		
	5.12	5.69		

Variable 17 - Teacher - Community: Control

Total	2.19	36		
Groups	5.24	1	2.49	0.1200
Error (G)	2.11	35		
G Mean	1	2		
	4.75	5.54		

Variable 18 - Teacher - Community: Inclusion

Total	2.87	36		
Groups	2.39	1	0.83	0.6277
Error (G)	2.88	35		
G Mean	1	2		
	5.08	5.62		

Variable 19 - Teacher - Community: Affection

Total	3.36	36		
Groups	15.28	1	5.06	0.0291
Error (G)	3.02	35		
G Mean	1	2		
	4.50	5.85		

TABLE XIII

Analysis of Variance  
Comparison of Means of Committee Members (N=20)  
and Administrators (N=16) Who Are "Low Permeability"  
Scorers on 19 Variables

Variable 1 - Age

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	64.76	33		
Groups	25.53	1	0.39	0.5451
Error (G)	65.98	32		
G Mean	1*	2*		
	43.11	41.38		

Variable 2 - Teacher - Parent Interaction

Total	10.70	35		
Groups	0.01	1	0.001	0.9772
Error (G)	11.02	34		
G Mean	1	2		
	15.60	15.62		

Variable 3 - Parent-Principal Interaction

Total	15.20	35		
Groups	238.05	1	27.53	0.0001
Error (G)	8.64	34		
G Mean	1	2		
	24.70	29.88		

Variable 4 - Accessibility

Total	7.58	35		
Groups	4.67	1	0.61	0.5537
Error (G)	7.66	34		
G Mean	1	2		
	25.40	26.12		

Variable 5 - Total Permeability Score

Total	45.43	35		
Groups	312.00	1	8.30	0.0068
Error (G)	37.59	34		
G Mean	1	2		
	65.70	71.62		

Variable 6 - Administrator - Teacher: Affection

Total	3.08	35		
Groups	22.40	1	8.94	0.0053
Error (G)	2.51	34		
G Mean	1	2		
	3.60	5.19		

\* 1 = Committee Members  
2 = Administrators

TABLE XIII (Cont)

Variable 7 - Administrator - Teacher: Inclusion

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	2.35	35		
Groups	0.17	1	0.07	0.7894
Error (G)	2.42	34		
G Mean	1	2		
	3.80	3.94		

Variable 8 - Administrator - Community: Control

Total	3.56	35		
Groups	15.61	1	4.87	0.0322
Error (G)	3.20	34		
G Mean	1	2		
	6.20	4.88		

Variable 9 - Administrator - Community: Inclusion

Total	3.86	35		
Groups	0.67	1	0.17	0.6853
Error (G)	3.95	34		
G Mean	1	2		
	4.65	4.38		

Variable 10 - Importance

Total	2.48	35		
Groups	1.25	1	0.50	0.5076
Error (G)	2.51	34		
G Mean	1	2		
	3.75	4.12		

Variable 11 - School - Child: Control

Total	5.08	35		
Groups	2.11	1	0.41	0.5339
Error (G)	5.17	34		
G Mean	1	2		
	4.45	4.94		

Variable 12 - Mind

Total	2.72	35		
Groups	4.83	1	1.82	0.1834
Error (G)	2.66	34		
G Mean	1	2		
	3.05	2.31		

Variable 13 - Administrator - Community: Affection

Total	4.00	35		
Groups	13.34	1	3.58	0.0637
Error (G)	3.72	34		
G Mean	1	2		
	4.40	5.62		



TABLE XIII (cont)

Variable 14 - Administrator - Teacher: Control

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	2.42	35		
Groups	0.09	1	0.04	0.8455
Error (G)	2.49	34		
G Mean	1	2		
	4.60	4.50		

Variable 15 - Teacher - Child: Control

Total	2.25	35		
Groups	0.40	1	0.17	0.6823
Error (G)	2.31	34		
G Mean	1	2		
	4.65	4.44		

Variable 16 - Teacher - Child: Affection

Total	3.11	35		
Groups	0.73	1	0.23	0.6391
Error (G)	3.18	34		
G Mean	1	2		
	5.40	5.69		

Variable 17 - Teacher - Community: Control

Total	1.85	35		
Groups	0.09	1	0.05	0.8247
Error (G)	1.91	34		
G Mean	1	2		
	5.40	5.50		

Variable 18 - Teacher - Community: Inclusion

Total	3.17	35		
Groups	1.42	1	0.44	0.5177
Error (G)	3.22	34		
G Mean	1	2		
	5.35	5.75		

Variable 19 - Teacher - Community: Affection

Total	5.12	35		
Groups	27.22	1	6.09	0.0178
Error (G)	4.47	34		
G Mean	1	2		
	4.50	6.25		

TABLE XIV

Analysis of Variance of Three Groups of  
Committee Members with 19 Variables  
N=16 Committee Members in Smallest District  
N=18 Committee Members in Intermediate District  
N=10 Committee Members in Largest District

Variable 1 - Age

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	186.30	43		
Groups	232.71	2	1.26	0.2928
Error (G)	184.03	41		
G Mean	1*	2*	3*	
	39.94	40.67	32.60	

Variable 2 - Teacher-Parent Interaction

Total	13.39	43		
Groups	42.08	2	3.51	0.0381
Error (G)	11.99	41		
G Mean	1	2	3	
	19.88	17.00	17.00	

Variable 3 - Parent-Principal Interaction

Total	11.92	43		
Groups	29.16	2	2.63	0.0824
Error (G)	11.08	41		
G Mean	1	2	3	
	28.75	26.17	26.90	

Variable 4 - Accessibility

Total	10.75	43		
Groups	27.72	2	2.79	0.0713
Error (G)	9.93	41		
G Mean	29.06	26.56	27.20	
	1	2	3	

Variable 5 - Total Permeability Score

Total	72.67	43		
Groups	290.41	2	4.68	0.0145
Error (G)	62.05	41		
G Mean	1	2	3	
	77.69	69.72	71.10	

Variable 6 - Administrator - Teacher: Affection

Total	2.99	43		
Groups	0.20	2	0.06	0.9383
Error (G)	3.12	41		
G Mean	1	2	3	
	4.06	4.28	4.20	

- \* 1 = Committee Members, Smallest District  
2 = Committee Members, Intermediate District  
3 = Committee Members, Largest District

TABLE XIV (Cont)

Variable 7 - Administrator - Teacher: Inclusion

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	2.21	43		
Groups	0.52	2	0.22	0.8021
Error (G)	2.30	41		
G Mean	1	2	3	
	3.88	4.00	3.60	

Variable 8 - Administrator - Community: Control

Total	2.55	43		
Groups	0.14	2	0.05	0.9477
Error (G)	2.67	41		
G Mean	1	2	3	
	5.88	6.00	5.80	

Variable 9 - Administrator - Community: Inclusion

Total	3.79	43		
Groups	0.57	2	0.14	0.8662
Error (G)	3.95	41		
G Mean	1	2	3	
	4.69	4.33	4.60	

