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THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

# THE RELATIONSHIP BETWEEN ADMINISTRATIVE SYSTEMS AND INTERPERSONAL NEEDS OF TEACHERS

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# THE RELATIONSHIP BETWEEN ADMINISTRATIVE SYSTEMS AND INTERPERSONAL NEEDS OF TEACHERS

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# THE RELATIONSHIP BETWEEN ADMINISTRATIVE SYSTEMS AND INTERPERSONAL NEEDS OF TEACHERS

## CHAPTER I

## INTRODUCTION

The effort to uncover appropriate administrative principles and practices to mesh the components of a school into an effective organization is a continuing one. Educational administrators remain hard-put in determining the administrative principles and practices which effectively tie the behavioral variables of their organizations into harmonious and productive units.

The present flux in the state of the art tends to increase the difficulty of determining and selecting appropriate administrative principles and practices. In addition, the current mood of teachers to move themselves into the decision-making structure of the school organization presents a situation about which the administrator has little experience and knowledge; therefore, he must adjudge most administrative responses to these needs appropriate a priori or ex post facto.

According to McCleary and Hencley, effective performance by the secondary school administrator requires (1) basic familiarity with the total task of administration in the school setting; and (2) insight into the manner in which the functions of the principalship fit into, mesh with, and complement the total task of administration: primary concern must be directed toward the development of intelligent guidelines to ensure that the available means, resources, and skills of his organization are marshalled toward the achievement of purposes.[1] Moreover, the principal must function as a key decision-maker and as a key link in the activity patterns within the total school configuration.

To function successfully, it is important that the principal understands the nature and state of his organization. The importance of the needs and satisfactions of his teachers cannot be overlooked. Conjunctively, the relationships and alliances which form subsystems within the organization must be recognized and dealt with in an appropriate manner. The subsystems are complexities of human relationships which can be partially identified as:

> (1) the structure of positions which is given formal definition and sanction by the differentiation of function and status; (2) the operative role system which is defined by the different degrees of responsibility, authority, and delegation exhibited

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[1]Lloyd E. McCleary and Stephen P. Hencley, Secondary School Administration: Theoretical Bases of Professional Practice (New York: Dodd, Mead and Company, 1965), pp. 75-93.

> by the occupants of various positions; (3) the formal interaction system which tends to parallel the formal structure of positions but is subject to deviation in response to changing demands for coordination of individual performance and subgroup operations; (4) the norm system of the group and of its subgroups which, through sanction and prescription, defines acceptable conduct for group members; (5) the system of member performance which describes operations of the group and changes in response to variation of the task group; (6) the system of informal interactions which brings together group members on the basis of propinquity, mutual liking, and similarity of interests; and (7) the system of covert interactions, if present, which brings together persons who challenge the legitimacy of the operative role structure and differential sanctions associated with it.[2]

Subsystems within organizations are complex people systems comprised of human and interpersonal relationships, both formal and informal. Since the seminal contributions of Mary Parker Follett[3] and the now classic Hawthorne Studies[4] the pendulum of effort to understand and develop principles of administration based upon knowledge about how these subsystems affect organizations has swung both high and low. Savage reports that current discussion and writing in educational administration continue to stress the development of a theory of administration and the placement of certain elements of it, such as interpersonal, human, and group relations, in proper

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[2]Ibid., p. 101.

[3]Bertram M. Gross, "The Scientific Approach to Administration," 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. 33-72.

[4]Ibid.

perspective.[5]

Human relations continues to be a systematic, developing body of knowledge devoted to explaining the behavior of individuals within the context of the working organization. Its emphasis is upon recognizing and understanding the effect of needs, satisfactions, and motivations of organization members on organizational goal achievement. In the report of the second University of Chicago conference on theory in educational administration, Guba indicated 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 at once organizationally useful as well as individually satisfying. Action which will lead to such behavior on the part of personnel is the highest expression of the administrator's art.[6]

Getzels postulates that an organization or school may be viewed analytically in terms of two dimensions, the sociological and psychological. The psychological dimension of an organization is always interpersonal in nature; that is, individuals are involved. In

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[5]William W. Savage, Interpersonal and Group Relations in Educational Administration (Glenview, Illinois: Scott, Foresman and Company, 1968), pp. 22-23.

[6]Richard C. Lonsdale, "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.

order to understand and predict organizational behavior, the need-dispositions of organization members must be taken into account.[7]

Some researchers and writers in the field of administration view human relations as the sine qua non dimension of administration. Likert insists 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, i.e., as a highly effective interaction-influence system. High morale, high quality educational efforts and the successful use of research and development are not accomplished by impersonal equipment and computers. These goals are achieved by human beings. Successful organizations are those making the best use of competent personnel to perform well and efficiently all the tasks required to accomplish the aims and objectives for which they, organizations, exist.[8]

Argyris postulates that the organization will tend to develop unintended consequences when there is lack of congruency between individual needs and organizational demands. And at the same time, unintended consequences will tend to occur if the individual does not desire to experience presumed psychological success and the organization

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[7]Ibid.

[8]Rensis Likert, The Human Organization: Its Management and Value (New York: McGraw-Hill Book Company, 1967), p. 134.

requires him to do so.[9]

The secondary school principal has the primary responsibility for molding the school organization for which he is responsible into a functional unit; therefore, an understanding of the interpersonal needs of subordinate-colleagues as well as the ability to determine and utilize an appropriate set of administrative principles and practices to achieve educational goals are of paramount importance to him. Argyris describes this as administrative competence. He suggests that it is the ability of the organization to achieve its objectives, maintain itself internally, and adapt to its external environment. This ability stems from leadership, effectiveness of interpersonal relationships, formal organizational structure, administrative controls, policies and practices, and the quality of the interaction of people of all levels of the organization.[10]

Within the context of human relations, Likert introduces the principle of "supportive relationships" which administrators of organizations can use to guide the quality of relationships which are established within them. He postulates that the extent to which this principle is used will determine the extent to which (1) the motivational

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[9]Chris Argyris, Integrating the Individual and the Organization (New York: John Wiley and Sons, Inc., 1964), p. 67.

[10]Chris Argyris, Interpersonal Competence and Organizational Effectiveness (Homewood, Illinois: The Dorsey Press, 1962), p. 15.

forces arising from the non-economic motives of members and from their economic needs will be harmonious and compatible and (2) the motivational forces within each individual will result in cooperative behavior focused on achieving organizational goals.[11] The principle is stated as follows:

> The leadership and other processes of the organization must be such as to ensure a maximum probability that in all interactions and in all relationships within the organization, each member, in light of his background, values, desires, and expectations, will view the experience as supportive and one which builds and maintains his sense of personal worth and importance.[12]

Likert developed an instrument to measure the extent to which the principle of supportive relationships is operative in organizations. He used the instrument to study the organizational and performance characteristics of different management systems based on a comparative analysis. Using a systems approach and based upon a continuum that moves from "Exploitive Authoritative" to "Benevolent Authoritative" to "Consultative" to "Participative Group," the instrument measures the nature and state of the administrative system employed in an organization. The research results from this novel approach to the study of organizational behavior led to conclusions which can be fruitfully investigated in terms of administrative systems and interpersonal needs. The basic conclusion was that as organizations

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[11] Likert, Human Organizations, p. 47.

[12] Ibid.

move toward system-four administration (Participative-Group), production and satisfaction increase; the converse occurs as organizations move toward system-one administration (Exploitive-Authoritative).

## Statement of the Problem

The problem of this study was to determine if differences in administrative systems employed by secondary school principals were significantly related to the interpersonal needs satisfaction reported by teachers. In addition, the variables of sex, age, years of teaching experience, certification level, relative status, years of experience with principal, and subjects taught were analyzed to determine the extent to which they influenced teacher perceptions of administrative systems and interpersonal needs satisfaction. Four sub-problems of this study were:

(1) To develop a profile of schools in terms of administrative systems based upon organizational characteristics arrayed along a twenty-point continuum.

(2) To determine whether schools vary on the administrative systems continuum with significantly different profiles.

(3) To determine whether differences among schools in administrative systems result from the influence of selected organizational variables.

(4) To determine whether differences among schools are a function of certain key concept items.

## Need for the Study

The apparent flux in educational administration and decline in the effort of researchers and writers in the field to develop administrative principles and practices based upon research findings in human relations, coupled with the aggressive behavior of teachers for greater voice in policy determination, suggested that an investigation was needed to determine if there were significant relationships between the phenomena of administrative behavior and teacher needs.

The clamor for professional negotiations is indicative of a growing change in the behavior of teachers toward the patterns of administration that govern their behavior in the school. Secondary school administrators appear to need additional insight and information from which they can develop dynamic principles and practices of administration capable of dealing with changing teacher attitudes and achieving organization objectives.

This writer felt a study designed to reveal the relationship between the administrative systems employed in schools and the interpersonal needs satisfaction of teachers held important implications for administrators as they attempt to determine and employ procedures to achieve the goals of their organizations. It is important that administrators know what administrative relationships they are attempting to establish and maintain; it is even more important that they know and appropriately respond to their subordinate-colleagues' reactions to them.

## Hypotheses Tested

The general hypothesis that there is no statistically significant relationship between the administrative systems employed in schools and the interpersonal needs satisfaction of teachers as indicated by the respondents was tested. The sub-hypotheses regarding selected variables were also tested statistically.

## Limitations of Study

This study was limited to assistant principals, counselors, department heads, and teachers of five selected senior high schools of a large school system in Oklahoma. Clerical and other support staff members of the schools were excluded.

## Definition of Terms

Administrative Systems--The general theory of inter-related principles and practices of administration as developed and presented by Likert. The administrative systems move along a continuum from "Exploitive Authoritative" to "Benevolent Authoritative" to "Consultative" to "Participative Group."[13]

Interpersonal Needs--The three requirements necessary to establish a satisfactory relationship between the individual and his human environment. These needs are delineated by Schutz as the

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[13]Likert, Human Organization.

need for inclusion, control, and affection.[14]

Administrator--An individual with the top status position in the organizational hierarchy and charged with the full-time responsibility of providing leadership for a school or school system.

Assistant Principal--An individual with the full-time responsibility of working second-in-command to the principal over some designated phase of the school organization.

Counselor--An individual with the full-time responsibility of providing pupil-personnel services.

Department Chairman--An individual charged with the responsibility of coordinating the activities and instructional program of an academic and/or pupil-personnel services area of the school organization.

Teacher--An individual whose full-time responsibility is that of teaching within a classroom or some other area.

Relative Status--Any hierarchical position presumed or actual, between principal and teacher, used specifically for assistant principals, department heads, and counselors.

Certification Level--The officially recognized educational qualifications of the individual, i.e., bachelor degree, master degree, beyond master degree.

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[14]William C. Schutz, FIRO: A Three Dimensional Theory of Interpersonal Behavior (New York: Holt, Rinehart and Winston, Inc., 1960.

Principal--The head, governing, or presiding full-time officer of a school.

Human Relations--The interdisciplinary behavioral sciences approach to the development and use of administrative principles and practices.

## Treatment of the Data

Statistical treatment of the data consisted of the application of the Spearman rank correlation coefficient (rho), the chi-square test for K independent samples and the Mann-Whitney U test The Spearman rank correlation treatment, presented by Siegel, was utilized to determine the degree of association between administrative systems employed in schools and the interpersonal needs satisfactions indicated by teachers.[15] The chi-square test for K independent samples, presented by Siegel, was used to determine whether different samples of teacher groups differed in frequency in which they chose certain administrative systems and, therefore, came from different populations.[16] The Mann-Whitney U test, presented by Siegel, was used to determine whether there were significant differences between and among the variables of sex, age, years of teaching experience, certification level, relative status, number of years worked with principal, and

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[15]Sidney Siegel, Nonparametric Statistics (New York: McGraw-Hill Book Company, Inc., 1956), p. 202.

[16]Ibid., p. 175.

subjects taught, regarding teachers' perceptions of administrative systems employed in their schools.[17] In addition, the simplified item analysis, presented by Davis, was used to determine if certain administrative systems scale items influenced the magnitude of the administrative systems scores.[18]

## Organization of the Study

This study is organized and presented in six chapters. Chapter I is a description of the study and includes the introduction, statement of the problem, need for the study, hypotheses tested, limitations and scope of the study, definition of terms, and treatment of the data. Chapter II is a review of research and literature related to the study. A description of the instruments, together with a detailed report of the data collection procedure were presented in Chapter III. The data were presented and analyzed in Chapter IV. Chapter V presented the findings and interpretations. In Chapter VI were presented a summary of the study, the conclusions based upon the findings of the study, and recommendations and suggestions for further research.

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[17] Ibid., p. 116.

[18] Frederick B. Davis, Educational Measurements and Their Interpretations (Belmont, California: Wadsworth Publishing Company, Inc., 1964), p. 281.

# CHAPTER II

## REVIEW OF RESEARCH AND RELATED LITERATURE

The concept of measurable administrative systems is a unique approach to analyzing administrative behavior. A perusal of the literature on administration and employee satisfaction revealed that past attempts to determine relationships between administrative behavior and employee needs and satisfactions have dealt with selected variables without apparently giving adequate attention to the interrelated nature of the total configuration of administrative behavior and employee reaction. Biggs reports that the relationship between certain types of leader behavior and interpersonal needs has not been adequately described in the literature.[1] Most research in this area has been one-dimensional and has not attempted to establish the relationship, if any, between interpersonal needs and types of leader behavior.

The theory and concept of administrative systems were developed and tested in several industrial organizations. The results

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[1]Donald A. Biggs, S. G. Huneryager, and James J. Delaney, "Leadership Behavior: Interpersonal Needs and Effective Supervisory Training," Personnel Psychology, XIX (Autumn, 1966), pp. 311-320.

of these research efforts were, in the main, reported by Likert in his two volumes: New Patterns of Management[2] and The Human Organization: Its Management and Value.[3] Basic to Likert's theory of administration is the concept of human relations. From his own and the research of his colleagues at the Institute for Social Research at the University of Michigan, Likert developed what he calls the "newer theory" of management. The fundamental principle of the "newer theory" is "supportive relationships" which when explicitly stated speaks to the worth and importance of the individual and his potential for contributing to the achievement of organizational goals. This, too, is the primary premise of human relations.

Human relations is the interdisciplinary approach to the understanding of the behavior of people in organizations. In administration, it is a systematic, developing body of knowledge devoted to explaining the behavior of individuals within the context of the work environment. Huneryager and Heckman report that because of the many connotations given the phrase human relations, and especially because of the surging advances of behavioral science knowledge as applied to working organizations, the term is not nearly as popular as

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[2]Rensis Likert, New Patterns of Management (New York: McGraw-Hill Book Company, 1964).

[3]Rensis Likert, The Human Organization: Its Management and Value (New York: McGraw-Hill Book Company, 1967).

it once was. Terms such as "organization theory," "administrative behavior," "interpersonal relations," and "group dynamics" are often used interchangeably with or preferably to human relations, in describing the behavior of individuals and groups at work.[4]

The review of literature as presented in this study was organized into two categories--that related to the development of systematic concepts of human behavior and relationships in organizations, which can be considered the precursors to the thesis of "supportive relationships," and that related to interpersonal needs. The former was presented historically while the latter was presented conceptually. Effort was made to present the findings of research and literature in terms of the degree to which they appeared related to this investigation.

## Research and Literature Related to Human Relations

The pioneer writers in the field of administration developed principles and practices which tended to be fragmentized approaches to dealing with the complexities of formal organizations. Little or no attention was paid to the interrelated nature of the component parts of organizations, especially the human component.

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[4]S. G. Huneryager and I. L. Heckman, Human Relations in Management (New Rochelle, N. Y.: South-Western Publishing Co., 1967), p. 1.

Concern about the kind and quality of human relationships existing in an organization had its genesis in the work of Mayo and his associates done at the Hawthorne Plant of the Western Electric Company. Their findings about the informal organization, informal communication, and the informal work group have been reported extensively and their value judgments and philosophical framework have been the subject of major discussion and debate in administrative literature. From their study emerged evidence of the positive correlation between productivity and employee participation in the making of decisions which affect him and his work. The worker could no longer be viewed solely as a "factor of production," rather he was uncovered as having wants, desires, feelings, and attitudes which vitally affected his organizational usefulness.[5]

According to Gross, Barnard was the first to try to build a rounded theoretical system which recognized the interrelatedness of organizational components including the human elements. He developed and unfolded a theory under the following headings: an organization as a cooperative system, the contribution-satisfaction equilibrium, the multiplicity of satisfactions and incentives, formal and informal organizations, and the functions and pathology of status systems.[6]

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[5] Ibid., pp. 4-5.

[6] Bertram M. Gross, "The Scientific Approach to Admini-

The organizational roles of both the executive and employee were defined and presented 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."[7]

From this view, an organization is not a material object and can only be 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.[8]

Ohm reports that Barnard further defined his concepts in terms of the distinction between effectiveness and efficiency. Effectiveness of cooperation is the ascertainment of the recognized objectives of cooperative action. Efficiency of a cooperative system is its capacity to maintain itself by the individual satisfactions it affords. This delineation of two distinct classes of processes first suggested

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stration," 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), p. 57.

[7] Ibid., p. 58.

[8] Ibid.

the multipurpose nature of an organization.[9]

Gross further states that Simon continued Barnard's line of concept development and refined some of his ideas on equilibrium, decision-making, communication, and authority. He extended the practice of interdisciplinary research toward the solution of organizational problems with major attention directed toward the definition and precise formulation of relationships.[10] Though his work was initially an extension of the human relations concept, Simon has devoted his later efforts toward the development of a "value-free" science of administrative behavior.

According to Blau, the major limitations of Simon's analysis was that his conception of administration as a decision-making structure deals mostly with the effects of the formal blueprint of decision-making and does not adequately deal with the interpersonal processes that are a part of the formal structure. In addition, he fails to consider the various conditions in the organization--the hierarchy, the communication system, training programs--not only influence rational decision-making, but, in addition, each other.[11]

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[9]Robert E. Ohm, "Organizational Goals: A Systems Approach" (Paper presented at the 20th Annual National Conference of Professors of Educational Administration, Indiana University, August 25, 1966), p. 4.