Variable 10 - Importance

Total	1.81	43		
Groups	0.12	2	0.06	0.9390
Error (G)	1.89	41		
G Mean	1	2	3	
	3.56	3.72	3.70	

Variable 11 - School - Child: Control

Total	4.67	43		
Groups	0.67	2	0.14	0.8710
Error (G)	4.86	41		
G Mean	1	2	3	
	4.50	4.11	4.20	

Variable 12 - Mind

Total	2.81	43		
Groups	11.70	2	4.92	0.0121
Error (G)	2.38	41		
G Mean	4.25	2	2.30	
	1	3.50	3	

Variable 13 - Administrator - Community: Affection

Total	2.67	43		
Groups	5.46	2	2.16	0.1265
Error (G)	2.53	41		
G Mean	1	2	3	
	5.00	4.72	3.70	

TABLE XIV (Cont)

Variable 14 - Administrator - Teacher: Control

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	2.46	43		
Groups	2.42	2	0.98	0.6154
Error (G)	2.47	41		
G Mean	2	2	3	
	5.44	4.78	4.70	

Variable 15 - Teacher - Child: Control

Total	1.88	43		
Groups	1.88	2	1.00	0.3783
Error (G)	1.88	41		
G Mean	1	2	3	
	5.31	4.67	4.80	

Variable 16 - Teacher - Child: Affection

Total	2.70	43		
Groups	2.72	2	1.00	0.3764
Error (G)	2.70	41		
G Mean	1	2	3	
	5.69	5.11	5.10	

Variable 17 - Teacher - Community: Control

Total	1.81	43		
Groups	0.03	2	0.02	0.9840
Error (G)	1.90	41		
G Mean	1	2	3	
	5.00	5.06	5.10	

Variable 18 - Teacher - Community: Inclusion

Total	2.72	43		
Groups	1.41	2	0.51	0.6122
Error (G)	2.79	41		
G Mean	1	2	3	
	4.94	5.50	5.10	

Variable 19 - Teacher - Community: Affection

Total	3.09	43		
Groups	0.08	2	0.02	0.9760
Error (G)	3.24	41		
G Mean	1	2	3	
	4.44	4.50	4.60	

TABLE XV

Analysis of Variance of Three Groups  
of Administrators with 19 Variables  
N=10 Superintendents in Largest District  
N=11 Superintendents in Intermediate District  
N= 9 Superintendents in Smallest District

Variable 1 - Age

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	68.98	29		
Groups	5.99	2	0.08	0.9216
Error (G)	73.64	27		
G Mean	1*	2*	3*	
	42.30	43.00	41.44	

Variable 2 - Teacher-Parent Interaction

Total	4.89	29		
Groups	1.61	2	0.31	0.7377
Error (G)	5.14	27		
G Mean	1	2	3	
	15.70	16.36	15.67	

Variable 3 - Parent-Principal Interaction

Total	26.94	29		
Groups	51.80	2	2.06	0.1449
Error (G)	25.10	27		
G Mean	1	2	3	
	28.80	33.00	32.33	

Variable 4 - Accessibility

Total	26.13	29		
Groups	62.26	2	2.65	0.0871
Error (G)	23.46	27		
G Mean	1	2	3	
	25.60	30.45	28.56	

Variable 5 - Total Permeability Score

Total	102.59	29		
Groups	253.19	2	2.77	0.0790
Error (G)	91.44	27		
G Mean	1	2	3	
	70.10	79.82	76.56	

Variable 6 - Administrator - Teacher: Affection

Total	2.83	29		
Groups	3.23	2	1.16	0.3303
Error (G)	2.80	27		
G Mean	1	2	3	
	5.60	4.91	4.44	

\* 1=Superintendents, Largest District 2=Superintendents, Intermediate  
3=Superintendents, Smallest District

TABLE XV (Cont)

Variable 7 - Administrator - Teacher: Inclusion

Source	Mean-Square	D.F.	F-ratio	Probl.
Total	2.28	29		
Groups	2.41	2	1.06	0.3617
Error (G)	2.27	27		
G Mean	1	2	3	
	4.40	3.54	3.56	

Variable 8 - Administrator - Community: Control

Total	3.04	29		
Groups	3.36	2	1.11	0.3439
Error (G)	3.02	27		
G Mean	1	2	3	
	5.50	5.45	4.44	

Variable 9 - Administrator - Community: Inclusion

Total	3.60	29		
Groups	3.28	2	0.91	0.5815
Error (G)	3.62	27		
G Mean	1	2	3	
	5.30	4.18	4.67	

Variable 10 - Importance

Total	2.58	29		
Groups	3.30	2	1.31	0.2871
Error (G)	2.53	27		
G Mean	1	2	3	
	4.30	3.64	4.78	

Variable 11 - School - Child: Control

Total	5.13	29		
Groups	2.09	2	0.39	0.6857
Error (G)	5.35	27		
G Mean	1	2	3	
	5.20	5.00	5.89	

Variable 12 - Mind

Total	2.06	29		
Groups	1.12	2	0.52	0.6034
Error (G)	2.13	27		
G Mean	1	2	3	
	2.50	3.09	2.56	

Variable 13 - Administrator - Community: Affection

Total	3.08	29		
Groups	2.75	2	0.88	0.5721
Error (G)	3.11	27		
G Mean	1	2	3	
	5.90	5.73	4.89	

TABLE XV (Cont)

Variable 14 - Administrator - Teacher: Control

Total	2.70	29		
Groups	8.46	2	3.73	0.0361
Error (G)	2.27	27		
G Mean	1	2	3	
	4.20	5.82	4.33	

Variable 15 - Teacher - Child: Control

Total	3.22	29		
Groups	2.21	2	0.67	0.5238
Error (G)	3.29	27		
G Mean	1	2	3	
	4.40	4.64	5.33	

Variable 16 - Teacher - Child: Affection

Total	3.75	29		
Groups	2.07	2	0.54	0.5969
Error (G)	3.87	27		
G Mean	1	2	3	
	6.00	5.82	5.11	

Variable 17 - Teacher - Community: Control

Total	2.33	29		
Groups	1.70	2	0.72	0.5015
Error (G)	2.37	27		
G Mean	1	2	3	
	5.20	5.91	5.22	

Variable 18 - Teacher - Community: Inclusion

Total	3.25	29		
Groups	2.75	2	0.84	0.5529
Error (G)	3.29	27		
G Mean	1	2	3	
	6.20	5.18	5.78	

Variable 19 - Teacher - Community: Affection

Total	4.34	29		
Groups	3.17	2	0.78	0.5021
Error (G)	4.43	27		
G Mean	1	2	3	
	6.60	6.09	5.44	

TABLE XVI

Canonical Correlation-- $\chi^2$  Tests of  
Latent Roots Predictor Variables:  
14 Val-Ed and Five PSCQ Scores  
Committee Members (N=45)

Roots (5 were extracted)	1	2	3	4	5
$R_C$	.52	.35	.27	.17	.08
ChiSquare	25.19	14.72	10.90	6.18	2.72
DF	18.00	16.00	14.00	12.00	10.00
Probability	.12	.54	.69	.91	.99