[10]Gross, "The Scientific Approach to Administration," p. 64.

[11]Peter M. Blau and W. Richard Scott, Formal Organizations (San Francisco: Chandler Publishing Co., 1962), p. 38.

Lonsdale traced the efforts of researchers and writers who have significantly contributed to the development and formulation of concepts about human behavior in organizations for the past quarter century.[12] He states that Roethlisberger and Dickson followed Barnard with their efforts which revealed that:

> An industrial organization may be regarded as performing two major functions, that of producing a product and that of creating and distributing satisfactions among the individual members of the organization.[13]

Through his research efforts, Homans related the dimensions of purposes to the concepts of authority and control. He reported that:

> Authority--the acceptance of orders--and control--obedience to the norms of the group--are not different in kind from one another but are two forms of the same process. And the job of a leader is twofold: (a) to attain the purposes of the group; and (b) in so doing maintain a balance of incentives, both reward and punishment, sufficient to induce his followers to obey him.[14]

The relevant variables in Homans' scheme are the activities, interactions, and sentiments that result when management practices and personal factors are combined in organizations. These activities, interactions, and sentiments are the ultimate producers of the behavior which determines organizational productivity, growth, and development of organization members, and their satisfactions and

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[12]Lonsdale, "Maintaining the Organization in Dynamic Equilibrium," pp. 142-177.

[13]Ibid., p. 144.

[14]Ibid., pp. 144-145.

morale.

From the small group approach, Cartwright and Zander compiled research and theory on group dynamics. They claimed that most or perhaps all group objectives fit under the two headings of "goal achievement behavior" and "group maintenance behavior."[15]

The Ohio State University Research Board, through a series of intensive leadership studies, developed a tool which identified two dimensions of leadership behavior, referred to as "initiating structure in interaction" and "consideration."[16] Halpin reports that:

> Initiating structure refers to the leader's behavior in delineating the relationships between himself and members of the work-group, and in endeavoring to establish well-defined patterns of organization, channels of communication, and methods of procedure. Consideration refers to behavior indicative of friendship, mutual trust, respect, and warmth in the relationship between the leader and the members of his staff.[17]

Getzels and Guba formulated the social-process model of behavior which identified two dimensions specified as "nomethic (task achievement)" and "idiographic (needs satisfaction)." They postulated that:

> The unique task of the administrator can now be understood as that of mediating between these two sets of behavior-eliciting forces, that is, the nomethic and the

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[15] Ibid., p. 145. [16] Ibid.

[17] Andrew W. Halpin, Theory and Research in Administration (New York: The Macmillan Company, 1966), p. 39.

> idiographic, so as to produce behavior which is at once organizationally useful as well as individually satisfying. Action which will lead to such behavior on the part of personnel is the highest expression of the administrator's art.[18]

Stogdill developed a theory of organizational achievement which describes "member inputs" as behavior comprising performances, interactions, and expectations which worked through mediating variables of a formal structure (function, status, purpose, and norms) and a role structure (responsibility, authority, and operations) to yield "group outputs" of achievement composed of productivity, morale, and integration. Within this framework, "productivity" is defined as the degree of change in expectancy values resulting from group operations; "morale" is defined as freedom from restraint in action toward a group goal; and "integration" is viewed as the capacity to maintain structure and function under stress.[19]

McGregor asserts that behind every administrative decision or action are assumptions about human nature and human behavior. From this belief he developed two theories of administration widely known as "Theory X" and "Theory Y."[20]

The assumptions behind each of the theories dichotomize

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[18]Lonsdale, "Maintaining the Organization in Dynamic Equilibrium," pp. 145-146.

[19]Ibid., p. 146.

[20]Douglas McGregor, The Human Side of Enterprise (New York: McGraw-Hill Book Company, Inc., 1960), pp. 33-48.

into traditional views and enlightened views about human nature and behavior.

Behind "Theory X" are the assumptions 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 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.

The assumptions behind "Theory Y" are converse to those of "Theory X." They are human relations concepts which indicate 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) under the conditions of modern

industrial life, the intellectual potentialities of the average human being are only partially utilized.

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

Attempting to discover the organizational structure and principles and methods of leadership which result in best organizational performance, Likert formulated the general principle of management referred to as the principle of "supportive relationships."[21]

Likert asserts that primarily two systems of management with different emphases, have developed side by side in our organizations. One 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. This system is designated the "job organization" system.[22]

The other 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. This system is designated as the "cooperative-motivation" system.

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[21] Likert, New Patterns of Management, p. 82.

[22] Ibid., pp. 82-84.

Because the "job organization" system used only economic motives and the "cooperative-motivation" system used only in a limited way ego motives, he developed the principle of "supportive relationships" which attempted to wed the desirable features of each, plus the results of behavioral science research, 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.[23]

The idea of administrative principles and practices being interrelated and tending to form a systematic pattern was also developed through his research. He postulates that the complex but internally consistent pattern of interrelationships among the various parts of any system of management becomes evident when compared with another system, and that all component parts of a system of management must be consistent with each of the other parts and reflect the system's basic philosophy.

Four systems were developed. It was conceded that they do not attempt to cover all aspects of leadership and organizational behavior, nor all characteristics of an organization. They are based on a rough integration of results emerging from qualitative and quantitative

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[23]Likert, Human Organization, p. 47.

research and general observation. In addition, they reflect historical trends as well as patterns observed in different cultures. The four systems are identified as: (1) Exploitive Authoritative; (2) Benevolent Authoritative; (3) Consultative; and (4) Participative Group.[24]

Likert states that system four, "Participative Group," is the most desirable system of management of the four. The basic premise of this assertion was that as organizations move toward system four management the more productive and satisfying they become.

The usability of Likert's administrative systems approach to the study of human behavior in organizations has been documented. Bowers and Seashore in their research on organizational effectiveness concluded that organizational effectiveness can be measured through the application of an integrated set of systematically derived criteria and a treatment of the data which takes into account the multiplicity of relationships.[25]

Hickson reports that impressive evidence has been marshalled by Likert in favor of increasing subordinate participation; that is, reducing the specificity of role prescription by allowing the

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[24]Likert, New Patterns of Management, pp. 222-234.

[25]David G. Bowers and Stanley E. Seashore, "Predicting Organizational Effectiveness With a Four-factor Theory of Leadership," Administrative Science Quarterly, XI, No. 2 (September, 1966), pp. 238-263.

employees more control of the details of their own tasks.[26]

The administrator's view of human nature does tend to influence his administrative behavior, states Learned and Sproat. When it does so in a thorough-going manner, the resulting organization will exhibit a characteristic pattern--a set or syndrome of mutually self-consistent arrangements.[27]

Additionally, Young reports that systems are man-created inventions for serving specific human objectives; they are purposeful, deliberate, and rational, and they are also subject to modifications so that their value may be increased. A management system is a normative man-to-man construct whose primary purpose is the production of effective solutions for organizational problems.[28]

Some theorists and practitioners of educational administration have failed to recognize or acknowledge the inherent similarity or sameness of administrative principles and practices regardless of their application to business, industry, government, or schools. They perceive administration as a distinctly divided discipline with little

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[26]D. F. Hickson "A Convergence in Organization Theory," Administrative Science Quarterly, XI, No. 2 (September, 1966), pp. 224-237.

[27]Edmund P. Learned and Audrey T. Sproat, Organization Theory and Policy (Homewood, Illinois: Richard D. Irwin, Inc., 1966), p. 104.

[28]Stanley Young, Management: A Systems Analysis (Glenview, Illinois: Scott, Foresman and Co., 1966), p. 16.

chance of cross fertilization or interchangeability. Illustrative of this thinking was Graff and Street's admonition that educational administration is a distinct profession, and must be characterized in ways not common to other types of administration. They assert that educational administration requires a distinctive value framework.[29]

Some evidence indicates that the value framework referred to earlier was not necessarily distinctive to school organizations. Bennis relates that a system of values rubricized as "democracy" is rapidly being recognized as a needed dimension of organizational behavior in most organizations. The research of social scientists has played an important role in this movement toward humanizing and democratizing large-scale bureaucracies.[30]

Democracy is a rapidly emerging concept in these organizations. It is defined as a system of values--a "climate of beliefs" governing behavior--which people are internally compelled to affirm by deeds and words. This system of values includes: (1) full and free communication, regardless of rank and power; (2) a reliance on consensus, rather than on the more customary forms of coercion or compromise, to manage conflict; (3) the idea that influence is based on

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[29]Orin B. Graff and Calvin M. Street, "Developing a Value Framework for Educational Administration," in Administrative Behavior in Education, eds. Ronald F. Campbell and Russell T. Gregg (New York: Harper and Brothers Publishers, 1957), pp. 120-121.

[30]Warren G. Bennis, Changing Organizations (New York: McGraw-Hill Book Company, 1966), pp. 18-19.

technical competence and knowledge rather than the vagaries of personal whims or prerogatives of power; (4) an atmosphere that permits and even encourages emotional expression as well as task-oriented acts; and (5) a basically human bias, one which accepts the inevitability of conflict between the organization and the individual but which is willing to cope with and mediate this conflict on rational grounds.

Instructive also is Halpin's report that according to Litchfield there is an intrinsic interrelatedness of research efforts in administration.[31]

## Research and Literature Related to Interpersonal Needs

A great deal of effort has been put forth by researchers and writers in the field of administration to understand the affect of need structure on the behavior of individuals who function in hierarchical organizations. Biggs suggests that two alternative approaches, one emphasizing the view of the leader as a satisfier of a group's essential interpersonal needs and the other which emphasizes various elements of effective leader behavior in different situations, seem to offer promise.[32]

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[31]Andrew W. Halpin, Theory and Research in Administration (New York: The Macmillan Co., 1966), pp. 26-27.

[32]Biggs, et. al., "Leadership Behavior: Interpersonal Needs and Effective Supervisory Training," pp. 311-320.

In the effort to develop an understanding of the relationship between needs and satisfaction, Applewhite reports that needs basically exist in the form of expectations, since a person attaches some expectation to satisfying his needs. Needs are the key to understanding satisfaction; thus it becomes necessary to state what the more important needs are and what criteria they follow. The six criteria which a list of important needs should conform to are:

> (1) a rather permanent and stable part of the personality structure so that a basic set of needs once determined will suffice for further studies; (2) relatively important in the determination of adjustment, they should be over-all related to personality adjustments to industrial life; (3) present in many people in order to approach the problem on a more nearly universal basis; (4) conceivably satisfied in a work environment so that they relate to job satisfaction rather than to satisfaction primarily outside the job; (5) definable and unique, ready to be used operationally with little overlap between needs; and (6) amenable to measurement by a paper and pencil questionnaire.[33]

Savage indicates that even more important than the identification and classification of needs is an understanding of some of their important characteristics. He indicates that (1) every person, including administrators, has the same basic needs; (2) 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; (3) all of a person is involved when a need affects his behavior; (4) a person may not be aware of the impact

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[33]Phillip B. Applewhite, Organizational Behavior (Englewood Cliffs, N.J.: Prentice Hall, Inc., 1965), pp. 14-15.

of his needs or his actions; (5) the fulfillment of more than one need is involved in a person's actions at any given point in time; (6) much of a person's activity is directed toward acquisition of the means to fulfill needs; and (7) all of a person's needs are never fully met. Some needs are recurring and the fulfillment of others may never be achieved.[34]

## Literature Related to the Identification and Classification of Needs

Several investigators have identified, defined, and classified human and interpersonal needs in terms of the criteria developed by Applewhite. Of particular import are the classificatory schemes formulated and presented by Schutz, Argyris, and Maslow. Basic to this study is the theory of interpersonal needs as developed and presented by Schutz; consequently, the review of literature on needs concepts follows from his premises.

Schutz formulated a theory of interpersonal behavior which postulates that each individual has three interpersonal needs. According to the theory:

> 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

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[34]William W. Savage, Interpersonal and Group Relations in Educational Administration (Glenview, Illinois: Scott, Foresman and Company, 1968), pp. 35-38.

> differs from the behavior of the individual when he is not in the presence of other persons.[35]

A "need" is defined in terms of a situation or condition of an individual, the nonrealization of which leads to undesirable consequences. An interpersonal need is one that may be satisfied only through the attainment of a satisfactory relation with other people. A discrepancy between the satisfaction of an interpersonal need and the present state of an individual engenders a feeling in the individual that shall be called anxiety. An interpersonal need is a requirement to establish a satisfactory relation between the individual and his human environment.[36]

The three interpersonal needs of humans as delineated by the theory are (a) the interpersonal need of inclusion, (b) the interpersonal need of control, and (c) the interpersonal need of affection.

The interpersonal need of inclusion is defined behaviorally as the need to establish and maintain a satisfactory relation with people with respect to interaction and association. On the level of feelings, the need for inclusion is defined as the need to establish and maintain a feeling of mutual interest with other people. This feeling 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.

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[35]Schutz, FIRO: A Three Dimensional Theory of Interpersonal Behavior, p. 14.

[36]Ibid., pp. 15-16.

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

The interpersonal needs of humans require that they establish a kind of equilibrium in the three aforementioned areas between the self and other people. In order to be anxiety-free, a person must find a comfortable behavioral relation with others with regard to the

exchange of interaction, power, and love.

Schutz further asserts that

> . . . interpersonal behavior will be affected by situational factors to the extent that those factors impinge on the expression of the interpersonal behavior. In other words, the important characteristic of situational factors is the extent to which they require, encourage, or reward certain types of interpersonal behavior, and prohibit, discourage, or punish other types of interpersonal behavior.
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> . . . . . .
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> The effect of these factors--such as time pressure, size of group, communication patterns, leadership structure--on interpersonal behavior may be understood and predicted by assessing their effect on the opportunity for satisfying the three interpersonal needs.[37]

Each need delineated by the theory has two dimensions. The basic statement of the content of the two aspects of each need area can be schematized as in Table 1.

TABLE 1

SCHEMA OF INTERPERSONAL BEHAVIOR

| Dimension | Expressed Behavior | Wanted Behavior |
|---|---|---|
| Inclusion | I initiate interation with people. | I want to be included. |
| Control | I control people. | I want people to control me. |
| Affection | I act close and personal toward people | I want people to get close and personal with me. |

Source: William C. Schutz, FIRO: A Three Dimensional Theory of Interpersonal Behavior (New York: Holt, Rinehart and Winston, Inc., 1960), p. 14.

[37] Ibid., pp. 153 and 159.

Schutz's three dimensional concept of interpersonal needs had its beginning in the work of personality theorists. Significant to the formulation and development of his theory is the work of Fromm, Freud, and Horney.

Fromm identifies three types of interpersonal needs which are referred to as "interpersonal relatedness." One type, "withdrawal destructiveness," appears to correspond with inclusion behavior.

The other two types, "symbiotic" and "love," appear to correspond with "control" and "affection." The main emphasis of the "symbiotic" need is power relation and freedom. The main emphasis of the "love" need involves close ties and personal relationships.[38]

Three major systems are identified and delineated by Freud. The total personality is perceived as consisting of three major systems identified as erotic, obsessional, and narcissistic. The erotic system reveals a close correspondence to the need for affection; the obsessional system reveals a close correspondence to the need for control; and the narcissistic system reveals a close correspondence to need for inclusion.[39]

Horney indicates that each individual works out a strategy

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[38]Erich Fromm, Man for Himself (New York: Holt, Rinehart and Winston, Inc., 1947), pp. 109-110.

[39]Sigmund Freud, "Libidinal Types," in Collection Papers, Vol. 5 (London: Hogarth, 1950), pp. 247-248.

early in life which in the main follows one of three lines. The lines of the strategies are: moving towards people, which corresponds to the affection area; against people which corresponds to the control area; and from people, which corresponds to the area of inclusion. Though developed early in life, these are lasting behaviors throughout the life span of the individual. One of the behaviors will usually become predominant, but there are always basic manifestations of the other two.[40]

Departing from the three-dimensional concept, Argyris suggests a four-dimensional classification of needs which includes: (1) inner needs and outer needs; (2) conscious and unconscious needs; (3) social needs; and (4) physiological needs.[41]

Inner needs are those which require the individual to maintain adjustment to the self in relation to the world in which it exists, while outer needs are closer to the surface of the personality and tell what the individual does. Failure to meet any one of the four categories of needs results in threat to the self. Failure occurs when the individual attempts to function in a climate in which he is not able to define his own goals in relation to his needs.

Adding yet another dimension to the classification, Maslow formulated a theory of motivation predicated upon a hierarchy of needs

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[40]Karen Horney, Our Inner Conflicts (New York: W. W. Norton and Company, 1945), pp. 40-43.

[41]Chris Argyris, Personality and Organization (New York: Harper and Brothers, 1957), pp. 33-41.

including five categories. The needs hierarchy includes from lowest to highest: (1) physiological needs; (2) safety needs; (3) belongingness and love needs; (4) esteem needs; and (5) the need for self-actualization. The highest category, self-actualization, refers to man's desire for self-fulfillment, namely, the tendency for him to become actualized in what he is potentially. This tendency is the desire to become everything that one is capable of becoming. A basic part of the theory is that other and higher needs emerge as soon as lower needs are satisfied, but not until they are satisfied.[42]

## Interpersonal Needs Research

Using a teacher population from a small midwestern university, Estephan investigated the influence of interpersonal needs on teacher preference for leadership, using the FIRO-B scale and the Leadership Style Inventory. The primary purpose of the study was to determine whether the expectations of followers of their leaders are determined by interpersonal needs.[43]

The findings revealed that the teachers in the study were significantly high on control expressed and wanted, and low on affection expressed and wanted. They also showed a significant preference for

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[42]A. H. Maslow, Motivation and Personality (New York: Harper and Row Publishers, 1954), pp. 80-92.