TABLE XVII

Canonical Correlation-- $\chi^2$  Tests of Latent Roots  
Predictor Variables: 14 Val-Ed and Three PSCQ Scores  
Committee Members (N=44)

Roots (3 were extracted)	1	2	3
$R_C$	.46	.32	.25
ChiSquare	21.15	12.99	9.86
DF	16.00	14.00	12.00
Probability	0.18	0.53	0.63

Administrators (N=30)

$R_C$	.66	.54	.54
ChiSquare	21.48	15.60	11.81
DF	16.00	14.00	12.00
Probability	0.16	0.34	0.54



TABLE XVIII

## Committee Members and Administrators (N=74)

Roots (Three were extracted)	<u>1</u>	<u>2</u>	<u>3</u>
$R_c$	.38	.25	.11
ChiSquare	30.75	18.41	7.44
DF	16.00	14.00	12.00
Probability	0.02	0.19	0.83

Canonical Vectors (Committee Members and Administrators)  
Combine D,N = 74

<u>Predictors</u>	<u>(Com. Members + Admin.)</u>	<u>Criteria</u>	<u>(Com. Members + Admin.)</u>
PSCQ I	-0.57	Val-Ed I	.19
PSCQ II	.71	Val-Ed II	-.03
PSCQ III	.71	Val-Ed III	-.34
		Val-Ed IV	-.12
		Val-Ed V	.56
		Val-Ed VI	.47
		Val-Ed VII	-.57
		Val-Ed VIII	.17
		Val-Ed IX	.03
$R_c = 0.38$		Val-Ed X	-.43
$X^2 = 30.75$		Val-Ed XI	.12
DF = 16		Val-Ed XII	.15
P = 0.02		Val-Ed XIII	.16
		Val-Ed XIV	.25

TABLE XIX

F Ratios For Six Groups:  
Committee Members and Administrators

Group 1 Committee Members, Largest District      Group 4 Superintendents, Largest District  
Group 2 Committee Members, Medium District      Group 5 Superintendents, Medium District  
Group 3 Committee Members, Smallest District      Group 6 Superintendents, Smallest District

Group:

Variable	1		2		3		4		5		6	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
1. Age	8	40.75	17	43.06	16	39.94	10	42.30	11	43.00	9	41.44
2. Teacher-Parent Interaction	10	17.00	18	17.00	16	19.88	10	15.70	11	16.36	9	15.67
3. Parent-Principal Interaction	10	26.90	18	26.17	16	28.75	10	28.80	11	33.00	9	32.83
4. Accessibility	10	27.20	18	26.56	16	29.06	10	25.60	11	30.45	9	28.56
5. Total Permeability Score	10	71.10	18	69.72	16	77.69	10	70.10	11	79.82	9	76.56
6. Val-Ed Scale 1	10	4.20	18	4.28	16	4.06	10	5.60	11	4.91	9	4.44
7. Val-Ed Scale 2	10	3.60	18	4.00	16	3.88	10	4.40	11	3.54	9	3.56
8. Val-Ed Scale 3	10	5.80	18	6.00	16	5.88	10	5.50	11	5.45	9	4.44
9. Val-Ed Scale 4	10	4.60	18	4.33	16	4.69	10	5.30	11	4.18	9	4.67
10. Val-Ed Scale 5	10	3.70	18	3.72	16	3.56	10	4.30	11	3.64	9	4.78
11. Val-Ed Scale 6	10	4.20	18	4.11	16	4.50	10	5.20	11	5.00	9	5.89
12. Val-Ed Scale 7	10	2.30	18	3.50	16	4.25	10	2.50	11	3.09	9	2.56
13. Val-Ed Scale 8	10	3.70	18	4.72	16	5.00	10	5.90	11	5.72	9	4.89
14. Val-Ed Scale 9	10	4.70	18	4.78	16	5.44	10	4.20	11	5.82	9	4.33
15. Val-Ed Scale 10	10	4.80	18	4.67	16	5.31	10	4.40	11	4.64	9	5.33
16. Val-Ed Scale 11	10	4.80	18	5.11	16	5.69	10	6.00	11	5.82	9	5.11
17. Val-Ed Scale 12	10	5.10	18	5.06	16	5.00	10	5.20	11	5.91	9	5.22
18. Val-Ed Scale 13	10	5.10	18	5.50	16	4.94	10	6.20	11	5.18	9	5.78
19. Val-Ed Scale 14	10	4.60	18	4.50	16	4.44	10	6.60	11	6.09	9	5.44

TABLE XIX (Cont)

Only the F Ratios statistically significant at .05 Probability Level are listed:

<u>Variable</u>	<u>F-ratio</u>	<u>Variable</u>	<u>F-ratio</u>
2	3.60	5	3.29
3	5.60	12	3.16
4	2.45	13	2.34
		19	2.71

Probability Matrix for Scheffe Multiple Comparison of Means

Variable 2: Teacher-Parent Interaction

	1	2	3	4	5	6
1	1.0000	1.0000	0.3700	0.9684	0.9987	0.9686
2	1.0000	1.0000	0.1981	0.9461	0.9976	0.9481
3	0.3700	0.1981	1.0000	0.0531	0.1386	0.0642
4	0.9684	0.9461	0.0531	1.0000	0.9984	1.0000
5	0.9987	0.9976	0.1386	0.9984	1.0000	0.9983
6	0.9686	0.9481	0.0642	1.0000	0.9983	1.0000

Variable 3: Parent-Principal Interaction

1	1.0000	0.9990	0.9369	0.9542	0.0507	0.1512
2	0.9990	1.0000	0.6407	0.7486	0.0041	0.0258
3	0.9369	0.6407	1.0000	1.0000	0.2301	0.4937
4	0.9542	0.7486	1.0000	1.0000	0.3633	0.6176
5	0.0507	0.0041	0.2301	0.3633	1.0000	0.9997
6	0.1512	0.0258	0.4937	0.6176	0.9997	1.0000

Variable 4: Accessibility

1	1.0000	0.9993	0.9231	0.9737	0.6068	0.9889
2	0.9993	1.0000	0.6283	0.9956	0.2515	0.9031
3	0.9231	0.6283	1.0000	0.4458	0.9745	0.9998
4	0.9737	0.9956	0.4458	1.0000	0.1682	0.7446
5	0.6068	0.2515	0.9745	0.1682	1.0000	0.9466
6	0.9889	0.9031	0.9998	0.7446	0.9466	1.0000

Variable 5: Total Permeability Score

1	1.0000	0.9994	0.6074	0.9999	0.3791	0.8591
2	0.9994	1.0000	0.2151	1.0000	0.1078	0.5817
3	0.6074	0.2151	1.0000	0.4478	0.9951	0.9998
4	0.9999	1.0000	0.4478	1.0000	0.2573	0.7486
5	0.3792	0.1078	0.9951	0.2573	1.0000	0.9815
6	0.8591	0.5817	0.9998	0.7486	0.9815	1.0000