[43]Joseph Ibrahim Estephan, "The Influence of Interpersonal Needs on Teacher Preference for Leadership (unpublished Ph.D. dissertation, University of Oklahoma, 1966), pp. 53-54.

the nomothetic or rule-oriented leadership style. Thus, a seeming relationship between need pattern and leadership style was revealed

Biggs and his colleagues, using a sample of Youth Oppotunity Center supervisors, compared the participants before and after conference scores on the Leadership Opinion Questionnaires (LOQ) and FIRO-B scale to determine if any significant changes occurred in leadership opinion and interpersonal needs. The findings indicated that at the close of the conference, there were significant changes in leader attitudes on LOQ toward becoming more considerate and less task oriented in nature.[44]

## Summary

The administrative systems concept is a novel approach to the study of educational administration. Through research in industrial organizations, the concept was tested and established as an effective way to determine and profile the pattern of administration employed in organizations which have at least a moderate amount of control. System 4 administration (participative-group) was established as the pattern most likely to motivate organization members to maximally contribute their efforts toward the achievement of organizational goals. Because of the value premises inherent in the fundamental principles (supportive relationships) of the system 4 pattern, it can be classed as an extension

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[44] Biggs, et. al., "Leadership Behavior: Interpersonal Needs and Effective Supervisory Training," pp. 311-320.

of the human relations school of thought in administration.

Psychologists, researchers, and writers in the field of administration have recognized the existence and importance of interpersonal needs. Several classificatory schemes have been developed to describe and define these needs in terms of their behavioral significance to the individual. Interpersonal needs are indeed established facts which have to be reckoned with by administrators.

Past efforts to study administration and needs satisfaction have dealt with selected variables without giving adequate attention to the interrelated nature of the total configuration of administrative behavior. For this reason, additional research seeking to reveal relationships between needs and the total configuration seems to be needed.

# CHAPTER III

## DESIGN AND PROCEDURE

### Design of the Study

This study was designed to determine if a relationship existed between administrative systems employed by principals and expressed interpersonal needs satisfaction of teachers. A major consideration in the design of the study was that of determining the data source and manner by which the data were acquired. The difficulty of controlling variables effecting teacher satisfaction was recognized. The questions of the study suggested that the population used for testing the hypotheses be relatively homogeneous; therefore, it was considered necessary to confine the population to teachers on the same teaching level and in schools where there was a clear similarity in organizational structure and function. Such a population, it was believed, would possess a minimum diversity of variables affecting teachers' interpersonal needs satisfaction, with the behavior of the administrator being the dominant one.

All of the teachers of the secondary schools (grades 9-12) in a large school district were tentatively selected as the population.

An examination of the schools revealed the necessity of delimitation because of major discrepancies among them of size, organization, and recent changes; therefore, five of the ten schools were eliminated. Of the five schools eliminated, two were eliminated because of their recent reorganization into secondary schools; one was eliminated because it was a combination junior-senior high school; and the other two were eliminated because of size, one was considerably smaller and one considerably larger than the five which comprised the average range.

The organizational structure and functional variables of the schools chosen for the study were similar. The general characteristics of the selected schools are shown in Table 2.

A second consideration regarding the design of the study was that of determining the sample to be drawn from the population. It became obvious that some of the personnel employed by the schools could not be included in the sample without disrupting the homogeneity sought. Therefore, the population for the study was further delimited to include only assistant principals, counselors, department chairmen and full time teachers. Limiting the population to the groups indicated was also necessary because specific variables were isolated for analysis. The sample included the total population of the above identified groups.

## Procedure of the Study

Approval to conduct the study was sought and gained from the Research Committee, Directors of Research and Secondary Edu-

TABLE 2

GENERAL CHARACTERISTICS OF SCHOOLS SELECTED FOR THE STUDY

| General Characteristics | A | B | C | D | E |
|---|---|---|---|---|---|
| Tenure of Principal (years) | 5 | 3 | 8 | 11 | 10 |
| Number of Assistant Principals | 1 | 2 | 2 | 2 | 2 |
| Number of Teachers in Study Population | 59 | 64 | 74 | 84 | 85 |
| Size of Student Body | 1,631 | 1,456 | 2,012 | 2,200 | 2,250 |
| Accredited by North Central Assoc. | yes | yes | yes | yes | yes |
| Academic Divisions With Dept. Chairman | yes | yes | yes | yes | yes |
| Scheduled Faculty Meetings | every other week | every other week | every other week | every other week | every other week |
| Per Cent of Teachers Holding Membership in The Oklahoma Education Association | 98% | 99% | 100% | 98% | 85% |
| Per Cent of Teachers Holding Membership in The United Federation of Teachers | 0% | 0% | 0% | 0% | .01% |

Source: Interviews with principals of the respective schools.

cation, and the principals of the five schools.

Through individual faculty polls the principals gained agreement of their teachers to participate in the study. In individual conferences with the principals, it was suggested that the appropriate method for distributing and collecting the questionnaire-scales was for the principals to distribute them during a regularly scheduled faculty meeting and request their return within a week. The instructions and content of the questionnaires were carefully reviewed with the principals. Special emphasis was placed upon the need to remind teachers to carefully follow the instructions outlined on each questionnaire.

Questionnaires were delivered to the principals at the agreed-upon time. Attached to each questionnaire was a letter to participants from the writer explaining the nature of the study, eliciting their involvement and requesting candor in answers. (See Appendix A.) The questionnaire requested no information of identification in order that the respondents could remain anonymous. Boxes were left with the principals for the collection of completed questionnaires. It was again agreed that these would be picked up by the writer in one week.

After one week the schools were revisited to pick up the returned questionnaires, answer questions, leave additional questionnaires, if requested, and request that principals remind teachers to return questionnaires if they had not done so. One school had 100 per

cent returns. The principals of the four other schools were contacted and apprised of the returns from their respective schools. A request was again made to appeal to teachers to return the questionnaires and the writer would pick them up in one week.

A second pick-up visit was made to the four schools. After the return count and percentages were tabulated, principals were again apprised of the returns and asked to make another appeal for the return of questionnaires.

Six weeks after delivery and distribution of the questionnaires, principals were contacted and asked to make a final appeal for returns. Final visits were made to the schools to collect questionnaires at the end of the eighth week.

The study population, number responding to the questionnaires and percentages of returns by schools are shown in Table 3.

TABLE 3

NUMBER OF TEACHERS IN STUDY POPULATION, NUMBER OF RETURNS AND PER CENT OF RETURNS

| Population and Returns | Schools | | | | | Total |
|---|---|---|---|---|---|---|
| | A | B | C | D | E | |
| Number in Study Population | 59 | 64 | 72 | 84 | 85 | 364 |
| Number of Returns | 59 | 59 | 53 | 61 | 51 | 283 |
| Per Cent of Returns | 100% | 92% | 74% | 73% | 60% | 78% |

Due to the need to assure anonymity because of the restive state of classroom teachers, it was impossible to build in essential criteria for gathering follow-up data on the characteristics of the non-return group. However, the demographic data on the respondents indicate no major differences in normative characteristics across the five schools.

During the conference with the principals, it was agreed that the identity of schools would not be revealed in the study. A color code was developed and used on the questionnaire to ensure that they were not accidentally mixed. The color code was converted to an alphabetical classification which was used in the study. The schools referred to in the study were identified and referred to as schools A, B, C, D, and E.

## Instrumentation

Using the results of extensive research in organizational administration by himself and his colleagues in the Institute for Social Research at the University of Michigan, Likert developed an instrument which measures, on a continuum that moves from left to right, the organizational and performance characteristics of different management systems.[1] (See Appendix B.)

Likert postulated that there was an interrelationship in the

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[1] Likert, The Human Organization, pp. 197-211.

behavior of the administrator as he attempted to supervise his employees. For example, there is recognizable flow and relationship in the character of the communication, motivation, decision-making, control, etc., efforts of the administrator. Because of this, administrators tend to function in a systemized rather than sporadic manner. Their actions tend to follow a consistent identifiable pattern.

The extent to which this observed pattern stands up when tested reveals extraordinarily high inter-correlation among the items and between each item and the total score of the instrument. Likert reports all the correlation coefficients between an item and the total score on the instrument are greater than +.73. There was also a high correlation (+.97) between the sum of the odd and the sum of the even numbered questions. The corrected split half reliability coefficient (Spearman-Brown) was +.98. When factor analyzed, only one dominant factor emerged with which the total score correlated +100.[2]

Since at the time the data were collected and used to establish reliability of the instrument, value laden headings identified the systems as "Exploitive Authoritative," "Benevolent Authoritative," "Consultative," and "Participative Group," it was felt that these may have influenced the scores and caused the respondents to react to them instead of the content.

In an attempt to determine if spurious factors had influenced

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[2]Ibid., p. 117.

the inter-correlation results, the value headings were removed and replaced with system 1 through system 4 headings and administered to new groups. The results from these groups showed no significant decline in inter-correlations and reliability coefficient scores as reported above. Construct validity of the instrument was assumed.

Approval was sought and gained from Dr. Likert to use the modified version of his instrument.[3] The modified version was designed especially for educational organizations.

The second instrument was a modification of the FIRO-B scale developed by Schutz. FIRO-B is an abbreviation for Fundamental Interpersonal Relations Orientation. The FIRO-B scale was designed to measure interpersonal needs in terms of behavior which could be expressed on a seven-point scale.[4] According to Schutz,

> [t]he 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.[5]

A "need" is defined in terms of a situation or condition of an individual, the non-realization of which leads to undesirable consequences. An interpersonal need is one that may be satisfied only

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[3] Ibid., pp. 197-211. See Appendix A.

[4] Schutz, FIRO: A Three Dimensional Theory.

[5] Ibid., p. 14.

through the attainment of a satisfactory relation with other people. A discrepancy between the satisfaction of an interpersonal need and the present state of an individual engenders a feeling in the individual that shall be called anxiety. An interpersonal need is a requirement to establish a satisfactory relation between the individual and his environment.[6]

The three interpersonal needs of humans as identified by the theory were (a) the interpersonal need of inclusion, (b) the interpersonal need of control, and (c) the interpersonal need of affection.

Since the scales of FIRO-B were all Guttman scales, the appropriate measures of reliability was reproducibility. Reproducibility was a more stringent criterion than internal consistency, since it required not only undimensionality--that all items measure the same dimension--but also that the items occurred in a certain order. The usual criterion for reproducibility is that 90 per cent of all responses are predictable from knowledge of scale scores. The mean reproducibility of the six scales in FIRO-B was .94, with the lowest scale being .93.[7]

The scales had both predictive and construct validity. Predictive validity was established by confirming predictions made from the test with evidence gathered at a subsequent time. Construct validity was established by demonstrating that certain concepts accounted to

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[6]Ibid., pp. 15-16. [7]Ibid., p. 77.

some degree for performance on the test.

The underlying rationale of Interpersonal Relations according to FIRO was satisfactory relationships in the areas of inclusion, control, and affection. It seemed, therefore, that the extrapolation of these concepts into a scale that elicited feelings of satisfaction according to the postulated concepts was a useful way of determining if these needs were being met in a satisfactory manner in a given school organization.

Therefore, using the three basic concepts of FIRO-B--Inclusion, Control, and Affection--the writer developed a scale which measured "wanted behavior" from others and "felt behavior" from others. (See Appendix B.) Scores from this scale reflected the degree of interpersonal needs satisfaction the respondent felt the organization provided through the efforts of his principal. In addition, a personal data form was developed to obtain information regarding sex, age, years of teaching experience, certification level, relative status, number of years with principal, and subjects taught. (See Appendix B.)

## Treatment of the Data

Siegel indicates that because behavioral scientists rarely achieve the sort of measurement which permits the meaningful use of parametric tests, nonparametric tests should more often be used in behavioral science research.[8] The type of data gathered for this study

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[8]Siegel, Nonparametric Statistics, p. 31.

did not meet the assumptions underlying the appropriate use of parametric statistics; it did, however, meet the assumptions of nonparametric statistics. Therefore, three nonparametric statistical tests recommended by Siegel were used to test the hypotheses. The Spearman rank correlation treatment was utilized to determine the degree of association between administrative systems employed in schools and the interpersonal needs satisfactions expressed by teachers.[9] The chi-square test for K independent samples was used to determine whether different samples of teacher groups differed in frequency in which they chose certain administrative systems and, therefore, came from different populations.[10] The Mann-Whitney U test was used to determine whether there were significant differences between and among the variables of sex, age, years of teaching experience, certification level, relative status, number of years with principal, and subjects taught, regarding teachers' perceptions of administrative systems employed in their schools, their interpersonal needs, and their interpersonal needs satisfaction.[11] Significance was set at the 0.05 level to optimize the balance between the probabilities of committing either the Type I or Type II error. Specifically, the 0.05 level of confidence was used with the understanding that it would reduce the probability of commiting the Type I error within a range acceptable for this type investigation. In addition, the item analysis, presented

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[9] Ibid., p. 202. [10] Ibid., p. 175. [11] Ibid., p. 116.

by Davis, was used to determine if certain items on the administrative systems scale were identifiable as key concept items.[12]

On the basis of a twenty point scoring scale, each respondent judged a particular characteristic of the administrative behavior of his principal on the thirty-two item instrument developed by Likert. The means of these responses were computed and constituted a mean score used to determine each respondent's indication of the administrative system employed by the principal. The mean scores of all respondents were computed to provide a mean score to determine the aggregate respondents' indication of the administrative system employed in their school. Using the formula developed by Likert, the aggregate mean scores were converted to systems scores.[13] The following formula was used:

$$\text{Score} = (\text{observed } \overline{M}\ 4/20 + .5)$$

System scores were used to develop profiles of schools in terms of administrative systems based upon organizational characteristics measured by the Likert scale.

On the basis of a seven point scoring scale, each respondent judged his "wanted behavior" and "felt behavior" on the six item instrument developed by the writer.

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[12]Davis, Educational Measurements and Their Interpretation, p. 281.

[13]Likert, The Human Organization, p. 36.

After the raw data had been converted into usable form, the Spearman rank correlation coefficient was used to measure the degree of agreement that existed between administrative systems and interpersonal needs satisfaction.

The following formula of rho as presented by Siegel[14] was used:

$$r_s = \frac{\Sigma x^2 + \Sigma y^2 - \Sigma d^2}{2\sqrt{\Sigma x^2 \; \Sigma y^2}}$$

where $$\Sigma x^2 = \frac{N^3 - N}{12} - \Sigma Tx$$

$$\Sigma y^2 = \frac{N^3 - N}{12} - \Sigma Ty$$

The significance of the observed value of $r_s$ was determined in Table P in Siegel.[15] If the observed value of $r_s$ equals to or exceeds the value in the table, that observed value is significant (for a one-tailed test) at the level indicated. For N larger than 30, the $r_s$ value was determined by computing the "t" associated with the value using the following formula:

$$t = r_s \sqrt{\frac{N-2}{1-r_s^2}}$$

The significance of the observed value was determined in

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[14]Siegel, Nonparametric Statistics for the Behavioral Sciences, p. 207.

[15]Ibid., p. 284.

Table B in Siegel.[16]

The chi-square test for K independent samples presented by Siegel was used to determine whether different samples of teacher groups differed in frequency with which they chose certain administrative systems and, therefore, came from different populations.[17] The following formula was used:

$$X^2 = \sum_{i=1}^{r} \sum_{j=1}^{k} \frac{(Oij - Eij)^2}{Eij}$$

where Oij = observed number of cases categorized in the $i^{th}$ row of $j^{th}$ column

$Ei_j$ = number of cases expected under $H_o$ to be categorized in the $i^{th}$ row of the $j^{th}$ column

The significance of the observed value of $X^2$ was determined in Table C in Siegel.[18] If the probability given for the observed value of $X^2$ for the observed degrees of freedom was equal to or greater than X, the $H_o$ was rejected.

The Mann-Whitney U test, presented by Siegel, was used to determine whether there were significant differences between and among the respondents according to variables of sex, age, years of teaching experience, certification level, relative status, number of years with principal, and subjects taught regarding their indications of administrative systems employed in their schools.[19] The following

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[16] Ibid., p. 248.

[17] Ibid., p. 175.

[18] Ibid., p. 249.

[19] Ibid., p. 120.

formula of U was used:

$$U = n_1 n_2 + \frac{n_2(n_2 + 1)}{2} - R_2$$

where $n_1$ = number of cases in smaller of two independent groups

$n_2$ = number of cases in larger of two independent groups

$R_2$ = sum of ranks assigned to group whose sample size is $n_2$

To correct for ties the following formula was used:

$T = \frac{t^3 - t}{12}$ where t is the number of observations tied for a given rank

The significance of the observed value of U was determined by Table A in Siegel.[20] If the observed value of U had an associated probability equal to or less than $\alpha = 0.05$, the $H_o$ was rejected.

The raw data on the questionnaires were coded, transferred to fortran coding forms and punched and verified on IBM cards. Most of the statistical computations involved in the treatment of this data were done through the use of computer equipment in the University of Oklahoma computer laboratory.

## Hypothesis Tested

$Ho_1$ There is no statistically significant difference between the administrative systems reported employed in each school by the aggregate respondents of each school.

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[20] Ibid., p. 247.

$Ho_2$ There is no statistically significant relationship between the administrative systems reported employed in each school and the interpersonal needs indicated by the aggregate respondents of each school.

$Ho_3$ There is no statistically significant relationship between the administrative systems reported employed in each school and the interpersonal needs satisfaction indicated by the aggregate respondents of each school.

$Ho_4$ There is no statistically significant relationship between the interpersonal needs and interpersonal needs satisfaction indicated by the aggregate respondents of each school.

$Ho_5$ There is no statistically significant relationship between the administrative systems reported in the five schools and the interpersonal needs indicated by the aggregate respondents of the schools.

$Ho_6$ There is no statistically significant relationship between the administrative systems reported employed in the five schools and the interpersonal needs satisfaction indicated by the aggregate respondents of the schools.

$Ho_7$ There is no statistically significant relationship between the interpersonal needs and interpersonal needs satisfaction indicated by the aggregate respondents of the five schools.

$Ho_8$ There is no statistically significant difference between the administrative systems reported employed in each school by the respondents of each school according to sex, age, years of teaching experience, certification level, relative status, number of years worked with principal and subjects taught.

$Ho_9$ There is no statistically significant difference between the interpersonal needs reported by the respondents of each school according to sex, age, years of teaching experience, certification level, relative status, number of years worked with principal and subjects taught.

$Ho_{10}$ There is no statistically significant difference between the interpersonal needs satisfaction reported by the respondents of each school according to sex, age, years of teaching experience, certification level, relative status, number of years worked with principal and subjects taught.

The null hypotheses were indicated by the letter H with a sub zero.

# CHAPTER IV

## ANALYSIS AND PRESENTATION OF DATA

The data for this study were collected from classroom teachers, guidance counselors, academic department heads, and assistant principals of five selected high schools of a large school district in Oklahoma. The data were analyzed and arranged so that the statistical tests could be performed. Hypotheses were tested either by the chi-square test for K independent samples, the Spearman rank correlation coefficient, or the Mann-Whitney U test. An item analysis was made of the Administrative Systems Scale to determine if certain items tended to influence the magnitude of the administrative systems reported.

The chi-square test for K independent samples was used to test $H_{o_1}$; the Spearman rank correlation coefficient was used to test $H_{o_2}$ through $H_{o_7}$; and the Mann-Whitney U test was used to test $H_{o_8}$ through $H_{o_{10}}$. For the chi-square test, the point of significance was the 0.05 level of confidence. A two-tailed test of significance was used with the Spearman rank correlation coefficient and the Mann-Whitney U test, with the 0.05 level of confidence as the point of decision.

A profile of the administrative systems employed in each school as reported by the aggregate respondents of each school was presented in Table 4. An examination of these data revealed that the respondents returned mean scores on the administrative system scale that ranged from 11.36 to 13.83. The conversion of the mean scores to administrative systems scores produced scores that ranged from 2.77 to 3.27. The respondents of School D reported the highest administrative system score and the respondents of School C the lowest.

TABLE 4

PROFILE OF ADMINISTRATIVE SYSTEMS EMPLOYED IN EACH SCHOOL AS REPORTED BY THE AGGREGATE RESPONDENTS OF EACH SCHOOL

| Schools | Aggregate Respondents | Percentage of Population | Mean on Likert Scale | Administrative Systems Score[a] |
|---|---|---|---|---|
| 1. A | 59 | 100 % | 12.94 | 3.09 |
| 2. B | 59 | 92 | 12.91 | 3.08 |
| 3. C | 53 | 74 | 11.36 | 2.77 |
| 4. D | 61 | 73 | 13.83 | 3.27 |
| 5. E | 51 | 60 | 12.57 | 3.01 |

[a]Administrative Systems scores were derived through the conversion of mean scores on the Likert Scale using the formula (M) 4/20 + .5.

## Tests of Differences in Administrative Systems

Hypothesis 1 was: There is no statistically significant difference between the administrative systems reported employed in each school by the aggregate respondents of each school. The chi-square test for K independent samples was used to test for differences within the frequency distributions. There were significant differences between and among the administrative systems reported operative in each of the schools as shown in Table 5. Hypothesis 1 was rejected.

TABLE 5

ADMINISTRATIVE SYSTEMS EMPLOYED IN EACH SCHOOL AS INDICATED BY THE AGGREGATE RESPONDENTS OF EACH SCHOOL

| Schools | Administrative Systems Scores | Comparison | $X^2$ | Level of Significance | d. f. |
|---|---|---|---|---|---|
| 1. A | 3.09 | A vs B[a] | $X^2$=162.81 | P $\geq$ .001 | 3 |
| | | A vs C[a] | $X^2$=220.66 | P $\geq$ .001 | 3 |
| 2. B | 3.08 | A vs D[a] | $X^2$=279.38 | P $\geq$ .001 | 3 |
| | | A vs E[a] | $X^2$=261.14 | P $\geq$ .001 | 3 |
| 3. C | 2.77 | B vs C[a] | $X^2$=167.50 | P $\geq$ .001 | 3 |
| | | B vs D[a] | $X^2$=226.23 | P $\geq$ .001 | 3 |
| 4. D | 3.27 | B vs E[a] | $X^2$=207.99 | P $\geq$ .001 | 3 |
| | | C vs D[a] | $X^2$=234.08 | P $\geq$ .001 | 3 |
| 5. E | 3.01 | C vs E[a] | $X^2$=215.83 | P $\geq$ .001 | 3 |
| | | D vs E[a] | $X^2$=274.48 | P $\geq$ .001 | 3 |

[a]Significant at 0.05 level

$X^2$ = 575.07; Sig. at P $\geq$ .001, 12 d.f.

In addition to the overall administrative system reported operative in each school, Table 6 reports the frequency with which the respondents of the respective schools reported a particular administrative system operative. It is interesting to note that only four persons in two schools reported that the administrative system was System 1 or Exploitive-Authoritative, while forty-three persons with representation from all schools reported the administrative system was System 4 or Participative-Group. More than 65 per cent of the respondents reported the administrative system operative in their schools was System 3 or Consultative.

TABLE 6

DISTRIBUTION OF ADMINISTRATIVE SYSTEMS RESPONSES ACROSS THE FIVE SCHOOLS BY SCHOOLS

| Schools | Administrative Systems Score | Administrative System | | | |
|---|---|---|---|---|---|
| | | 1[a] | 2[b] | 3[c] | 4[d] |
| 1. A | 3.09[e] | 0 | 7 | 41 | 11 |
| 2. B | 3.08[e] | 3 | 9 | 35 | 12 |
| 3. C | 2.77[e] | 1 | 20 | 29 | 2 |
| 4. D | 3.27[e] | 0 | 3 | 42 | 15 |
| 5. E | 3.01[e] | 0 | 11 | 36 | 3 |

[a]Exploitive Authoritative System

[b]Benevolent Authoritative System [c]Consultative System

[d]Participative Group System [e]Significant at 0.05 level

## Tests of Relationships Within Each School

Hypothesis 2 was: There is no statistically significant relationship between the administrative systems reported employed in each school and the interpersonal needs indicated by the aggregate respondents of each school. The Spearman rank correlation coefficient was used to determine the association, if any, between the administrative systems and interpersonal needs reported by the respondents of each school. The level of significance was established at 0.05.

Significant association was found between the administrative systems and interpersonal needs reported by the respondents of Schools A and D. No significant association was found in Schools B, C, and E. The results of this test, presented in Table 7, indicated that the association found in School A was significant beyond the 0.001 level of confidence and that found in School D significant beyond the 0.01 level. Hypothesis 2 was rejected for Schools A and D and accepted for Schools B, C, and E.

Hypothesis 3 was: There is no statistically significant relationship between the administrative systems reported employed in each school and the interpersonal needs satisfaction indicated by the aggregate respondents of each school. The Spearman rank correlation coefficient was used to determine the relationship, if any, between the administrative systems and interpersonal needs satisfactions reported

by the respondents of each school. The level of significance was established at 0.05.

TABLE 7

THE SPEARMAN RANK CORRELATION COEFFICIENT BETWEEN ADMINISTRATIVE SYSTEMS AND INTERPERSONAL NEEDS REPORTED BY THE AGGREGATE RESPONDENTS OF EACH SCHOOL

| Schools | Administrative Systems Scores | Spearman Rank Correlation Coefficient | | |
|---|---|---|---|---|
| | | $r_s$ | Student "t" | d.f. |
| 1. A | 3.09 | .53135 | 4.73539[a] | 57 |
| 2. B | 3.08 | .21289 | 1.64496 | 57 |
| 3. C | 2.77 | .07209 | .51107 | 50 |
| 4. D | 3.27 | .36867 | 3.02042[a] | 58 |
| 5. E | 3.01 | .13325 | .93151 | 48 |

[a]Significant at 0.05 level

The values resulting from the application of the Spearman rank correlation coefficient test, reported in Table 8, indicated a highly significant association between the administrative systems reported employed in each of the schools and the interpersonal needs satisfaction of the respondents. The degree of association between the administrative systems and interpersonal needs satisfaction was significant beyond the 0.001 level of confidence in each school. School A revealed the highest degree of association and School E the lowest.

TABLE 8

THE SPEARMAN RANK CORRELATION COEFFICIENT BETWEEN ADMINISTRATIVE SYSTEMS AND INTERPERSONAL NEEDS SATISFACTION REPORTED BY THE AGGREGATE RESPONDENTS OF EACH SCHOOL

| Schools | Administrative System | Spearman Rank Correlation Coefficient | | |
|---|---|---|---|---|
| | | $r_s$ | Student "t" | d.f. |
| 1. A | 3.09 | .83869 | 11.62655[a] | 57 |
| 2. B | 3.08 | .58646 | 5.46642[a] | 57 |
| 3. C | 2.77 | .50567 | 4.14452[a] | 50 |
| 4. D | 3.27 | .52921 | 4.75001[a] | 58 |
| 5. E | 3.01 | .47833 | 3.77369[a] | 48 |

[a]Significant at 0.05 level

Hypothesis 3 was rejected for each of the schools.

Hypothesis 4 was: There is no statistically significant relationship between the interpersonal needs and interpersonal needs satisfaction indicated by the aggregate respondents of each school.

The results from the application of the Spearman rank correlation coefficient test, reported in Table 9, indicated significant associations were found between interpersonal needs and interpersonal needs satisfaction in Schools A, B, D, and E. The association in Schools A, D, and E was significant beyond the 0.001 level of confidence, while that in School B was significant beyond the 0.01 level.

Hypothesis 4 was rejected for Schools A, B, D, and E, and accepted for School C.

TABLE 9

THE SPEARMAN RANK CORRELATION COEFFICIENT BETWEEN INTERPERSONAL NEEDS AND INTERPERSONAL NEEDS SATISFACTION REPORTED BY THE AGGREGATE RESPONDENTS OF EACH SCHOOL

| Schools | Spearman Rank Correlation Coefficient | | |
|---|---|---|---|
| | $r_s$ | Student "t" | d.f. |
| 1. A | .55846 | 5.08266[a] | 57 |
| 2. B | .41331 | 3.42676[a] | 57 |
| 3. C | .15096 | 1.07984 | 50 |
| 4. D | .74007 | 8.38060[a] | 58 |
| 5. E | .60910 | 5.32089[a] | 48 |

[a]Significant at 0.05 level.

## Tests of Relationships Within Aggregate Schools

Hypothesis 5 was: There is no statistically significant relationship between the administrative systems reported employed in the five schools and the interpersonal needs indicated by the aggregate respondents of the schools.

The values resulting from the application of the Spearman rank correlation coefficient test, reported in Table 10, indicated there

was association between the reported administrative systems and interpersonal needs of the aggregate respondents significant beyond the 0.001 level of confidence. Hypothesis 5 was rejected.

TABLE 10

THE SPEARMAN RANK CORRELATION COEFFICIENT BETWEEN ADMINISTRATIVE SYSTEMS AND INTERPERSONAL NEEDS REPORTED BY THE AGGREGATE RESPONDENTS OF THE FIVE SCHOOLS

| Schools | Spearman Rank Correlation Coefficient | | |
|---|---|---|---|
| | $r_s$ | Student "t" | d.f. |
| A, B, C, D and E | .26745 | 4.62778[a] | 278 |

[a]Significant at the 0.05 level

Hypothesis 6 was: There is no statistically significant relationship between the administrative systems reported employed in the five schools and the interpersonal needs satisfaction indicated by the aggregate respondents of the schools.

The values resulting from the application of the Spearman rank correlation coefficient test indicated that there was association between the administrative systems and interpersonal needs satisfaction reported by the aggregate respondents significant beyond the 0.001 level of confidence. According to the results of the test, presented in Table 11, hypothesis 6 was rejected.

TABLE 11

THE SPEARMAN RANK CORRELATION COEFFICIENT BETWEEN ADMINISTRATIVE SYSTEMS AND INTERPERSONAL NEEDS SATISFACTION REPORTED BY THE AGGREGATE RESPONDENTS OF THE FIVE SCHOOLS

| Schools | Spearman Rank Correlation Coefficient | | |
|---|---|---|---|
| | $r_s$ | Student "t" | d.f. |
| A, B, C, D and E | .64393 | 14.03314[a] | 278 |

[a]Significant at 0.05 level

Hypothesis 7 was: There is no statistically significant relationship between the interpersonal needs and interpersonal needs satisfaction indicated by the aggregate respondents of the five schools.

The results from the application of the Spearman rank correlation coefficient test indicated there was association between the interpersonal needs and interpersonal needs satisfaction reported by the aggregate respondents significant beyond the 0.001 level of confidence. According to the results of the test, presented in Table 12, hypothesis 7 was rejected.

Item Analysis of Administrative Systems Scale

The item analysis of the aggregate responses on the Administrative System Scale produced results which indicated that certain items were consistently scored on the lower end of the Administrative

TABLE 12

THE SPEARMAN RANK CORRELATION COEFFICIENT BETWEEN INTERPERSONAL NEEDS AND INTERPERSONAL NEEDS SATISFACTION REPORTED BY THE AGGREGATE RESPONDENTS OF THE FIVE SCHOOLS

| Schools | Spearman Rank Correlation Coefficient | | |
|---|---|---|---|
| | $r_s$ | Student "t" | d. f. |
| A, B, C, D and E | .48297 | 9.19651[a] | 278 |

[a]Significant at 0.05 level

Systems continuum. When the score-results of the five schools were analyzed, items 10, 11, 12, 13, 16, and 17 emerged as low-score items which claimed 52 per cent or more of the total number of scores per item for either System 1 or System 2. In addition, items 2, 7, 10, 18, 19, and 25 had a relatively high rate of omissions. These data were reported in Table 13.

An examination of the item analysis results of the scores returned by the respondents of School A on the Administrative Systems Scale indicated that items 7, 10, 11, 12, 13, 16, and 17 were low-score producing items. In each instance, these items claimed 52 per cent or more of the scores for either System 1 or System 2. In addition, items 2, 7, and 10 had relatively high omissions. The results of the analysis were reported in Table 14.

TABLE 13

ITEM ANALYSIS OF ADMINISTRATIVE SYSTEMS SCORES BY RESPONDENTS FROM THE AGGREGATE SCHOOLS

| Item | Scores by Systems | | | | Omitted |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | |
| 1 | 6 | 42 | 102 | 127 | 3 |
| 2[b] | 12 | 71 | 110 | 78 | 9 |
| 3 | 7 | 33 | 119 | 121 | 0 |
| 4 | 8 | 33 | 90 | 149 | 0 |
| 5 | 7 | 32 | 83 | 156 | 2 |
| 6 | 18 | 26 | 90 | 145 | 1 |
| 7[b] | 65 | 48 | 69 | 72 | 26 |
| 8 | 3 | 41 | 108 | 128 | 0 |
| 9 | 3 | 40 | 125 | 105 | 7 |
| 10[a b] | 71 | 92 | 75 | 27 | 15 |
| 11[a] | 73 | 100 | 73 | 27 | 7 |
| 12[a] | 60 | 113 | 83 | 21 | 3 |
| 13[a] | 45 | 103 | 100 | 30 | 2 |
| 14 | 5 | 41 | 142 | 92 | 0 |
| 15 | 14 | 71 | 131 | 64 | 0 |
| 16[a] | 49 | 139 | 78 | 10 | 4 |
| 17[a] | 33 | 134 | 94 | 19 | 0 |
| 18[b] | 1 | 63 | 131 | 85 | 8 |
| 19[b] | 29 | 62 | 135 | 46 | 8 |
| 20 | 29 | 78 | 117 | 48 | 0 |
| 21 | 6 | 61 | 152 | 61 | 0 |
| 22 | 6 | 94 | 158 | 22 | 0 |
| 23 | 13 | 73 | 109 | 85 | 0 |
| 24 | 4 | 47 | 156 | 72 | 1 |
| 25[b] | 5 | 67 | 144 | 57 | 8 |
| 26 | 4 | 67 | 157 | 62 | 0 |
| 27 | 22 | 69 | 135 | 52 | 2 |
| 28 | 5 | 61 | 184 | 28 | 2 |
| 29 | 1 | 45 | 185 | 46 | 3 |
| 30 | 5 | 44 | 162 | 63 | 6 |
| 31 | 9 | 37 | 176 | 58 | 0 |
| 32 | 9 | 44 | 180 | 47 | 0 |

[a] Low Score Producing Items

[b] High rate of omission

TABLE 14

ITEM ANALYSIS OF ADMINISTRATIVE SCORES BY RESPONDENTS OF SCHOOL A

| Item | Scores by Systems 1 | 2 | 3 | 4 | Omitted |
|---|---|---|---|---|---|
| 1 | 1 | 8 | 24 | 25 | 0 |
| 2[b] | 2 | 14 | 28 | 14 | 6 |
| 3 | 2 | 4 | 30 | 23 | 0 |
| 4 | 2 | 2 | 26 | 29 | 0 |
| 5 | 0 | 4 | 21 | 34 | 0 |
| 6 | 3 | 1 | 20 | 35 | 0 |
| 7[a b] | 13 | 11 | 12 | 12 | 7 |
| 8 | 0 | 9 | 32 | 18 | 0 |
| 9 | 1 | 10 | 33 | 15 | 0 |
| 10[a b] | 19 | 18 | 14 | 4 | 4 |
| 11[a] | 16 | 20 | 17 | 5 | 1 |
| 12[a] | 13 | 28 | 13 | 4 | 1 |
| 13[a] | 9 | 25 | 18 | 6 | 1 |
| 14 | 2 | 6 | 33 | 18 | 0 |
| 15 | 2 | 12 | 34 | 11 | 0 |
| 16[a] | 8 | 28 | 21 | 2 | 0 |
| 17[a] | 8 | 23 | 22 | 6 | 0 |
| 18 | 0 | 13 | 30 | 16 | 0 |
| 19 | 5 | 14 | 30 | 10 | 0 |
| 20 | 8 | 17 | 24 | 10 | 0 |
| 21 | 0 | 15 | 32 | 12 | 0 |
| 22 | 1 | 17 | 37 | 4 | 0 |
| 23 | 2 | 17 | 24 | 16 | 0 |
| 24 | 0 | 8 | 41 | 10 | 0 |
| 25 | 0 | 12 | 37 | 10 | 0 |
| 26 | 1 | 24 | 24 | 10 | 0 |
| 27 | 4 | 13 | 36 | 6 | 0 |
| 28 | 1 | 14 | 43 | 10 | 0 |
| 29 | 0 | 9 | 47 | 3 | 0 |
| 30 | 0 | 17 | 31 | 10 | 0 |
| 31 | 0 | 16 | 34 | 9 | 0 |
| 32 | 0 | 14 | 38 | 7 | 0 |

[a]Low score producing items

[b]High rate of omission

The item analysis results from the scores returned on the Administration Systems Scale by the respondents of School B indicated that items 10, 11, 16, and 17 were low-score items. Fifty-two per cent or more of the scores returned for the items were for either System 1 or System 2. In addition, items 2, 7, 9, 10, and 19 had relatively high omissions. These data were reported in Table 15.