Variable 12: Val-Ed Scale 7

1	1.0000	0.5459	0.0825	0.9999	0.9186	0.9996
2	0.5459	1.0000	0.8350	0.7278	0.9918	0.7981
3	0.0825	0.8350	1.0000	0.1584	0.5766	0.2182
4	0.9999	0.7278	0.1584	1.0000	0.9761	1.0000
5	0.9186	0.9918	0.5766	0.9761	1.0000	0.9865
6	0.9996	0.7981	0.2182	1.0000	0.9865	1.0000

TABLE XIX (cont)

## Variable 13: Val-Ed Scale 8

	1	2	3	4	5	6
1	1.0000	0.7850	0.5864	0.1343	0.1832	0.7862
2	0.7850	1.0000	0.9986	0.6653	0.7754	1.0000
3	0.5864	0.9986	1.0000	0.8733	0.9385	1.0000
4	0.1343	0.6653	0.8733	1.0000	1.0000	0.8800
5	0.1832	0.7754	0.9385	1.0000	1.0000	0.9374
6	0.7862	1.0000	1.0000	0.8800	0.9374	1.0000

## Variable 19: Val-Ed Scale 14

1	1.0000	1.0000	1.0000	0.3805	0.6794	0.9685
2	1.0000	1.0000	1.0000	0.1928	0.4664	0.9179
3	1.0000	1.0000	1.0000	0.1859	0.4484	0.9025
4	0.3805	0.1928	0.1859	1.0000	0.9960	0.8864
5	0.6744	0.4664	0.4484	0.9960	1.0000	0.9894
6	0.9685	0.9179	0.9025	0.8864	0.9894	1.0000

TABLE XX

F Ratios For Four Groups:  
Committee Members and Administrators

Group 1 Committee Members, High Permeability Scorers Group 2 Administrators, High Permeability Scorers Group 3 Committee Members, Low Permeability Scorers Group 4 Administrators, Low Permeability Scorers								
Group:	1		2		3		4	
Variable	N	Mean	N	Mean	N	Mean	N	Mean
1. Age	23	40.04	13	44.08	18	43.11	16	41.38
2. Teacher-Parent Interaction	24	20.08	13	16.31	20	15.60	16	15.62
3. Parent-Principal Interaction	24	29.42	13	34.77	20	24.70	16	29.88
4. Accessibility	24	29.46	13	32.23	20	25.40	16	26.12
5. Total Permeability Score	24	78.96	13	83.31	20	65.70	16	1.63
6. Val-Ed Scale 1	24	4.67	13	4.85	20	3.60	16	5.19
7. Val-Ed Scale 2	24	3.92	13	3.62	20	3.80	16	3.94
8. Val-Ed Scale 3	24	5.67	13	5.38	20	6.20	16	4.88
9. Val-Ed Scale 4	24	4.42	13	4.85	20	4.65	16	4.38
10. Val-Ed Scale 5	24	3.58	13	4.38	20	3.75	16	4.12
11. Val-Ed Scale 6	24	4.12	13	5.92	20	4.45	16	4.94
12. Val-Ed Scale 7	24	3.88	13	3.08	20	3.05	16	2.31
13. Val-Ed Scale 8	24	4.75	13	5.31	20	4.40	16	5.62
14. Val-Ed Scale 9	24	5.33	13	5.31	20	4.60	16	4.50
15. Val-Ed Scale 10	24	5.17	13	4.92	20	4.65	16	4.44
16. Val-Ed Scale 11	24	5.12	13	5.69	20	5.40	16	5.69
17. Val-Ed Scale 12	24	4.75	13	5.54	20	5.40	16	5.50
18. Val-Ed Scale 13	24	5.08	13	5.62	20	5.35	16	5.75
19. Val-Ed Scale 14	24	4.50	13	5.85	20	4.50	16	1.25

TABLE XX (Cont)

Only the F Ratios Statistically Significant at .05 Probability Level are listed:

<u>Variable</u>	<u>F-ratio</u>	<u>Variable</u>	<u>F-ratio</u>
2	13.97	5	40.06
3	38.32	6	3.04
4	23.47	12	3.38

Probability Matrix For Scheffe Multiple Comparison on Means  
Variable 2: Teacher-Parent Interaction

	1	2	3	4
1	1.0000	0.0017	0.0000	0.0000
2	0.0017	1.0000	0.9074	0.9260
3	0.0000	0.9074	1.0000	1.0000
4	0.0000	0.9260	1.0000	1.0000

Variable 3: Parent-Principal Interaction

	1	2	3	4
1	1.0000	0.0000	0.0000	0.9628
2	0.0000	1.0000	0.0000	0.0001
3	0.0000	0.0000	1.0000	0.0000
4	0.9628	0.0001	0.0000	1.0000

Variable 4: Accessibility

	1	2	3	4
1	1.0000	0.0284	0.0000	0.0025
2	0.0284	1.0000	0.0000	0.0000
3	0.0000	0.0000	1.0000	0.8744
4	0.0025	0.0000	0.8744	1.0000

Variable 5: Total Permeability Score

	1	2	3	4
1	1.0000	0.1194	0.0000	0.0006
2	0.1194	1.0000	0.0000	0.0000
3	0.0000	0.0000	1.0000	0.0117
4	0.0006	0.0000	0.0117	1.0000

Variable 6: Val-Ed Scale 1

	1	2	3	4
1	1.0000	0.9923	0.2346	0.8215
2	0.9923	1.0000	0.2404	0.9609
3	0.2346	0.2404	1.0000	0.0573
4	0.8215	0.9609	0.0573	1.0000

Variable 12: Val-Ed Scale 7

	1	2	3	4
1	1.0000	0.5241	0.3797	0.0257
2	0.5241	1.0000	1.0000	0.6249
3	0.3797	1.0000	1.0000	0.5683
4	0.0257	0.6249	0.5683	1.0000

TABLE XX (Cont)

Variable 19: Val-Ed Scale 14

1	1.0000	0.2611	1.0000	0.0574
2	0.2611	1.0000	0.2901	0.9572
3	1.0000	0.2901	1.0000	0.0726
4	0.0574	0.9572	0.0726	1.0000

**APPENDIX B**

**FREQUENCY DATA , COMMITTEE MEMBERS**



## APPENDIX B

## Frequency Data, Committee Members

## 1. Age (Number of Valid Responses - 41)

<u>Raw Score</u>	<u>Frequency</u>	<u>Percentage</u>	<u>Percentile</u>
25	1	2	1
26	1	2	4
28	2	5	7
31	1	2	11
32	2	5	15
33	1	2	18
34	3	7	23
35	1	2	28
36	3	7	33
37	1	2	38
38	1	2	40
39	1	2	43
40	1	2	45
42	3	7	50
43	2	5	56
44	1	2	60
45	2	5	63
46	1	2	67
47	1	2	70
48	1	2	72
49	2	5	76
50	3	7	82
51	2	5	88
52	1	2	91
54	1	2	94
55	1	2	96
65	1	2	99