The item analysis results of scores from the respondents of School C on the Administrative Systems Scale were reported in Table 16. An examination of these data show that items 7, 10, 11, 12, 13, 16, 17, 19, 20, 22, and 23 were low-score producing. The eleven items claimed 52 per cent or more of scores as either System 1 or System 2. In addition, items 7 and 30 had relatively high rates of omissions.

The item analysis results from the respondents of School D on the Administrative Systems Scale were presented in Table 17. An examination of the data indicated that items 11, 12, 13, 16, and 17 were low-score producing. The five items claimed 52 per cent or more of the scores as either System 1 or System 2. In addition, items 7, 10, 11, 19, 20, 25, and 29 had relatively high omissions.

The item analysis results from the scores reported by the respondents of School E on the Administrative Systems Scale were reported in Table 18. An examination of the data indicated that items 7, 10, 11, 16, and 17 emerged as low-score producers. The items

TABLE 15

ITEM ANALYSIS OF ADMINISTRATIVE SYSTEMS SCORES BY RESPONDENTS OF SCHOOL B

| Item | Scores by Systems 1 | 2 | 3 | 4 | Omitted |
|---|---|---|---|---|---|
| 1 | 3 | 9 | 21 | 25 | 1 |
| 2[b] | 2 | 12 | 25 | 17 | 3 |
| 3 | 3 | 6 | 25 | 25 | 0 |
| 4 | 2 | 5 | 22 | 30 | 0 |
| 5 | 1 | 5 | 19 | 32 | 2 |
| 6 | 4 | 3 | 20 | 32 | 0 |
| 7[b] | 11 | 9 | 19 | 15 | 5 |
| 8 | 1 | 4 | 21 | 33 | 0 |
| 9[b] | I | 5 | 18 | 32 | 3 |
| 10[a b] | 11 | 23 | 16 | 6 | 3 |
| 11[a] | 13 | 18 | 23 | 5 | 0 |
| 12 | 6 | 23 | 23 | 7 | 0 |
| 13 | 5 | 21 | 24 | 8 | 1 |
| 14 | 0 | 10 | 30 | 19 | 0 |
| 15 | 3 | 15 | 27 | 14 | 0 |
| 16[a] | 4 | 30 | 19 | 5 | 1 |
| 17[a] | 4 | 29 | 21 | 5 | 0 |
| 18 | 1 | 16 | 24 | 18 | 0 |
| 19[b] | 7 | 9 | 29 | 10 | 4 |
| 20 | 11 | 9 | 24 | 13 | 2 |
| 21 | 1 | 14 | 30 | 14 | 0 |
| 22 | 0 | 20 | 35 | 4 | 0 |
| 23 | 1 | 17 | 25 | 16 | 0 |
| 24 | 0 | 10 | 34 | 15 | 0 |
| 25 | 0 | 14 | 32 | 13 | 0 |
| 26 | 0 | 2 | 38 | 19 | 0 |
| 27 | 3 | 18 | 30 | 7 | 1 |
| 28 | 1 | 8 | 43 | 7 | 0 |
| 29 | 0 | 6 | 38 | 15 | 0 |
| 30 | 0 | 4 | 42 | 13 | 0 |
| 31 | 4 | 5 | 38 | 12 | 0 |
| 32 | 5 | 3 | 38 | 13 | 0 |

[a]Low Score producing items [b]High rate of omission

TABLE 16

ITEM ANALYSIS OF ADMINISTRATIVE SYSTEMS SCORES BY RESPONDENTS OF SCHOOL C

| Item | Scores by Systems 1 | 2 | 3 | 4 | Omitted |
|---|---|---|---|---|---|
| 1 | 1 | 12 | 25 | 12 | 2 |
| 2 | 5 | 12 | 22 | 10 | 2 |
| 3 | 1 | 9 | 27 | 15 | 0 |
| 4 | 1 | 18 | 16 | 17 | 0 |
| 5 | 4 | 11 | 19 | 18 | 0 |
| 6 | 6 | 7 | 21 | 18 | 0 |
| 7[a b] | 17 | 8 | 11 | 12 | 4 |
| 8 | 1 | 8 | 26 | 17 | 0 |
| 9 | 0 | 7 | 27 | 17 | 1 |
| 10[a] | 22 | 17 | 8 | 4 | 1 |
| 11[a] | 14 | 22 | 10 | 6 | 0 |
| 12[a] | 15 | 26 | 6 | 3 | 2 |
| 13[a] | 12 | 25 | 10 | 5 | 0 |
| 14 | 3 | 8 | 25 | 16 | 0 |
| 15 | 5 | 15 | 24 | 9 | 0 |
| 16[a] | 15 | 28 | 9 | 0 | 0 |
| 17[a] | 8 | 30 | 12 | 2 | 0 |
| 18 | 0 | 16 | 28 | 8 | 0 |
| 19[a] | 6 | 25 | 16 | 5 | 0 |
| 20[a] | 4 | 24 | 18 | 5 | 1 |
| 21 | 5 | 15 | 26 | 6 | 0 |
| 22[a] | 3 | 27 | 17 | 5 | 0 |
| 23[a] | 9 | 19 | 17 | 7 | 0 |
| 24 | 4 | 18 | 19 | 10 | 1 |
| 25 | 4 | 19 | 21 | 7 | 1 |
| 26 | 1 | 15 | 34 | 2 | 0 |
| 27 | 5 | 15 | 24 | 7 | 1 |
| 28 | 1 | 21 | 24 | 6 | 0 |
| 29 | 0 | 17 | 30 | 6 | 0 |
| 30[b] | 5 | 10 | 29 | 4 | 4 |
| 31 | 5 | 6 | 38 | 3 | 0 |
| 32 | 4 | 13 | 30 | 5 | 0 |

[a]Low score producing items [b]High rate of omission

TABLE 17

ITEMS ANALYSIS OF ADMINISTRATIVE SYSTEMS SCORES BY RESPONDENTS OF SCHOOL D

| Item | Scores by Systems 1 | 2 | 3 | 4 | Omitted |
|---|---|---|---|---|---|
| 1 | 0 | 2 | 12 | 46 | 0 |
| 2 | 0 | 16 | 19 | 24 | 1 |
| 3 | 0 | 4 | 20 | 36 | 0 |
| 4 | 0 | 2 | 8 | 50 | 0 |
| 5 | 2 | 2 | 13 | 43 | 0 |
| 6 | 0 | 3 | 18 | 39 | 0 |
| 7[b] | 13 | 10 | 17 | 17 | 3 |
| 8 | 0 | 8 | 14 | 38 | 0 |
| 9 | 0 | 9 | 21 | 28 | 0 |
| 10[b] | 10 | 14 | 25 | 8 | 3 |
| 11[a b] | 18 | 18 | 11 | 9 | 4 |
| 12[a] | 17 | 24 | 14 | 5 | 0 |
| 13[a] | 14 | 18 | 23 | 5 | 0 |
| 14 | 0 | 9 | 33 | 18 | 0 |
| 15 | 4 | 14 | 26 | 16 | 0 |
| 16[a] | 12 | 30 | 14 | 2 | 2 |
| 17[a] | 8 | 28 | 20 | 4 | 0 |
| 18 | 0 | 2 | 17 | 41 | 0 |
| 19[b] | 6 | 4 | 30 | 17 | 3 |
| 20[b] | 3 | 8 | 29 | 15 | 5 |
| 21 | 0 | 5 | 35 | 20 | 0 |
| 22 | 2 | 11 | 39 | 8 | 0 |
| 23 | 0 | 5 | 19 | 36 | 0 |
| 24 | 0 | 3 | 29 | 28 | 0 |
| 25[b] | 0 | 13 | 23 | 17 | 7 |
| 26 | 0 | 6 | 30 | 24 | 0 |
| 27 | 7 | 6 | 27 | 20 | 0 |
| 28 | 2 | 10 | 40 | 8 | 0 |
| 29[b] | 0 | 4 | 34 | 19 | 3 |
| 30 | 0 | 4 | 28 | 27 | 1 |
| 31 | 0 | 5 | 30 | 25 | 0 |
| 32 | 0 | 2 | 40 | 18 | 0 |

[a]Low score producing items [b]High rate of omission

claimed 52 per cent or more of the scores for either System 1 or System 2. In addition, items 7 and 10 had relatively high omissions.

## Tests of Differences According to Intervening Variables

Hypothesis 8 was: There is no statistically significant difference between the administrative system reported employed in each school by the respondents of each school according to the variables of sex, age, years of teaching experience, certification level, relative status, number of years worked with principal and subjects taught. Each of the seven variables was tested by the Mann-Whitney U test. The required z value for significance at the 0.05 level of confidence was 1.96.

A profile of the respondents of each school according to their representation by variables was presented in Table 19.

In each of the five schools the male and femals respondents showed a highly significant amount of difference in reporting the administrative systems considered operative. As shown in Table 20, the difference in each school was significant beyond the 0.001 level of confidence. Hypothesis 8 according to the variable of sex was rejected.

The test of the age variable found no significant difference in the way respondents of four of the schools reported operative administrative systems. Only the respondents of School A showed a significant difference in their reporting of operative administrative

TABLE 18

ITEMS ANALYSIS OF ADMINISTRATIVE SYSTEMS SCORES BY RESPONDENTS OF SCHOOL E

| Item | Scores by Systems | | | | Omitted |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | |
| 1 | 1 | 11 | 19 | 19 | 0 |
| 2 | 3 | 16 | 16 | 13 | 2 |
| 3 | 1 | 10 | 17 | 22 | 0 |
| 4 | 3 | 6 | 18 | 23 | 0 |
| 5 | 0 | 10 | 11 | 29 | 0 |
| 6 | 5 | 12 | 11 | 21 | 1 |
| 7[a b] | 11 | 10 | 10 | 12 | 7 |
| 8 | 1 | 12 | 15 | 22 | 0 |
| 9 | 1 | 9 | 26 | 13 | 1 |
| 10[a b] | 9 | 20 | 12 | 5 | 4 |
| 11[a] | 12 | 22 | 12 | 2 | 2 |
| 12 | 9 | 12 | 27 | 2 | 0 |
| 13 | 5 | 14 | 25 | 6 | 0 |
| 14 | 0 | 8 | 21 | 21 | 0 |
| 15 | 1 | 15 | 20 | 14 | 0 |
| 16[a] | 10 | 23 | 15 | 1 | 1 |
| 17[a] | 5 | 24 | 19 | 2 | 0 |
| 18 | 0 | 16 | 32 | 2 | 0 |
| 19 | 5 | 10 | 30 | 4 | 1 |
| 20 | 3 | 20 | 22 | 5 | 0 |
| 21 | 0 | 12 | 29 | 9 | 0 |
| 22 | 0 | 19 | 30 | 1 | 0 |
| 23 | 1 | 15 | 24 | 10 | 0 |
| 24 | 0 | 8 | 33 | 9 | 0 |
| 25 | 0 | 9 | 31 | 10 | 0 |
| 26 | 0 | 12 | 31 | 7 | 0 |
| 27 | 3 | 17 | 18 | 12 | 0 |
| 28 | 0 | 9 | 34 | 5 | 2 |
| 29 | 1 | 10 | 36 | 3 | 0 |
| 30 | 0 | 9 | 32 | 9 | 0 |
| 31 | 0 | 5 | 35 | 9 | 0 |
| 32 | 0 | 12 | 34 | 4 | 0 |

[a]Low score producing items [b]High rate of omission

TABLE 19

PROFILE OF THE RESPONDENTS OF EACH SCHOOL ACCORDING TO THE SEVEN VARIABLES STATISTICALLY TESTED

| Variables | Respondents by Schools | | | | |
|---|---|---|---|---|---|
| | A | B | C | D | E |
| Sex | | | | | |
| Male | 26 | 31 | 28 | 31 | 21 |
| Female | 33 | 26 | 23 | 27 | 29 |
| Age | | | | | |
| 20-39 | 40 | 28 | 23 | 32 | 26 |
| 40-above | 19 | 30 | 28 | 28 | 24 |
| Years of Experience | | | | | |
| 0-13 | 45 | 27 | 29 | 41 | 32 |
| 14-above | 14 | 32 | 23 | 19 | 18 |
| Certification Level | | | | | |
| Bachelor Degree | 39 | 28 | 29 | 29 | 26 |
| Master Degree and beyond | 20 | 31 | 23 | 30 | 24 |
| Relative Status | | | | | |
| Classroom Teachers | 45 | 44 | 43 | 46 | 44 |
| Guidance Counselors, Department Chairman, Assistant Principals | 14 | 14 | 9 | 14 | 6 |
| Years With Principal | | | | | |
| 1-3 | 42 | 44 | 22 | 27 | 25 |
| 4-above | 17 | 15 | 30 | 32 | 25 |
| Subjects Taught | | | | | |
| Mathematics and Science | 12 | 9 | 10 | 13 | 10 |
| All Other Subjects | 42 | 44 | 36 | 39 | 36 |

systems, as depicted in Table 21. While there were traces of difference in each of the other schools, especially School D, the differences were not significant. Hypothesis 8 according to the variable of age was rejected for School A and accepted for Schools B, C, D, and E.

Teaching experience made a significant difference in the reporting of operative administrative systems by the respondents of

TABLE 20

U TEST VALUES OF ADMINISTRATIVE SYSTEMS REPORTED EMPLOYED IN SCHOOLS ACCORDING TO THE VARIABLE OF SEX

| Variable of Sex | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| Male | | | | | | |
| | U value | 60.500 | 26.000 | 11.500 | 27.000 | 78.000 |
| vs | | | | | | |
| | Z score | 5.883[a] | 6.433[a] | 6.210[a] | 6.524[a] | 4.627[a] |
| Female | | | | | | |

[a]Significant at 0.05 level

TABLE 21

U TEST VALUES OF ADMINISTRATIVE SYSTEMS REPORTED EMPLOYED IN SCHOOLS ACCORDING TO THE VARIABLE OF AGE

| Variable of Age | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| 20 - 39 yrs. | | | | | | |
| | U Value | 176.000 | 375.000 | 319.500 | 331.000 | 254.500 |
| vs | | | | | | |
| | Z Score | 3.480[a] | 0.743 | 0.050 | 1.841 | 1.204 |
| 40 - Above Yrs. | | | | | | |

[a]Significant at 0.05 level

only Schools A and D; it did not make a significant difference in the way respondents of Schools B, C, and E reported operative administrative systems. The data showing the results of the tests were presented in

Table 22. Hypothesis 8 tested according to the variable of teaching experience was rejected for Schools A and D and accepted for Schools B, C, and E.

TABLE 22

U TEST VALUES OF ADMINISTRATIVE SYSTEMS REPORTED EMPLOYED IN SCHOOLS ACCORDING TO THE VARIABLE OF YEARS OF TEACHING EXPERIENCE

| Variable of Years of Teaching Experience | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| 0-13 Yrs | U Value | 167.500 | 423.000 | 255.500 | 190.000 | 234.500 |
| vs | Z Score | 2.689[a] | 0.146 | 1.550 | 3.291[a] | 1.146 |
| 14-Above Yrs. | | | | | | |

[a]Significant at 0.05 level

The test of the variable of certification level found a significant difference in only one school. As indicated in Table 23, the respondents of each school were grouped according to bachelor degrees and master degrees and beyond to determine if their certification and/or education level(s) made a difference in their reporting of the administrative systems operative in their schools. Hypothesis 8 tested according to the variable of certification level was rejected for School A and accepted for Schools B, C, D, and E.

TABLE 23

U TEST VALUES OF ADMINISTRATIVE SYSTEMS REPORTED EMPLOYED IN SCHOOLS ACCORDING TO THE VARIABLE OF CERTIFICATION LEVEL

| Variable of Certification Level | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| Bachelor Degree vs Master Degree and Beyond | U Values | 248.000 | 425.000 | 296.500 | 420.000 | 284.000 |
| | Z Score | 2.391[a] | 0.145 | 0.729 | 0.246 | 0.586 |

[a]Significant at 0.05 level

The test of the variable of relative status, as shown in Table 24, found significant differences in four of the five schools. School A showed a trend toward difference, but the difference was not significant. Data on Schools B, C, and D indicated differences between classroom teachers and guidance counselors, department chairmen and/or assistant principals significant beyond the 0.01 level of confidence. Data on School E indicated a difference on the same dimension significant beyond the 0.05 level of confidence. Hypothesis 8 according to relative status was rejected for Schools B, C, D, and E, and accepted for School A.

The number of years respondents had worked with the principal was a significant factor in only two of the schools. As shown

TABLE 24

U TEST VALUES OF ADMINISTRATIVE SYSTEMS REPORTED EMPLOYED IN SCHOOLS ACCORDING TO THE VARIABLE OF RELATIVE STATUS

| Variable of Relative Status | U Results | U Values and Z Scores by Schools | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | E |
| Classroom Teachers vs Guidance Counselors Department Chairmen, and/or Assistant Principals | U Value | 213.500 | 147.000 | 60.000 | 150.000 | 47.500 |
| | Z Score | 1.857 | 3.009[a] | 3.261[a] | 3.073[a] | 2.536[a] |

[a]Significant at 0.05 level

in Table 25, years of experience with the principal was not a significant factor in the way respondents of Schools C, D, and E reported operative administrative systems. In Schools A and B the variable was significant beyond the 0.05 level of confidence; therefore, hypothesis 8 according to the variable of number of years with principal was accepted for Schools C, D, and E, and rejected for Schools A and B.

Data on the subjects taught variable, presented in Table 26, indicated teachers of mathematics and science, when compared with the teachers of other subjects in each of the schools, reported administrative systems significantly different in four of the five schools. Significant differences beyond the 0.01 level of confidence were found

TABLE 25

U TEST VALUES OF ADMINISTRATIVE SYSTEMS REPORTED EMPLOYED IN SCHOOLS ACCORDING TO THE VARIABLE OF NUMBER OF YEARS WORKED WITH PRINCIPAL

| Variable of No. of Years Worked with Principal | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| 1-3 Yrs. | U Value | 215.000 | 188.000 | 250.500 | 419.000 | 305.000 |
| vs | Z Score | 2.452[a] | 2.521[a] | 1.551 | 0.214 | 0.156 |
| 4-Above Yrs. | | | | | | |

[a]Significant at 0.05 level

in Schools A, B, and C; a significant difference beyond the 0.05 level was found in School D; and no significant difference was found in School E. Therefore, hypothesis 8 according to the variable of subjects taught was rejected for Schools A, B, C, and D, and accepted for School E.

Hypothesis 9 was: There is no statistically significant difference between the interpersonal needs reported by the respondents of each school according to the variables of sex, age, years of teaching experience, certification level, relative status, number of years worked with principal and subjects taught.

In each of the five schools there was a significant difference beyond the 0.01 level of confidence between the way males and females

TABLE 26

U TEST VALUE OF ADMINISTRATIVE SYSTEMS REPORTED EMPLOYED IN SCHOOLS ACCORDING TO SUBJECTS TAUGHT

| Variable of Subjects Taught | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| Mathematics and Science | U Value | 130.500 | 55.000 | 61.000 | 162.000 | 146.500 |
| vs | Z Score | 2.606[a] | 3.468[a] | 3.294[a] | 2.036[a] | 0.925 |
| All Other Subjects | | | | | | |

[a]Significant at 0.05 level

reported their interpersonal needs. As indicated by the test results presented in Table 27, hypothesis 9 tested according to the variable of sex was rejected for each of the five schools.

Age was a significant factor in the reporting of interpersonal needs in two of the five schools. Age was not a significant factor in Schools B, C, and E. Age was a significant factor beyond the 0.01 level of confidence in School A and beyond the 0.05 level of confidence in School D. According to the data presented in Table 28, hypothesis 9 pertaining to the variable of age was rejected for Schools A and D, and accepted for Schools B, C, and E.

Data in Table 29 present the results of testing hypothesis 9 according to the variable of years of teaching experience. Teaching

TABLE 27

U TEST VALUES OF INTERPERSONAL NEEDS REPORTED BY TEACHERS ACCORDING TO THE VARIABLE OF SEX

| Variable of Sex | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| Male | | | | | | |
| | U Value | 89.500 | 26.000 | 11.500 | 27.000 | 92.000 |
| vs | | | | | | |
| | Z Score | 5.443[a] | 6.447[a] | 6.225[a] | 6.548[a] | 4.353[a] |
| Female | | | | | | |

[a]Significant at 0.05 level

TABLE 28

U TEST VALUES OF INTERPERSONAL NEEDS REPORTED BY TEACHERS ACCORDING TO THE VARIABLE OF AGE

| Variable of Age | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| 20-39 Yrs. | | | | | | |
| | U Value | 180.500 | 403.000 | 301.000 | 316.000 | 236.000 |
| vs | | | | | | |
| | Z Score | 3.418[a] | 0.282 | 0.424 | 2.084[a] | 1.596 |
| 40-Above Yrs. | | | | | | |

[a]Significant at 0.05 level

experience accounted for significant differences in the reporting of interpersonal needs for Schools A and D; it was not a significant factor in Schools B, C, and E. Therefore, hypothesis 9 tested according to the variable of years of teaching experience was rejected for Schools A and D, and accepted for Schools B, C, and E.

TABLE 29

U TEST VALUES OF INTERPERSONAL NEEDS REPORTED BY TEACHERS ACCORDING TO THE VARIABLE OF YEARS OF TEACHING EXPERIENCE

| Variable of Years of Teaching Experience | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| 0-13 Yrs. | U Value | 156.000 | 413.500 | 274.500 | 194.000 | 225.000 |
| vs | Z Score | 2.917[a] | 0.301 | 1.174 | 3.238[a] | 1.353 |
| 14-Above Yrs. | | | | | | |

[a]Significant at 0.05 level

The values from the test for significance of the variable of certification level were reported in Table 30. Only the respondents of School A showed a significant difference in reporting their interpersonal needs according to the variable. Therefore, hypothesis 9 according to the variable of certification level was rejected for School A and accepted for Schools B, C, D, and E.

Relative status was a significant factor in the expression of interpersonal needs by the respondents in each of the five schools. In Schools B, C, D, and E, relative status was significant beyond the 0.01 level of confidence. In School A, the variable was significant beyond the 0.05 level of confidence. According to the test results presented in Table 31, hypothesis 9 pertaining to the relative status was rejected for each school.

TABLE 30

U TEST VALUES OF INTERPERSONAL NEEDS REPORTED BY TEACHERS ACCORDING TO THE VARIABLE OF CERTIFICATION LEVEL

| Variable of Certification Level | U Result | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| Bachelor Degree | U Value | 256.000 | 420.000 | 278.000 | 414.500 | 311.000 |
| vs | | | | | | |
| Master Degree and Beyond | Z Score | 2.268[a] | 0.226 | 1.095 | 0.337 | 0.021 |

[a]Significant at 0.05 level

TABLE 31

U TEST VALUES OF INTERPERSONAL NEEDS REPORTED BY TEACHERS ACCORDING TO THE VARIABLE OF RELATIVE STATUS

| Variable of Relative Status | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| Classroom Teachers | U Value | 201.500 | 134.000 | 67.000 | 129.500 | 44.000 |
| vs | | | | | | |
| Guidance Counselors, Department Chairmen, and/or Assistant Principals | Z Score | 2.088[a] | 3.272[a] | 3.106[a] | 3.457[a] | 2.658[a] |

[a]Significant at 0.05 level

The results from the test of the variable number of years worked with principal, presented in Table 32, indicated significant differences were found in two schools. In School A the difference was significant beyond the 0.01 level of confidence and in School B it was significant beyond the 0.05 level of confidence. Therefore, hypothesis 9 pertaining to the variable number of years worked with principal was rejected for Schools A and B, and accepted for Schools C, D, and E.

TABLE 32

U TEST VALUES OF INTERPERSONAL NEEDS REPORTED BY TEACHERS ACCORDING TO THE VARIABLE OF NUMBER OF YEARS WORKED WITH PRINCIPAL

| Variable of No. of Years Worked With Principal | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| 1-3 Yrs. | U Value | 195.500 | 189.000 | 271.000 | 413.000 | 296.000 |
| vs | Z Score | 2.812[a] | 2.517[a] | 1.154 | 0.314 | 0.343 |
| 4-Above Yrs. | | | | | | |

[a]Significant at 0.05 level

Significant differences in the expression of interpersonal needs when tested according to the variable of subjects taught were found in all but one of the schools. The test results, as presented in Table 33, indicated differences were found in Schools A, B, and C which were significant beyond the 0.01 level of confidence. In School

D, the difference found was significant beyond the 0.05 level of confidence. There was no significant difference found in School E. Hypothesis 9 pertaining to the variable of subjects taught was rejected for Schools A, B, C, and D, and accepted for School E.

TABLE 33

U TEST VALUES OF INTERPERSONAL NEEDS REPORTED BY TEACHERS ACCORDING TO THE VARIABLE OF SUBJECTS TAUGHT

| Variable of Subjects Taught | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| Mathematics and Science | U Value | 115.000 | 79.000 | 64.500 | 147.500 | 138.000 |
| vs | Z Score | 2.952[a] | 2.905[a] | 3.219[a] | 2.368[a] | 1.164 |
| All Other Subjects | | | | | | |

[a]Significant at 0.05 level

Hypothesis 10 was: There is no statistically significant difference between the interpersonal needs satisfaction reported by the respondents of each school according to the variables of sex, age, years of teaching experience, certification level, relative status, number of years worked with principal and subjects taught.

The resulting values of the test applied to the variable of sex were reported in Table 34. The values indicated highly significant

differences between the male and female respondents of each of the schools. In each instance the difference was significant beyond the 0.001 level of confidence. Hypothesis 10 pertaining to the variable of sex was rejected for each of the five schools.

TABLE 34

U TEST VALUES OF INTERPERSONAL NEEDS SATISFACTION REPORTED BY TEACHERS ACCORDING TO THE VARIABLE OF SEX

| Variable of Sex | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| Male | | | | | | |
| | U Value | 62.000 | 26.000 | 11.500 | 27.000 | 104.500 |
| vs | | | | | | |
| | Z Score | 5.874[a] | 6.439[a] | 6.220[a] | 6.532[a] | 4.097[a] |
| Female | | | | | | |

[a]Significant at 0.05 level

The results from the test for the significance of age in the reporting of interpersonal needs satisfaction by the respondents of the five schools indicated age was found to be a significant factor in only Schools A and D. In School A, age was significant beyond the 0.01 level of confidence; and in School D, it was significant beyond the 0.05 level of confidence. In Schools B, C, and E, age was not a significant factor. According to the data reported in Table 35, hypothesis 10 pertaining to the variable of age was rejected for Schools A and D and accepted for Schools B, C, and E.

TABLE 35

U TEST VALUES OF INTERPERSONAL NEEDS SATISFACTION REPORTED BY TEACHERS ACCORDING TO THE VARIABLE OF AGE

| Variable of Age | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| 20-39 Yrs. | U Value | 165.500 | 369.500 | 294.000 | 307.000 | 258.000 |
| vs | | | | | | |
| 40-Above Yrs. | Z Score | 3.667[a] | 0.835 | 0.565 | 2.221[a] | 1.133 |

[a]Significant at 0.05 level

The data showing the results of the test of the variable of years of teaching experience were presented in Table 36. In Schools A and D the differences found were significant beyond the 0.01 level of confidence, while in School C the difference found was significant beyond the 0.05 level. No significant differences were found in Schools B and E. Hypothesis 10 pertaining to the variable of years of teaching experience was rejected for Schools A, C, and D, and accepted for Schools B and E.

The variable of certification level was found to make a significant difference in only one of the schools. The results of the test of the variable, presented in Table 37, indicated a significant difference was found in School A, while none was found in either School B, C, D, or E. Therefore, hypothesis 10 pertaining to the variable of

certification level was rejected for School A and accepted for Schools B, C, D, and E.

TABLE 36

U TEST VALUES OF INTERPERSONAL NEEDS SATISFACTION REPORTED BY TEACHERS ACCORDING TO THE VARIABLE OF YEARS OF TEACHING EXPERIENCE

| Variable of Years of Teaching Experience | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| 0-13 Yrs. | U Value | 155.000 | 408.500 | 232.500 | 195.500 | 244.500 |
| vs | Z Score | 2.926[a] | 0.381 | 2.008[a] | 3.209[a] | 0.934 |
| 14-Above Yrs. | | | | | | |

[a]Significant at 0.05 level

TABLE 37

U TEST VALUES OF INTERPERSONAL NEEDS SATISFACTION REPORTED BY TEACHERS ACCORDING TO THE VARIABLE OF CERTIFICATION LEVEL

| Variable of Certification Level | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| Bachelor Degree | U Value | 241.500 | 414.500 | 264.000 | 428.000 | 298.500 |
| vs | Z Score | 2.506[a] | 0.313 | 1.370 | 0.115 | 0.283 |
| Master Degree and Beyond | | | | | | |

[a]Significant at 0.05 level

The results from the test of the variable of relative status, presented in Table 38, indicated significant differences were found in each of the five schools. In Schools B, C, D, and E, the differences found were significant beyond the 0.01 level of confidence, while in School A, the difference found was significant beyond the 0.05 level. Hypothesis 10 pertaining to the variable of relative status was rejected for each of the five schools.

TABLE 38

U TEST VALUES OF INTERPERSONAL NEEDS SATISFACTION REPORTED BY TEACHERS ACCORDING TO THE VARIABLE OF RELATIVE STATUS

| Variable of Relative Status | U Results | U Values and Z Scores by Schools | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | E |
| Classroom Teachers | U Value | 203.000 | 137.500 | 46.500 | 136.500 | 47.000 |
| vs | Z Score | 2.053[a] | 3.191[a] | 3.600[a] | 3.328[a] | 2.572[a] |
| Guidance Counselors, Department Chairmen and/or Assistant Principals | | | | | | |

[a]Significant at the 0.05 level

The number of years worked with principal was a significant factor in the reporting of interpersonal needs satisfaction by the respondents of two of the schools. The results of the test, presented in

Table 39, indicated the differences found in Schools A and B were significant beyond the 0.01 level of confidence, while no significant differences were found in Schools C, D, and E. Hypothesis 10 pertaining to the variable of years worked with principal was rejected for Schools A and B, and accepted for Schools C, D, and E.

TABLE 39

U TEST VALUES OF INTERPERSONAL NEEDS SATISFACTION REPORTED BY TEACHERS ACCORDING TO THE VARIABLE OF NUMBER OF YEARS WORKED WITH PRINCIPAL

| Variable of No. of Years Worked With Principal | U Results | U Values and Z Scores by Schools A | B | C | D | E |
|---|---|---|---|---|---|---|
| 1-3 Yrs. | U Value | 205.500 | 168.500 | 296.000 | 430.500 | 305.000 |
| vs | Z Score | 2.647[a] | 2.874[a] | 0.664 | 0.025 | 0.156 |
| 4-Above Yrs. | | | | | | |

[a]Significant at 0.05 level

The test of the variable of subjects taught found significant differences in interpersonal needs satisfaction reported by the respondents from four of the five schools. According to the data presented in Table 40, the variable was a significant factor in Schools A, B, C, and D, and was not a significant factor in School E. In Schools A, B, and C, the differences found were significant beyond the 0.01 level of confidence. The difference found in School D was significant

beyond the 0.05 level of confidence. Hypothesis 10 pertaining to the variable of subjects taught was rejected for Schools A, B, C, and D, and accepted for School E.

TABLE 40

U TEST VALUES OF INTERPERSONAL NEEDS SATISFACTION REPORTED BY TEACHERS ACCORDING TO THE VARIABLE OF SUBJECTS TAUGHT

| Variable of Subjects Taught | U Results | U Values and Z Scores by Schools | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | E |
| Mathematics and Science | U Value | 128.500 | 57.000 | 69.500 | 140.000 | 144.500 |
| vs | Z Score | 2.654[a] | 3.427[a] | 3.076[a] | 2.531[a] | 0.984 |
| All Other Subjects | | | | | | |

[a]Significant at 0.05 level

# CHAPTER V

# FINDINGS AND INTERPRETATIONS

The purpose of this study was to determine if a significant relationship existed between the administrative systems employed by principals and the interpersonal needs satisfaction of teachers. The intervening variables of sex, age, years of teaching experience, certification level, relative status, number of years worked with principal, and subjects taught were statistically tested to determine if they affected the way in which teachers reported administrative systems, interpersonal needs, and interpersonal needs satisfaction. An item analysis was made of the administrative systems scale to determine if particular items tended to influence the magnitude of the administrative systems reported by the respondents.

## Analysis of Differences in Administrative Systems

Conversion of the raw data from the administrative systems scale to administrative systems scores exposed differences between the administrative systems reported employed by the principals of the respective schools. As depicted in Table 4, the reported administrative systems ranged from 2.77 to 3.27. On the administrative systems

continuum, System 1 covers the range from 0.5 to 1.5, System 2 covers the range from 1.5 to 2.5, System 3 covers 2.5 to 3.5, and System 4 covers 3.5 to 4.5. Each of the five schools fell within the System 3 range. In each, the administrative system was construed to be "Consultative."

The data indicated that within the System 3 range (2.5-3.5) the respondents of the respective schools varied in their reporting of administrative systems. The scores from the respondents of School C indicated that the administrative system operative in their school was 2.77, which placed it close to System 2, "Benevolent Authoritative." The scores from the respondents of School D indicated that the administrative system operative in their school was 3.27, which placed it close to System 4, "Participative Group." The scores from the respondents of Schools A, B, and E indicated that the administrative systems operative in their schools were in the middle range of System 3--3.09, 3.08, and 3.01 respectively.

Data reported in Table 5 indicated that the differences between and among the schools in reported administrative systems were significant beyond the 0.001 level of confidence. The distribution of administrative systems responses across the five schools, as shown in Table 6, indicated that the respondents varied in their reports of operative administrative systems. The respondents of Schools A, D, and E, reported that Systems 2, 3, and 4 were operative in their

schools, while the respondents of Schools B and C reported Systems 1, 2, 3, and 4 were operative in their schools. The majority of the teachers in each school, however, reported that the administrative system operative in their school was System 3 or "Consultative." These findings seemed to indicate that the respondents tended to discriminate between the administrative behaviors of their principals. With significant variation, the administrative behavior of the principals was characterized as System 3 or "Consultative." From these data it can be concluded that, in the main, the respondents felt the principle of "Supportive relationships," described by Likert, was operative to a limited degree in their schools.[1]

Analysis of Relationships Within Each School

The data presented in Table 7 indicated that a significant relationship existed between administrative systems and interpersonal needs reported by the respondents of Schools A and D, while no significant relationship existed between administrative systems and interpersonal needs reported by the respondents of Schools B, C, and E. Examining these data it can be seen that Schools A and D reported the largest administrative systems scores, which indicated their administrative systems were more toward System 4 (Particpative Group) than the other schools. The data suggest that administrative system scores

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[1]Likert, The Human Organization, pp. 47-49.

and interpersonal needs scores of similar magnitude and rank were reported by the respondents from only those two schools. Interpersonal needs is an independent variable; therefore, it must be remembered that regardless of its direction or nature the administrative system would not tend to influence--increase or decrease--the respondents' interpersonal needs. The interpersonal needs scores represent measures of the presence and magnitude of these needs, and relationships between them and administrative systems need not necessarily reflect any degree of significance. These findings seemed to indicate that generally significant association tended not to exist between interpersonal needs and administrative systems. From these findings it can be concluded that teachers recognized and reported interpersonal needs; but generally the magnitude and rank of the interpersonal needs they reported were not similar to the magnitude and rank of the administrative systems they reported.