## 2. Percentage of Indian Blood (Number of Valid Scores - 40)

25%	1	2	1
37%	1	2	4
50%	3	7	9
62%	2	5	15
74%	3	7	21
84%	1	2	26
101%	29	72	64

## 3. Years of Education (Number of Valid Scores = 39)

8	4	10	5
10	3	8	14
11	3	8	22
12	29	74	63

## APPENDIX B (continued)

## 4. Marital Status (Number of Valid Scores = 43)

<u>Raw Score</u>	<u>Frequency</u>	<u>Percentage</u>	<u>Percentile</u>
1	2	72	36
2		19	81
3		9	95

## 5. Number of Children Under 18 Years of Age (number of Valid Scores = 39)

1	5	13	6
2	17	44	35
3	6	15	64
4	7	18	81
5	2	5	92
7	2	5	97

APPENDIX C

FREQUENCY DATA, ADMINISTRATORS

## APPENDIX C (continued)

3. Years in Present School District (number of Valid Scores = 29)  
(continued)

<u>Raw Score</u>	<u>Frequency</u>	<u>Percentage</u>	<u>Percentile</u>
4	1	3	40
5	3	10	47
7	3	10	57
8	1	3	64
10	3	10	71
13	1	3	78
14	1	3	81
16	1	3	84
19	1	3	88
20	1	3	91
22	1	3	95
29	1	3	98

## 4. Level of Education (number of Valid Scores = 29)

2	7	3
3	79	47
4	14	93

## 5. Number of Children over 18 Years of Age (number of Valid Scores = 28)

1	2	11	5
2	13	46	34
3	7	25	70
4	3	11	87
5	1	4	95
6	1	4	98

## APPENDIX C

## Frequency Data, Administrators

## 1. Age (number of Valid Scores = 29)

<u>Raw Score</u>	<u>Frequency</u>	<u>Percentage</u>	<u>Percentile</u>
30	1	3	2
32	2	7	7
33	1	3	12
34	1	3	16
35	1	3	19
36	1	3	22
37	2	7	28
39	1	3	33
40	2	7	38
41	3	10	47
42	1	3	53
44	4	14	62
46	3	10	74
47	1	3	81
49	1	3	84
56	2	7	90
60	1	3	95
63	1	3	98

## 2. Years of Experience (number of Valid Scores = 29)

3	2	7	3
9	2	7	10
10	2	7	17
11	1	3	22
14	1	3	26
15	3	10	33
16	1	3	40
17	2	7	45
18	2	7	52
20	3	10	60
22	1	3	67
24	1	3	71
25	2	7	76
26	1	3	81
27	1	3	84
31	1	3	88
32	2	7	93
38	1	3	98

## 3. Years in Present School District (number of Valid Scores = 29)

1	2	7	3
2	3	10	12
3	6	21	28

APPENDIX D

EDUCATIONAL VALUES INVENTORY

by

William C. Schutz, Ph.D.

published by

Consulting Psychologists Press, Inc.

Palo Alto, California

Copyright - 1967

For every item, place a number from 1 to 6 in the space next to the item. The numbers mean:

- |                      |                   |
|----------------------|-------------------|
| 1. Strongly disagree | 4. Mildly agree   |
| 2. Disagree          | 5. Agree          |
| 3. Mildly disagree   | 6. Strongly agree |

- \_\_\_ 1. The aim of the school should be the development of the child's total personality, not only his mind.
- \_\_\_ 2. Education makes people doubt and question things that should be accepted on faith.
- \_\_\_ 3. The school, to be effective, does not have time for vocational courses like auto shop or shorthand.
- \_\_\_ 4. A college education causes people to become too critical of the American way of life.
- \_\_\_ 5. Nonacademic courses like band and homemaking are just as worthy of a portion of the school's time as are foreign languages, geometry, etc.
- \_\_\_ 6. The main value of an education is to help a person find a better job.
- \_\_\_ 7. Active involvement, like discussion, is a more effective way of producing learning than a lecture by the best of subject matter experts.
- \_\_\_ 8. A college education makes a person more aware of important world issues.
- \_\_\_ 9. The presentation of what children need to know by teachers who are experts in their subjects produces the best learning.
- \_\_\_ 10. Women need as much education as men do.
- \_\_\_ 11. Today's schools need to devote some time to subjects other than the basic subjects (English, science, mathematics).
- \_\_\_ 12. Much of what is taught in schools is of little value because it is too far removed from real life.
- \_\_\_ 13. The best learning occurs when children are exposed to teachers who are masters of their subjects.
- \_\_\_ 14. Drive is much more important in getting ahead than the type of education one gets in school.
- \_\_\_ 15. The school should consider the personal and social needs of the child and not only his mind.

- 16. Education is valuable even if all it does is to help a person increase his knowledge of the world and people.
- 17. If schools are to train the minds of children, they cannot devote time to nonacademic activities as well (e.g., crafts, clubs, sewing).
- 18. Experience is man's best teacher, and not schools and books.

The school should help the child\_\_\_

- 19. To trust his own judgment.
- 20. To think for himself.
- 21. To achieve as much as he can.
- 22. To strive to excel.
- 23. To learn the value of success.
- 24. To have confidence in his own abilities.
- 25. To be original.
- 26. To have respect for the opinions of authorities.
- 27. Always to try to win or be best.

A teacher should\_\_\_

- 28. Let the children decide many classroom matters by majority decision.
- 29. Be a personal friend to the students.
- 30. Allow children great initiative.
- 31. Not become emotionally involved with the children.
- 32. Make sure that all children are kept busy with planned activities at all times.
- 33. Express his feelings openly to children.
- 34. Encourage children to make suggestions for new ways of conducting classes.
- 35. Express affection toward the children.
- 36. Always give complete directions.
- 37. Not become personal with the children.



- \_\_\_ 38. Always be in charge of the children's activities.
- \_\_\_ 39. Encourage children to confide their problems in him.
- \_\_\_ 40. Plan all lessons.
- \_\_\_ 41. Always act warm and friendly to the children, even those he dislikes.
- \_\_\_ 42. Exercise firm discipline at all times.
- \_\_\_ 43. Get to know the children outside school.
- \_\_\_ 44. Let children try their own way even if they make mistakes.
- \_\_\_ 45. Not express personal feelings to the children.
- \_\_\_ 46. Stay out of community activities.
- \_\_\_ 47. Never give the appearance of nonconformity.
- \_\_\_ 48. Participate in community functions.
- \_\_\_ 49. Make sure his political activities are acceptable to the majority of the community.
- \_\_\_ 50. Be active in PTA (or parents' club).
- \_\_\_ 51. Be careful not to antagonize the important people in the community.
- \_\_\_ 52. Stick to teaching and not get involved in local affairs.
- \_\_\_ 53. Live his life any way he wishes once away from school.
- \_\_\_ 54. Be active in community affairs.
- \_\_\_ 55. Conform to the dominant values in the community.
- \_\_\_ 56. Not be too friendly with people in the community.
- \_\_\_ 57. Not drink or swear in public.
- \_\_\_ 58. Not share his personal life with members of the community.
- \_\_\_ 59. Make sure his personal life is beyond reproach.
- \_\_\_ 60. Choose some of his closest friends from the local community.
- \_\_\_ 61. Be a nonconformist if he feels like it.
- \_\_\_ 62. Live his personal life as he chooses.