Data regarding the relationship between administrative systems and interpersonal needs satisfaction, presented in Table 8, suggested that a highly significant relationship existed between them in each school. The relationship was highly significant regardless of the direction of the administrative systems score of the school. In Schools A and D where significance was found between interpersonal needs and administrative systems there was a marked increase in significance between interpersonal needs satisfaction and administrative systems.

It seems apparent that directionally the respondents reported administrative systems and interpersonal needs satisfaction the same way. The respondents who reported a high degree of interpersonal needs satisfaction also reported administrative systems toward System 4 or "Participative Group"; conversely, the respondents who reported a low degree of interpersonal needs satisfaction also reported administrative systems toward System 1 or "Exploitive Authoritative." These findings seemed to indicate that a highly significant relationship existed between administrative systems and interpersonal needs satisfaction of teachers, and that the administrative system employed in a school determined to a significant extent the degree of interpersonal needs satisfaction experienced by the teachers. These findings are supported by Likert's findings that organizations with administrative systems toward System 4 are more likely to satisfy the needs of employees than organizations with administrative systems toward System 1.[2] From these findings it can be concluded that the nature of the administrative system of a given school determined to a highly significant extent the degree to which the interpersonal needs of the teachers were satisfied.

An examination of the data reported in Table 9 shows that a highly significant relationship between interpersonal needs and interpersonal needs satisfaction existed in all but one of the schools. It

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[2]Ibid., p. 13.

seems apparent that the respondents of Schools A, B, D, and E reported their interpersonal needs and interpersonal needs satisfaction in a similar manner, i.e., the magnitude and rank of their interpersonal needs scores were similar to the magnitude and rank of their interpersonal needs satisfaction scores. The respondents in School C did not. These data corroborated the results reported in Table 8 which indicated that regardless of direction of administrative systems scores, interpersonal needs satisfaction scores were reported accordingly. In addition, they further established the fact that interpersonal needs are essentially independent qualities, and that it is the satisfaction of these needs which is dependent upon the administrative system variable. Lack of association in School C means that the interpersonal needs satisfaction of the respondents was significantly below their interpersonal needs, which, according to Schutz, indicates the presence of anxieties which militate against a satisfactory relationship between the persons and their environment.[3] These findings seemed to indicate that the relationship between interpersonal needs and interpersonal needs satisfaction was dependent upon the direction of the administrative systems reported. From these findings it can be concluded that the respondents tended to report their interpersonal needs and interpersonal needs satisfaction in a similar manner; however, the nature of the administrative system heavily influenced the reporting of interpersonal needs

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[3]Schutz, FIRO: A Three Dimensional Theory, p. 16.

satisfaction.

## Analysis of Relationships Within Aggregate Schools

The results of the test to determine the relationship which existed between interpersonal needs and administrative systems reported by the aggregate respondents were presented in Table 10. The data seemed to indicate that when aggregated the relationship between interpersonal needs and administrative systems was significantly pronounced. Though, as reported earlier, the administrative systems employed in the schools would not tend to increase or decrease interpersonal needs, it can be seen that when tested in the aggregate the respondents showed a tendency toward reporting interpersonal needs and administrative systems in a similar direction. In other words, to some extent, those who held high interpersonal needs also viewed their administrative systems as being more supportive; conversely, to some extent those who held low interpersonal needs also viewed their administrative systems as being more exploitive.

Data in Tables 11 and 12 seemed to indicate as reported above that significance tended to increase when the scores in each category were tested aggregately. An examination of the data presented in the tables shows a highly significant relationship between interpersonal needs satisfaction and administrative systems and between interpersonal needs and interpersonal needs satisfaction. These data seemed to

support the earlier findings that significant relationships existed in each school with the exception of a non-significant relationship in School C between interpersonal needs and interpersonal needs satisfaction. These data also seemed to further indicate that the administrative system employed by the principal definitely had a significant effect on the interpersonal needs satisfaction of his teachers. In addition, the respondents tended to identify their interpersonal needs and interpersonal needs satisfaction similarly. These findings seemed to indicate that when tested aggregately significant relationships existed between the interpersonal needs and administrative systems, interpersonal needs satisfaction and administrative systems, and the interpersonal needs and interpersonal needs satisfaction reported by the respondents. From these findings it can be concluded that the respondents tended to report their interpersonal needs and interpersonal needs satisfaction in a manner which evidenced their presence and the degree to which they were being satisfied. Moreover, the findings further demonstrated that interpersonal needs satisfaction was reported as being high or low according to the nature of the administrative system. If the administrative system was toward supportive relationships, the interpersonal needs satisfaction was high; conversely, if the administrative system was toward exploitive relationships, the interpersonal needs satisfaction was low.

## Item Analysis of Administrative Systems Scale

Data reported in Table 13 indicated that some of the administrative systems scale items tended to have a negative influence on the posited scores. These items were scored by 52 per cent or more of the respondents as System 1 or System 2; thus generally lowering the magnitude of the respective administrative systems score. Examining the schools aggregately those items were identified as items 10, 11, 12, 13, 16, and 17. (See Appendix B.) Specifically, it appeared that the principals seldom if ever: (1) sought or used their teachers' ideas about academic matters; (2) sought or used their teachers' ideas about non-academic matters; (3) sought or used their students' ideas about academic matters; or (4) sought or used their students' ideas about non-academic matters. Moreover, it seemed that teachers felt, according to their responses to items 16 and 17, that students should have relatively little to say about either academic or non-academic school matters.

Examining the data school by school as reported in Tables 14 through 18, a distinct clustering of items emerged which the respondents consistently evaluated as being System 1 or System 2 characteristics of their principals and schools. These data seemed to indicate that the teachers were afforded only limited participation in the decision-making processes of their respective schools. Of particular import is that in every school but one, School D, the respondents

scored the principal low on seeking and using their ideas on both academic and non-academic matters. In School D the principal was scored low on seeking and using the respondents' ideas on only non-academic matters. In every school the respondents indicated that students should have relatively little say about what goes on in the school. From these findings it can be concluded that some of the administrative systems scale items consistently drew low scores from the respondents and can thus be construed as negative key-concept items. Moreover, it appears that neither of the principals actively sought and used ideas from his teachers. Perhaps more interesting is the indication that the teachers felt that students should have relatively little, if any, say about what takes place in their schools.

## Analysis of Differences According to Intervening Variables

Data shown in Table 20 indicated that male and female respondents significantly differed in the way they reported administrative systems operative in their schools. This was the case in each school. These data seemed to indicate that whether considered within schools or across schools, males and females constituted independent populations which tended to evaluate the administrative behavior of the principal differently. These findings seemed to indicate that sex had a significant effect on the way the teachers reported administrative systems.

Age was not an apparent factor in the way teachers reported administrative systems, except in School A. An examination of the data presented in Table 19 shows that the ratio between the number of cases in age groups was much larger in School A than the other schools. The spread between age groups in Schools B, C, D, and E was within five cases, while the spread within the age group of School A was twenty-nine cases. The younger age groups held the majority of the cases. These data, presented in Table 21, seemed to indicate that age was not a significant factor in teachers' reporting administrative systems, except in cases where the ratio of younger teachers to older teachers was high in favor of younger teachers. These findings seemed to indicate that age generally did not have a significant effect on the way teachers reported administrative systems.

Data reported in Table 22 indicated that teaching experience made a significant difference in the way teachers reported administrative systems in only two of the schools. An examination of the data presented in Table 19 indicates that within the variable, two of the schools had small ratios of difference between the number of cases in the population and three had rather large ratios of difference. In Schools A and D, where significant differences occurred, the ratio of difference between the categories exceeded twenty cases. Therefore, it appears years of teaching experience made a significant difference in administrative systems scores only when there was a large ratio of

difference between the number of cases in each category. These findings seemed to indicate that teaching experience generally did not have a significant effect on the way teachers reported administrative systems.

As reported in Table 23, the variable of certification level when tested showed a significant difference only in School A. An examination of the data presented in Table 19 shows that School A had a greater ratio of difference between cases than the other schools. The other schools had case differences which did not exceed six, while School A had a case difference of nineteen. From these data it appears that certification level made a significant difference in reporting administrative systems only when there was a large ratio of difference between the occupants of the tested categories. These findings seemed to indicate that certification level generally did not have a significant effect on the way teachers reported administrative systems.

The variable of relative status when tested revealed significant differences between the way classroom teachers and guidance counselors, department chairmen, and assistant principals reported administrative systems in four of the five schools. As shown in Table 24, only the respondents of School A failed to report a significant difference. An examination of the data presented in Table 19 shows that the composition of the faculty of School A was significantly different in the categories of age, years of experience, and certification level. These findings seemed to indicate that relative status generally had a

significant effect on the way teachers reported administrative systems.

When the variable number of years with the principal was tested, the respondents of Schools A and B showed a significant difference in the way they reported administrative systems, while the respondents of Schools C, D, and E did not. These data were reported in Table 25. An examination of the data presented in Table 19 shows that Schools A and B had much larger ratios of difference between the cases in the tested categories than Schools C, D, and E. These data seemed to suggest that number of years worked with the principal made a significant difference in reporting administrative systems only when there was a large ratio of difference between the number of cases in the tested categories. These findings seemed to indicate that number of years worked with the principal generally had no effect on the way teachers reported administrative systems.

As reported in Table 26, the subjects taught by the respondents apparently made a difference in the way they reported operative administrative systems in four of the five schools. Only the respondents of School E did not show a significant difference. In view of these data it can be assumed that teachers generally reported different administrative systems when compared as to subjects taught. These findings seemed to indicate that subjects taught generally had a significant effect on the way teachers reported administrative systems.

The results of the tests to determine if the variables of

sex, age, teaching experience, certification level, relative status, number of years worked with principal, and subjects taught significantly influenced the way respondents reported interpersonal needs were presented in Table 27 through 33. When tested according to sex, it was found that a significant difference existed between the way males and females reported interpersonal needs in each of the five schools. The data shown in Table 27 shows the results of the test. These data seemed to indicate that males and females constituted independent populations which tended to evaluate and report their interpersonal needs differently. These findings seemed to indicate that sex had a significant effect on the way teachers reported interpersonal needs.

Age was revealed as a significant influence in reporting interpersonal needs in two of the five schools. It was not a significant factor in Schools B, C, and E. An examination of the data presented in Table 19 shows that Schools A and D had a larger number of teachers in the younger age category (20-39) than the other three schools. They also had a significant difference in interpersonal needs reported by the respondents. According to these data it appears that a larger number of younger teachers in a school tended to make a difference in the way interpersonal needs were reported. These findings seemed to indicate that age generally did not have a significant effect on the way teachers reported interpersonal needs.

Teaching experience made a significant difference in the

way the respondents of Schools A and D reported their interpersonal needs. It was not a significant factor in Schools B, C, and E. These data were reported in Table 29. The data presented in Table 19 shows that Schools A and D had larger numbers of younger teachers with fewer years of teaching experience than the other schools, or conversely, the other schools had larger numbers of older teachers with more years of teaching experience. In either event, the ratio difference between the two groups was larger in Schools A and D. These data seemed to indicate that teaching experience made a significant difference in the way teachers reported interpersonal needs only when the ratio of age and number of years of experience increased or decreased in the two categories. These findings seemed to indicate that teaching experience generally did not have a significant effect on the way teachers reported interpersonal needs.

The results of testing impersonal needs according to the variable of certification level were presented in Table 30. An examination of the data shows that a significant difference in the way teachers reported their interpersonal needs existed in only School A. An examination of the data presented in Table 19 shows that School A had a difference ratio of nineteen cases between the certification level categories. None of the other schools had a difference ratio larger than six. These data seemed to indicate that certification level made a significant difference in the way interpersonal needs were reported

only when the ratio of case difference between the categories was large. These findings seemed to indicate that certification level generally did not have a significant effect on the way teachers reported interpersonal needs.

Relative status was a significant factor in the way that teachers reported their interpersonal needs in each of the five schools. These data, reported in Table 31, seemed to indicate that the position occupied by teachers in each of the five schools had a significant influence on how they reported their interpersonal needs. These findings seemed to indicate that relative status had a significant effect on the way teachers reported interpersonal needs.

An examination of the data reported in Table 32 indicated that the number of years teachers had worked with principals was a significant factor in reporting interpersonal needs in two of the five schools. It did not make a significant difference in the way the teachers of Schools C, D, and E responded. An examination of the data presented in Table 19 shows that in Schools A and B, where significant differences were uncovered, more teachers had worked fewer years with the principals. These data seemed to indicate that number of years worked with the principal did not make a significant difference in the reporting of interpersonal needs when a majority of the teachers had been with the principal four years or more. These findings seemed to indicate that number of years with the principal generally did not

have a significant effect on the way teachers reported interpersonal needs.

Significant differences were found in the reporting of interpersonal needs in all the schools except School E, when the respondents were compared according to subjects taught. These data seemed to indicate that teachers of mathematics and science viewed their interpersonal needs differently than the teachers of other subjects. These findings seemed to indicate that the subjects taught by teachers generally had a significant effect on the way they reported their interpersonal needs.

Tables 34 through 40 reported the results of the tests to determine if the variables of sex, age, years of teaching experience, certification level, relative status, number of years worked with principal and subjects taught were significant factors in the way teachers reported interpersonal needs satisfaction. The resulting values from the test applied to the variable of sex were reported in Table 34. An examination of the data shows that the sex of the respondents was a significant factor in the way they reported interpersonal needs satisfaction. These data seemed to indicate that the male and female respondents constituted independent populations and viewed the satisfaction of their interpersonal needs differently. These findings seemed to indicate that sex had a significant effect on the way teachers reported their interpersonal needs satisfaction.

The results of the test for the significance of age in reporting interpersonal needs satisfaction were reported in Table 35. An examination of these data shows that the respondents of Schools A and D reported age as a significant factor. It was not a significant factor in Schools B, C, and E. An examination of the data presented in Table 19 shows School A had a larger ratio of difference between the occupants of the age categories than the other schools. The difference between the occupants of age categories in School A and the school with the next largest difference is sixteen cases. These data seemed to indicate that age was not a significant difference when the number of occupants of the age categories were almost the same, but a significant difference became evident as the ratio between the groups increased. These findings seemed to indicate that age generally did not have a significant effect on the way teachers reported interpersonal needs satisfactions.

The results of the tests of teaching experience, presented in Table 36, shows that it was a significant factor in three of the schools. Schools A, C, and D showed significant differences. An examination of Table 19 shows that each of these schools had larger numbers of teachers in the 0-13 years experience category than the 14-and-above years category. School E also had a larger number of teachers in the 0-13 years experience category and failed to register a significant difference. These data seemed to indicate that teaching

experience made a significant difference in the way respondents reported interpersonal needs satisfaction when the majority of the teachers in the school were in the 0-13 years experience category. These findings seemed to indicate that teaching experience generally had a significant effect on the way teachers reported interpersonal needs satisfaction.

Level of certification was a significant factor in reporting interpersonal needs satisfaction by the respondents of School A. As presented in Table 37, the test results showed no significant differences in Schools B, C, D, and E. An examination of the data presented in Table 19 shows that School A exceeded the school with the second largest number of cases by thirteen. These data seemed to indicate that when a sizable majority of the teachers fell in the bachelor degree category they tended to view their interpersonal needs satisfaction differently. These findings seemed to indicate that certification level generally did not have a significant effect on the way teachers reported interpersonal needs satisfaction.

As reported in Table 38, relative status made a significant difference in the way the respondents reported their interpersonal needs satisfactions in each of the five schools. These data seemed to indicate that classroom teachers held different views of interpersonal needs satisfaction than guidance counselors, department chairmen, and assistant principals. These findings seemed to indicate that relative

status had a significant effect on the way teachers reported their interpersonal needs satisfaction.

Data reported in Table 39 showed that the respondents of Schools A and B revealed significant differences in reporting their interpersonal needs satisfaction according to the variable of number of years worked with the principal, while the respondents of Schools C, D, and E did not. Returning to Table 19, it can be seen that Schools C, D, and E had smaller case differences between the categories when compared to Schools A and B. Schools A and B were the only schools in which a majority of the respondents fell in the 1-3 years category. These data seemed to indicate that significant differences occurred in the reporting of interpersonal needs satisfaction when the majority of the teachers of a school fell in the 1-3 years worked with the principal category. These findings seemed to indicate that the number of years worked with the principal generally did not have a significant effect on the way teachers reported interpersonal needs satisfaction.

The subjects taught variable when tested showed that teachers of Schools A, B, C, and D who taught mathematics and science significantly differed in reporting their interpersonal needs satisfaction when compared with the teachers of the other subjects. As shown in Table 40, there was no difference found between the respondents of School E. These data seemed to indicate that teachers of mathematics and science

tended to view interpersonal needs satisfaction differently than the teachers of the other subjects. These findings seemed to indicate that subjects taught generally had a significant effect on the way teachers reported interpersonal needs satisfaction.

## Summary

The major findings may be summarized as follows:

1. The administrative systems operative in the five schools ranged from 2.77 to 3.27. In each school the administrative system was construed to be System 3 or "Consultative."

2. Even though the administrative system reported operative in each school was within the System 3 or "Consultative" range, significant differences existed between and among them when compared according to precise administrative systems reported by the respondents.

3. There generally was not a significant relationship between administrative systems and interpersonal needs reported by the respondents when tested school by school. Interpersonal needs emerged as an independent variable.

4. A highly significant relationship was found to exist between administrative systems and interpersonal needs satisfaction reported by the respondents when tested school by school. Interpersonal needs satisfaction emerged as a dependent variable.

5. A highly significant relationship was found to exist between the interpersonal needs and interpersonal needs satisfaction reported by the respondents when tested school by school.