A school administrator should \_\_\_\_\_

- \_\_\_ 63. Ask for the opinion of teachers on important administrative matters.
- \_\_\_ 64. Ignore a teacher's outside activities when considering retention of the teacher.
- \_\_\_ 65. Express the affection he feels for teachers.
- \_\_\_ 66. Take account of all teachers' points of view on administrative matters.
- \_\_\_ 67. Allow a teacher to teach anything the teacher believes to be true, no matter how unpopular.
- \_\_\_ 68. Encourage a teacher to confide in him.
- \_\_\_ 69. Have teacher representation on all administrative committees.
- \_\_\_ 70. Allow the teacher the greatest freedom to teach the method or content he thinks best, no matter how controversial or unpopular.
- \_\_\_ 71. Encourage close and informal relations with teachers.
- \_\_\_ 72. Regularly consult teachers on policy matters.
- \_\_\_ 73. Require an adequate answer from any teacher against whom a serious charge has been made, whether or not it is substantiated.
- \_\_\_ 74. Not express his feelings openly to teachers.
- \_\_\_ 75. Handle most administrative matters without consulting teachers.
- \_\_\_ 76. Fire a teacher whose morality is questionable, even if it doesn't affect his classroom behavior.
- \_\_\_ 77. Be personal friends with teachers.
- \_\_\_ 78. Work relatively independently of teachers.
- \_\_\_ 79. Fire a teacher who teaches controversial ideas.
- \_\_\_ 80. Not become personal friends with teachers.
- \_\_\_ 81. Try to keep his decisions unbiased by teacher opinion.
- \_\_\_ 82. Control the outside activities of a teacher who does not adhere to the values of the community.
- \_\_\_ 83. Not become personally involved with teachers.

- \_\_\_ 84. Keep administrative matters separate from teaching.
- \_\_\_ 85. Retain complete authority over the activities of the teacher.
- \_\_\_ 86. Always behave impersonally toward teachers, even if he feels affectionate toward some of them.
- \_\_\_ 87. Make his decisions and then ask the teachers for their opinion.
- \_\_\_ 88. Fire a teacher for any reason he feels is sufficient
- \_\_\_ 89. Be friendly but impersonal with teachers.
- \_\_\_ 90. Have community representation on major school committees.
- \_\_\_ 91. Follow the wishes of the community with regard to school programs.
- \_\_\_ 92. Take an active part in community affairs.
- \_\_\_ 93. Consider the opinion of the community, but make his own final decisions.
- \_\_\_ 94. Invite the community often to see the school program.
- \_\_\_ 95. Seek the advice of the community but decide school problems for himself.
- \_\_\_ 96. Include the community in school activities.
- \_\_\_ 97. Accept invitations to visit parents.
- \_\_\_ 98. Determine the school program by himself and consider community opinion only if it is volunteered.
- \_\_\_ 99. Get to know community people personally.
- \_\_\_ 100. Be sure the school program is acceptable to the community.
- \_\_\_ 101. Become friendly with people in the community.
- \_\_\_ 102. Never go ahead with an activity he suspects the community opposes.
- \_\_\_ 103. Choose some close friends from the community.
- \_\_\_ 104. Never do anything that a sizeable or important segment of the community is against.

People in the community should \_\_\_

- \_\_\_ 105. Seek out teacher participation in local activities.
- \_\_\_ 106. Invite teachers to their homes.
- \_\_\_ 107. Watch the administrators carefully and demand removal if dissatisfied.
- \_\_\_ 108. Invite teachers to participate in community affairs.
- \_\_\_ 109. Consider teachers as possible close friends.
- \_\_\_ 110. Take responsibility for the operation of the schools by granting or withholding money requested.
- \_\_\_ 111. Discourage teachers from participating in community affairs.
- \_\_\_ 112. Invite school administrators to local organizations.
- \_\_\_ 113. Keep a proper distance from school administrators.
- \_\_\_ 114. Encourage teachers to stick to teaching and not get involved in civic activities.
- \_\_\_ 115. Invite school administrators to join civic committees.
- \_\_\_ 116. Invite administrators to their homes.
- \_\_\_ 117. Not be too personal with teachers.
- \_\_\_ 118. Find out what's happening in the schools.
- \_\_\_ 119. Try to get to know the administrators personally.
- \_\_\_ 120. Be free to confide their problems to teachers.
- \_\_\_ 121. Take an active interest in school activities.
- \_\_\_ 122. Not get too personal with the administrators.
- \_\_\_ 123. Keep a proper social distance from teachers.
- \_\_\_ 124. Include school administrators in community functions.
- \_\_\_ 125. Be friendly to administrators but not too personally close.
- \_\_\_ 126. Try to get to know teachers personally.

APPENDIX E

Parent School Communications Questionnaire

Letter of Permission

50 item Questionnaire

25 item Questionnaire

Used with Permission of the Author

LENOIR RHYNE COLLEGE  
HICKORY, NORTH CAROLINA 28601

March 4, 1975

Mr. John Steffens  
512 S. W. 67th Street  
Oklahoma City, Ok. 73134

Dear Mr. Steffens:

Thank you for your inquiry regarding the P. S. C. Q.

Since its introduction in 1972, further factor analysis has pared down the number of questions and variables to create a more managable instrument.

I've enclosed a copy of the revised P. S. C. Q. along with the original paper describing the instrument.

You have my permission to use the P. S. C. Q. in your research. I would appreciate a copy of your proposal and also your results when the study has been completed.

Please feel free to contact me, as I realize that the enclosed information may be a bit sketchy.

Sincerely yours;



William K. Wiener, Ph. D.  
Assistant Professor of Education

Enc: 3

## COMMUNICATION QUESTIONNAIRE

TO THE PARENT: Thank you for taking time to respond to this questionnaire. We sincerely hope that both you and your school will profit as a result of the information.

Please rate each statement, SA-Strongly Agree, A-Agree, U-Undecided, D-Disagree, on the basis of what you know or feel to be the case at your child's school, whether or not you have had any direct experience with a particular situation.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
SA	A	U	D	SD	1. If my youngster is having a problem in school, the best way to contact the teacher is in writing rather than by phone.
SA	A	U	D	SD	2. Before talking with a teacher I feel that I must first contact the principal.
SA	A	U	D	SD	3. It is difficult to get in touch with a teacher on the phone.
SA	A	U	D	SD	4. It is difficult to get in touch with the principal on the phone.
SA	A	U	D	SD	5. In order for me to see my youngster's teacher, I need only stop in at the school office without prior contact and ask.
SA	A	U	D	SD	6. In order for me to see the principal, I need only stop in at the school office without prior contact and ask.
SA	A	U	D	SD	7. The school secretary will forward my message to the principal or the teacher.
SA	A	U	D	SD	8. My youngster's teacher contacts me personally when something goes wrong with his work.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
SA	A	U	D	SD	10. The principal takes initiative in contacting parents about school matters.
SA	A	U	D	SD	11. The principal encourages parents to contact teachers about their children's school activities.
SA	A	U	D	SD	12. Teachers resist attending parent-teacher functions
SA	A	U	D	SD	13. Teachers cooperate willingly with the parent group in discussing school issues.
SA	A	U	D	SD	14. Parent nights at school are events which I feel are useful and instructive.
SA	A	U	D	SD	15. Parents have a standing invitation to visit their youngster's classes with a few days notice.
SA	A	U	D	SD	16. After I have met with my youngster's teacher concerning a problem, the teacher contacts me with the following information about the situation.
SA	A	U	D	SD	17. Ample notice is given by the school to inform me about parent organizational functions.
SA	A	U	D	SD	18. Most communications from the school are impersonal in tone.
SA	A	U	D	SD	19. Teachers see parents as a nuisance.
SA	A	U	D	SD	20. Teachers seem threatened by parents who ask questions.
SA	A	U	D	SD	21. Teachers are friendly and warm in their communications with parents.
SA	A	U	D	SD	22. When I walk into my youngster's classroom, I feel uncomfortable.
SA	A	U	D	SD	23. When I walk into the school I sense a friendly, warm atmosphere.
SA	A	U	D	SD	24. Teachers in the school like parents to contact them about about their child.



Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
SA	A	U	D	SD	25. Teachers do not think highly of the parent organization of the school.
SA	A	U	D	SD	26. The atmosphere at parent-teacher gatherings is strained and tense.
SA	A	U	D	SD	27. Teachers in the school are willing to listen to negative things I have to say about what is going on in school.
SA	A	U	D	SD	28. The principal is a limiting force on parent organization activities.
SA	A	U	D	SD	29. The principal actively supports the parent organization.
SA	A	U	D	SD	30. I like to talk about my youngster's work with his teacher.
SA	A	U	D	SD	31. My youngster likes me to see his teacher on his behalf.
SA	A	U	D	SD	32. The principal sees parents as being a nuisance.
SA	A	U	D	SD	33. When I get a notice from a teacher that he wants to see me about my youngster, I feel tense.
SA	A	U	D	SD	34. When I talk with my youngster's teacher, I feel he is holding back information I would like to have.
SA	A	U	D	SD	35. When I talk to the principal, I feel that he is evasive.
SA	A	U	D	SD	36. I have no hesitancy at all about contacting a teacher about my youngster's work in school.
SA	A	U	D	SD	37. The principal is willing to listen to negative things I have to say about what's going on in the school.
SA	A	U	D	SD	38. If I complain to a teacher about my youngster's negative reaction to his teaching, I am afraid that the teacher will act negatively toward my youngster.

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree		
SA	A	U	D	SD	39.	The principal sees parents as a source to help him.
AS	A	U	D	SD	40.	I feel free to stop and chat with teachers in the school.
SA	A	U	D	SD	41.	The school secretary is helpful to me when I visit the school.
SA	A	U	D	SD	42.	Parent groups have no real influence on the school.
SA	A	U	D	SD	43.	I feel that when I talk with the principal I make an impact on him.
SA	A	U	D	SD	44.	I feel that when I talk with my youngster's teacher it makes an impression on him.
SA	A	U	D	SD	45.	I trust the principal to communicate parental concerns to the teachers.
SA	A	U	D	SD	46.	The principal only responds to pressure from a group of parents, not individuals.
SA	A	U	D	SD	47.	Teachers seem to pay attention to parents.
SA	A	U	D	SD	48.	The principal pays attention to parents.
SA	A	U	D	SD	49.	The principal actively uses the parent organization to help in solving school problems.
SA	A	U	D	SD	50.	I am made to feel that I as a parent, and not the school, must make all the changes to solve a problem.

DIRECTIONS: Please place yourself in the role of a parent in your school system as you complete this survey.

PARENT - SCHOOL COMMUNICATIONS QUESTIONNAIRE

Please respond to each of the items below by placing in the proper blank at the left of each item one of the following numbers:

- 1- This is true always
- 2- This is true most of the time
- 3- This is true sometimes
- 4- This is true infrequently
- 5- This is never true

Your response should be on the basis of what you feel is the case at your youngster's school, whether or not you have had direct personal experience with the situation.

FACTOR I  
TEACHER-PARENT INTERACTION

- \_\_\_1. Teachers see parents as a nuisance.
- \_\_\_2. Teachers seem threatened by parents who ask questions.
- \_\_\_3. Teachers are friendly and warm in their communication with parents.
- \_\_\_4. When I talk with my youngster's teacher, I feel he is holding back information I would like to have.
- \_\_\_5. If I complain to a teacher about my youngster's negative reaction to his teaching, I am afraid that the teacher will act negatively toward my youngster.
- \_\_\_6. Teachers seem to pay attention to parents.
- \_\_\_7. After I have met with my youngster's teacher concerning a problem, the teacher contacts me with follow-up information about the situation.
- \_\_\_8. Teachers in the school like parents to contact them about their child.

- 1- This is true always
- 2- This is true most of the time
- 3- This is true sometimes
- 4- This is true infrequently
- 5- This is never true

FACTOR II  
PARENT-PRINCIPAL INTERACTION

- \_\_\_1. The principal takes the initiative in contacting parents about school matter.
- \_\_\_2. The principal actively supports the parent organization.
- \_\_\_3. The principal is willing to listen to negative things I have to say about what's going on in the school.
- \_\_\_4. The principal sees parents as a source of help to him.
- \_\_\_5. I trust the principal to communicate parental concern to the teachers.
- \_\_\_6. The principal only responds to pressure from a group of parents, not to an individual.
- \_\_\_7. The principal encourages parents to contact teachers about their children's school activities.
- \_\_\_8. The principal always pays attention to parents.

- 1- This is true always
- 2- This is true most of the time
- 3- This is true sometimes
- 4- This is true infrequently
- 5- This is never true

FACTOR III  
ACCESSABILITY

- \_\_\_ 1. In order for me to see my youngster's teacher, I need only stop in at the office without prior contact and ask.
- \_\_\_ 2. In order for me to see the principal, I need only stop in at the office without prior contact and ask.
- \_\_\_ 3. Most communications from the school are impersonal in tone.
- \_\_\_ 4. If my youngster is having a problem in school the best way to contact the teacher is in writing rather than by phone.
- \_\_\_ 5. It is difficult to get in touch with a teacher on the phone.
- \_\_\_ 6. My youngster's teacher contacts me personally when his work has been progressing particularly well.
- \_\_\_ 7. I feel that when I talk with my youngster's teacher it makes an impact on him.
- \_\_\_ 8. I have no hesitancy at all about contacting a teacher about my youngster's work in school.
- \_\_\_ 9. I feel free to stop and chat with teachers in the school.

## BIBLIOGRAPHY

- Anderson, J. G. and Johnson, W. H. "Stability and Change Among Three Generations of Mexican-Americans: Factors Affecting Achievement," American Educational Research Journal, 1971, 1.
- Argyris, C. "The Individual and Organization: Some Problems of Mutual Adjustment." Administrative Science Quarterly, II (June, 1957).
- Argyris, C. Personality and Organization. New York: Harper Brothers, 1960.
- Barnard, C. I. The Functions of the Executive. Cambridge, Mass.: Harvard University Press, 1938.
- Bass, B. M. Leadership, Psychology and Organizational Behavior. New York: Harper and Brothers, 1960.
- Blau, P. M. and Scott, W. R. Formal Organizations. San Francisco: Chandler Publishing Co., 1962.
- Blau, P. M. "Structural Effects." American Sociological Review. Vol. 25, No. 2 (April, 1960).
- Bowers, D. G. and Seashore, S. E. "Predicting Organizational Effectiveness with a Four-Factor Theory of Leadership." Administrative Science Quarterly, XI, No. 2 (September, 1966).
- Cartwright, D. and Zander, A. Group Dynamics: Research and Theory. Evanston, Ill.: Row, Peterson & Company, 1960.
- Carlson, R. O. "Environmental Constraints and Organizational Consequences: The Public School and Its Clients." In D. E. Griffiths, ed. Behavioral Science and Educational Administration. Chicago: University of Chicago Press, 1964.
- Cooley, W. W. and Lohnes, P. R. Multivariate Data Analysis. New York: John Wiley & Sons, 1971.
- Culbertson, J. A. "The Preparation of Administrators." Behavioral Science and Educational Administration.
- Dill, W. R., "Environment as an Influence on Managerial Autonomy." Administrative Science Quarterly, II, 1958.

- Duncan, R. B. Multiple Decision-Making Structure in Adapting to Environmental Uncertainty: The Impact on Organizational Effectiveness. Working Paper No. 54-71.
- Freud, S. "Libidinal Types." in Collection Papers Vol. 5, London: Hagarth, 1950.
- Fromm, E. Man for Himself. New York: Holt, Rinehart and Winston, Inc., 1947.
- Getzels, J. W. "Administration as a Social Process" in A. W. Halpin, ed., Administrative Theory in Education. New York: MacMillan Co., 1967.
- Getzels, J. W. "Conflict and Role Behavior in the Educational Setting." in W. W. Charters and N. L. Gage Readings in the Social Psychology of Education. Boston: Allyn and Bacon, Inc., 1963.
- Getzels, J. W. and Guba, E. G. "Social Behavior and the Administrative Process." School Review, LXV (Winter, 1957).
- Gouldner, A. W. "Cosmopolitans and Locals: Toward an Analysis of Latent Social Roles." Administrative Science Quarterly. Vol. II, Nos. 3 & 4, (December, 1957 and March, 1968).
- Gross, B. M. "The Scientific Approach to Administration." Behavioral Science and Education Administration. Sixty-Third Yearbook of the National Society for the Study of Education, Part II. Chicago: University of Chicago Press, 1964.
- Guba, E. G. and Bidwell, C. E. Administrative Relationships. Monograph No. 4, Chicago: Midwest Administration Center, University of Chicago.
- Hackbert, P. "School Boundary Permeability: A Study of Parent Characteristics." Unpublished doctoral dissertation, University of Oklahoma, 1976.
- Halpin, A. W. Theory and Research in Administration. New York: The MacMillan Company, 1966.
- Hays, W. L. Statistics for Psychologists. New York: Holt, Rinehart & Winston, 1963.
- Hickson, D. F. "A Convergence in Organization Theory." Administrative Science Quarterly, XI, No. 2 (September, 1966).
- Hills, R. J. Toward a Science of Organization. Eugene: University of Oregon Press, 1968.

- Hills, R. J. "The Representative Function: Neglected Dimension of Leadership Behavior" Administrative Science Quarterly, Vol. VIII, June, 1963.
- Homans, G. C. The Human Group. New York: Harcourt Brace, 1950.
- Horney, K. Our Inner Conflicts. New York: W. W. Norton and Co., 1945.
- Kahn, R. L. and Katz, D. "Leadership Practices in Relation to Productivity and Morals." Group Dynamics: Research and Theory. Evanston, Ill.: Row, Peterson & Co., 1960.
- Katz, D. and Kahn, R. L. The Social Psychology of Organizations. New York: John Wiley and Sons, 1966.
- Kefalas, A. Scanning the External Business Environment: A Systems Viewpoint. Paper presented at the Fourteenth Annual Midwest Academy of Management Conference, Cleveland, Ohio, 1971.
- Kohn, M. L. "Social Class and Parental Values." American Journal of Sociology, 64, 1959.
- Learned, E. P. and Sproat, A. T. Organization Theory and Policy. Homewood, Illinois: Richard D. Irwin, Inc., 1966.
- Likert, R. New Patterns of Management. New York: McGraw-Hill Book Co. Inc., 1964.
- Likert, R. The Human Organization: Its Management and Value. New York: McGraw-Hill, 1967.
- Lewin, K. Field Theory in Social Science. New York: Harpers, 1951.
- Livingston, A. ed. The Mind and Society. New York: Harcourt Brace, 1935.
- Lonsdale, R. C. "Maintaining the Organization in Dynamic Equilibrium." Behavioral Science and Educational Administration. Sixty-third Yearbook of the National Society for the Study of Education, Part II. Chicago: University of Chicago Press, 1964.
- Maslow, A. H. Motivation and Personality. New York: Harper & Row, 1954.
- McGregor, D. The Human Side of Enterprise. New York: McGraw-Hill Book Company, Inc., 1960.



- McGuigan, F. J. Experimental Psychology: A Methodological Approach. Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1965.
- Merton, R. K. Social Theory and Social Structure. Glencoe: The Free Press, 1949.
- Negandi, A. R. and Reinann, B. C. "Task Environment, Decentralization and Organizational Effectiveness." Human Relations. 26, 1972.
- Osborn, R. N. Organizational Effectiveness: A Model and a Test. Unpublished doctoral dissertation, Kent State University, 1971.
- Parsons, T. Structure and Process in Political Systems. Glencoe: The Free Press, 1960.
- Parsons, T. The Social System. Glencoe: The Free Press, 1951.
- Parsons, T. and Shils, E. A. Toward a General Theory of Action. Cambridge: Harvard University Press, 1951.
- Rokeach, M. and Parker, S. "Values as Social Indicators of Poverty and Race Relations in America," The Journal of the American Academy of Political and Social Science. 1970, 338.
- Savage, W. W. Interpersonal and Group Relations in Educational Administration. Glenview, Illinois: Scott, Foresman and Co., 1968.
- Schutz, W. C. Firo: A Three-Dimensional Theory of Personal Behavior. New York: Holt, Rinehart and Winston, 1958.
- Schutz, W. C. Val-Ed. Palo-Alto, California: Consulting Psychologists Press, Inc., 1967.
- Simon, H. A. Administrative Behavior. New York: The Free Press, 1965.
- Simpson, R. and Gulley, W. "Environmental Pressures and Organizational Characteristics." American Sociological Review. 27, 1962.
- Wiener, W. K. and Blumberg, A. "The Parent School Communications Questionnaire: A Measure of School Boundary Permeability." (Paper presented at the 1973 convention of the American Educational Research Association, New Orleans, Louisiana.)
- Young, S. Management: A Systems Analysis. Glenview, Illinois: Scott, Foresman and Co., 1966.