6. A significant relationship was found to exist

between administrative systems and interpersonal needs reported by the respondents when tested in the aggregate.

7. A highly significant relationship was found to exist between administrative systems and interpersonal needs satisfaction reported by the respondents when tested in the aggregate.

8. A highly significant relationship was found to exist between interpersonal needs and interpersonal needs satisfaction reported by the respondents when tested in the aggregate.

9. Certain of the items on the administrative systems scale were found to be consistently low-score producing items. Each of the items claimed 52 or more per cent of the scores as System 1 or System 2.

10. Certain of the items on the administrative systems scale were found to consistently have a relatively high rate of omissions. The items appeared to pose unusual difficulty for the respondents in answering.

11. Sex made a significant difference in the way the respondents reported administrative systems, interpersonal needs and interpersonal needs satisfaction.

12. Age generally did not make a significant difference in the way the respondents reported administrative systems, interpersonal needs and interpersonal needs satisfaction. Where significant differences were found, differences in case ratios in the categories seemed to be the contributing factor.

13. Teaching experience generally did not make a significant difference in the way respondents reported administrative systems and interpersonal needs. Where significant differences were found, differences in case ratios in the

categories seemed to be the contributing factor.

14. Teaching experience generally did make a significant difference in the way the respondents reported interpersonal needs satisfaction.

15. Certification level generally did not make a significant difference in the way respondents reported administrative systems, interpersonal needs and interpersonal needs satisfaction. In the instance where a significant difference was found differences in case ratios in the categories seemed to be the contributing factor.

16. Relative status made a significant difference in the way the respondents reported administrative systems, interpersonal needs and interpersonal needs satisfaction.

17. The number of years worked with the principal generally did not make a significant difference in the way the respondents reported administrative systems, interpersonal needs and interpersonal needs satisfaction. Where significant differences were found, differences in case ratios seemed to be the contributing factor.

18. Subjects taught made a significant difference in the way the respondents reported administrative systems, interpersonal needs and interpersonal needs satisfaction.

# CHAPTER VI

## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

### Summary

Educational administration is in a state of flux. Researchers and writers in the field are devoting little effort in the investigation and development of human relations approaches to administration which hold the potential of helping the school administrator appropriately respond to the behavioral exigencies of his job. It appears that major emphasis today is placed upon the development of what is described as rational administrative approaches. This emphasis was perhaps personified in the paper presented by Michael at the Twelfth Annual University Council for Educational Administration Career Development Seminar.[1] Though making a strong case for rational administrative procedures, Michael concluded that

> [i]n some quarters, there will be more emphasis on and more appeal in face-to-face relationships and intimate self enlarging experiences. These are means par excellence

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[1]Donald N. Michael, "Some Long Range Implications of Computer Technology for Human Behavior in Organizations," Computer Concepts and Educational Administration (Iowa City: The Iowa Educational Information Center, College of Education, University of Iowa, 1966), pp. 55-76.

> of avoiding or compensating for the depersonalized existence of highly rationalized operations. They are also the means for finding a dignified role not potentially replaceable by a machine. That is, not replaceable as long as the success of the face-to-face relationship is not measured primarily in terms of profit making or efficiency.[2]

Schools surely must be construed as being in those quarters. Teachers are not potentially replaceable by machines nor is the major purpose of the school profit making. For these reasons, the spectre of an omnipotent, omniscient administrator presiding over a school appears to hold little promise for improving the quality of the behavior of its members. Instead, it seems that administrative principles and practices which hold the potential for meeting interpersonal needs, reducing tension and conflict and contributing to unified, cooperative efforts between administrators and teachers toward the achievement of organizational goals are urgently needed by today's school administrators.

The purpose of this study was to determine if differences in administrative systems employed by secondary school principals were significantly related to the interpersonal needs satisfaction of teachers. In addition, the intervening variables of sex, age, years of teaching experience, certification level, relative status, number of years worked with principal, and subjects taught were statistically analyzed to determine the extent to which they influenced teacher perception of

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[2] Ibid., pp. 64-65.

administrative systems, interpersonal needs, and interpersonal needs satisfaction.

The high school teachers of a large school district were selected as the population for this study. The schools of the district were delimited in order to reduce the variables and increase the homogeneity among them. The questions of the study suggested that the population used for testing the hypotheses be relatively homogeneous; therefore, it was considered necessary to confine the population to teachers on the same teaching level and in schools where there was a clear similarity in organizational structure and function. Such a population was believed to possess a minimal number of diverse variables affecting teachers' interpersonal needs satisfaction, with the behavior of the administrator being the dominant one.

Two questionnaire-type instruments were used to collect the data for the study. The administrative systems scale, Profile of A School - Part I, developed by Likert, was the basic instrument used. A modified version of the FIRO-B Scale developed by Schutz was used to ascertain measures of interpersonal needs and interpersonal needs satisfaction.

Three non-parametric statistical tests were used to test the hypotheses. The Spearman rank correlation coefficient was utilized to determine the degree of association between administrative systems, interpersonal needs and interpersonal needs satisfaction. The chi-

square test for K independent samples was used to determine whether different samples of teacher groups differed in the frequency in which they chose certain administrative systems and, therefore, came from different populations. The Mann-Whitney U test was used to determine whether there were significant differences between and among the variables of sex, age, years of teaching experience, certification level, relative status, number of years worked with principals and subjects taught regarding teachers' perception of administrative systems, interpersonal needs and interpersonal needs satisfaction. In addition, a simplified item analysis was performed on the administrative systems scale to determine if certain items could be construed as key concept items.

This study found a highly significant relationship between administrative systems and interpersonal needs satisfaction of teachers. The administrative systems employed by principals were found to determine to a significant extent the degree to which the interpersonal needs of teachers were satisfied. Specifically, the more fully the human relations principle of "supportive relationships" was reported to be administatively employed by principals, the greater the degree of interpersonal needs satisfaction experienced by the teachers. Conversely, the less the human relations principle of "supportive relationships" was reported to be administratively employed by principals the lesser the degree of interpersonal needs satisfaction experienced by the

teachers. These findings are supported by the findings reported by Likert, which indicated that organizations with administrative systems more toward Participative Group (high supportive relationships) are more likely to be productive and satisfying than organizations with administrative systems more toward Exploitive Authoritative (low supportive relationships).[3] Moreover, the findings are also supported by the general human relations findings that employee participation in the decision-making process of the organization is essential to the satisfaction of the employee and the health of the organization.[4]

From the item analysis conducted on the administrative system scale it was found that some items tended to negatively influence the administrative systems results. These items claimed 52 or more per cent of the scores per item for either the low "supportive relationship" systems of System 1 or System 2. In addition, certain of the items were found to have relatively high rates of omission suggesting that they posed unusual difficulty for the respondents in answering.

Closely examining the administrative systems scores returned by the aggregate respondents, six items were identified as

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[3]Likert, The Human Organization, p. 13.

[4]Keith Davis, "The Case for Participative Management," in Human Relations in Management, ed. by S. G. Hungeryager and I. L. Heckmann (New Rochelle, N. Y.: Smith-Western Publishing Co., 1967), pp. 615-621.

negative influence items and six items emerged as difficult ones. The negative influence items indicated that the principals seldom if ever: (1) sought or used their teachers' ideas about academic matters; (2) sought or used their teachers' ideas about non-academic matters; (3) sought or used their students' ideas about academic matters; or (4) sought or used their students' ideas about non-academic matters. Moreover, it appeared that teachers felt, according to their responses to two items, that students should have relatively little to say about either academic or non-academic school matters.

From these findings it appears that the principals involved basically believed, unlike McGregor, that the capacity to exercise a relatively high degree of imagination, ingenuity, and creativity in the solution of organizational problems is narrowly, not widely, distributed in the population.[5] While the results do not provide precise data as to whether the teachers involved in the study were dissatisfied or disgruntled because of their lack of or highly limited involvement in basic decision-making, the tenor of the times should be sufficiently instructive for the astute school administrator. By the same logic, the alert, progressive and productive teacher should recognize that bias against student participation in matters which significantly affect them must be rapidly overcome.

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[5]McGregor, The Human Side of Enterprise, p. 48.

The intervening variables of sex, relative status, and subjects taught were found to make a significant difference in the way teachers reported administrative systems, interpersonal needs and interpersonal needs satisfaction. The variables of age, teaching experience, certification level, and number of years worked with the principal were found to generally not make a significant difference in the way teachers reported administrative systems, interpersonal needs and interpersonal needs satisfaction. However, teaching experience did generally make a significant difference in the way they reported interpersonal needs satisfaction.

In summary, it was found that the teachers included in this study felt that they had limited participation and involvement in the affairs of their schools. While the principals' administrative behaviors were reported as being "consultative," only one school approached an administrative system of "Partipative Group" which according to Likert is the most productive and satisfying.[6] All of the principals fall short of the full utilization of Likert's human relations principle of "supportive relationships" which specifies that:

> The leadership and other processes of the organization must be such as to ensure a maximum probability that in all interactions and in all relationships within the organization, each member in light of his background, values, desires and expectations, will view the experience as supportive and one which builds and maintains his sense of personal worth and importance.[7]

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[6]Likert, The Human Organization, pp. 47-54.

[7]Ibid., p. 47.

The consequence of the principals' administrative behaviors was the failure to satisfy the interpersonal needs of their teachers. According to Schutz, the discrepancy between interpersonal needs and interpersonal needs satisfaction can lead to serious psychological problems.[8] These psychological problems can be the basis for the serious impairment of the requisite human relations and interactions necessary for a school to properly function. In addition, as indicated by Argyris, they greatly militate against the achievement of organizational goals.[9]

The major findings and conclusions of this study can be stated as follows:

1. Significant differences did exist between and among the administrative systems teachers reported employed by their principals in the schools investigated. All of the schools were reported as having administrative systems which were "consultative." From this finding it can be concluded that the principals utilized only to a limited degree the human relations principle of "supportive relationships" in their dealings with their teachers. Moreover, the degree to which the principle of "supportive relationships" was used by the principal was significantly varied from school to school.

2. No significant relationship was generally found to exist between administrative systems and interpersonal needs when the schools were tested individually. From this finding it can

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[8]Schutz, FIRO: A Three Dimensional Theory, pp. 15-20.

[9]Argyris, Integrating the Individual and the Organization, p. 67.

be concluded that interpersonal needs were independent variables which were not influenced by the behavior of the principals. Interpersonal needs emerged as measurable entities that existed in varying degrees in the teachers.

3. A highly significant relationship was found to exist between the administrative systems employed by the principals and the interpersonal needs satisfaction of the teachers. From this finding it can be concluded that the administrative system employed by the principals was the significant determining factor in the degree of interpersonal needs satisfaction experienced by the teachers. The more the principals utilized the human relation principle of "supportive relationships," the greater the degree of interpersonal needs satisfaction the teachers experienced. Conversely, the less the principals utilized the human relations principle of "supportive relationships," the lesser the degree of interpersonal needs satisfaction experienced by the teachers. The quality of the human relations in the school was the determining factor in the degree of interpersonal needs satisfaction of the teachers.

4. Generally a highly significant relationship was found to exist between interpersonal needs and interpersonal needs satisfaction. From this finding it can be concluded that teachers recognized and distinguished between their interpersonal needs and interpersonal needs satisfaction. Additionally, the magnitude and rank of their needs and satisfactions were reported similarly.

5. Certain administrative systems scale items were found to be key-concept items with negative influence. These items claimed 52 or more per cent of the scores for System 1 or System 2, thereby lowering the administrative systems scores for each of the schools. All of the teachers felt the principals were prone not to actively seek and use their ideas or students'

ideas about academic or non-academic matters. Moreover, the teachers felt that the principals generally provided only limited opportunity for the teachers to participate in the decision-making processes of the schools, and the teachers did not want the students to share at all.

6. Significant differences did exist in the way the intervening variables of sex, relative status and subjects taught influenced the way teachers reported administrative systems, interpersonal needs and interpersonal needs satisfaction. From this finding it can be concluded that the teachers comprising the categories within these three variables constituted two independent populations. In attempting to satisfy the interpersonal needs of teachers within these groups, principals must use decidedly different human relations oriented administrative procedures.

7. Significant differences did not exist in the way the intervening variables of age, teaching experience, certification level, and number of years worked with the principal influenced the way teachers reported administrative systems, interpersonal needs and interpersonal needs satisfaction. The exception was the influence of the variable of teaching experience on teachers reporting interpersonal needs satisfaction. Teaching experience did have a significant effect on the way teachers reported interpersonal needs satisfaction. From this finding it can be concluded that the teachers comprising the categories within these four variables constituted a unitary population. In attempting to satisfy the interpersonal needs of the teachers within these groups, principals can use the same or similar human relations oriented administrative systems.

## Recommendations

The findings of this study seem to support the following recommendations:

1. That additional studies be conducted in secondary schools testing the relationship between administrative systems and interpersonal needs satisfaction. In addition, junior high and elementary schools should also be studied to determine if the relationship is pervasive.

2. That future research attempt to locate variable differences by increasing the number of categories within the variables, where possible, and using directional statistical tests.

3. That future research attempt to provide insight into which of the interpersonal needs of affection, control, and inclusion should be of primary concern to school administrators.

4. That future research include reports from students in the determination of the administrative systems operative in schools.

5. That a factor analysis be conducted on the cluster of items which emerged as negative key-concept and difficult items to clarify the usefulness and impact of these items on the determination of administrative systems.

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# APPENDIX A

## CORRESPONDENCE RELATED TO THE STUDY

Dear Teacher:

Under the guidance and direction of Dr. Robert E. Ohm, Dean, College of Education, University of Oklahoma, I am conducting a doctoral study to uncover teacher perception of and preference for administrative relationships in the school organization. Hopefully, the study will provide some insight into the kinds of administrative relationships teachers perceive as contributive and satisfying as they attempt to effectively function in their role assignments.

We recognize that you are busy and your time is valuable, but it is from efforts like this that we gain knowledge and insight into how to move toward improving existing situations. It is for this reason that we request your participation in this study by completing the attached questionnaires and data form.

Although the questionnaires elicit responses from you about yourself and your principal, the study is not really concerned with individual responses but with the scores derived from the composite responses of all the participants. Therefore, please be assured that you will be and remain an anonymous participant. No one will be apprised of your responses on the questionnaires. The results of the questionnaires will be held in strictest confidence and handled in a responsible and professional manner. For this reason, your responses can be absolutely candid.

Please accept my sincere thanks for your time and effort in making this study possible.

Sincerely,

/s/ Lonnie H. Wagstaff

EXTENSION DIVISION
School and Community Services
1700 Asp Avenue

THE UNIVERSITY OF OKLAHOMA
Norman, Oklahoma 73069

April 2, 1968

Dr. Rensis Likert, Director
Institute of Social Research
The University of Michigan
Ann Arbor, Michigan

Dear Dr. Likert:

I am considering writing a thesis on "Administrative Systems in the School Organization", and would like permission to use your scale published in The Human Organization: Its Management and Value, McGraw-Hill Book Company, 1967.

You indicate in the volume that the scale is suitable for determining the management systems operative in any organization. Is this also true of the school organization?

Recognizing that I am infringing on your busy schedule, I would like you to please answer two additional questions. Would the causal items constitute a valid scale to determine the administrative systems within a school organization? Are printed copies of the scale and answer sheets Form A and B available for purchase?

Thank you for your kind consideration to my request and answers to my questions.

Sincerely,

/s/ Lonnie H. Wagstaff
Graduate Student
University of Oklahoma

ISR
Institute for Social Research/The University of Michigan/Ann Arbor,
Michigan 48106 April 29, 1968

Mr. Lonnie H. Wagstaff
Extension Division
School and Community Service
The University of Oklahoma
1700 Asp Avenue
Norman, Oklahoma 73069

Dear Mr. Wagstaff:

Thank you for your letter of April 2. There have been many inquiries from people interested in applying the measurement instruments in The Human Organization to the field of public school administration. In response to this interest, forms have been prepared for principals, teachers, and high school students.

Enclosed is a sample kit of the various versions so that you can see just how we have adapted them for use in school systems. If you would like to use the forms in connection with your thesis research, I would be happy to furnish you with copies provided you are willing to return the completed forms to me, together with your research design and the analyses and any suggestions you may have for revision. I look forward to hearing from you.

Cordially

/s/ Rensis Likert
Director

EXTENSION DIVISION
School and Community Services
1700 Asp Avenue

THE UNIVERSITY OF OKLAHOMA
Norman, Oklahoma 73069

May 2, 1968

Dr. Rensis Likert
Director
Institute for Social Research
The University of Michigan
Ann Arbor, Michigan 48106

Dear Dr. Likert:

Thank you for your letter of April 29, and the sample kit of the various versions of the measurement instruments proposed in your book The Human Organization.

As my thesis is presently designed, I would like your permission to use the form for principals and both parts I and II of the form for teachers. In addition, I would like your permission to change item two and delete item three on the instructions for the form for principals and Part I of the form for teachers. Item two would be changed to read: "In addition, on the lines below each item please place a SB at the point which, in your judgment, describes where your school should be." The concern is to elicit from the respondent his opinion of appropriate behavior, rather than perceived behavior two or more years ago. Each item two, with your permission, would be appropriately changed to elicit this type response.

I am agreeable to the conditions stipulated regarding receiving the forms needed for the research. In that regard, twenty-five forms for principals and one thousand forms for teachers are needed for the research project.

Thanks again for your kind attention to my request. I look forward to your reply concerning persmission to use and permission to change the instructions on the indicated forms.

Sincerely yours,

/s/ Lonnie H. Wagstaff

ISR
Institute for Social Research/The University of Michigan/Ann Arbor,
Michigan 48106 May 10, 1968

Mr. Lonnie H. Wagstaff
Extension Division
School and Community Services
The University of Oklahoma
1700 Asp Avenue
Norman, Oklahoma 73069

Dear Mr. Wagstaff:

We will be glad to send you the twenty-five Forms for Principals and one thousand Forms for Teachers that you requested for use in your research.

On the instruction sheets, we prefer that you use a sentence more nearly corresponding to the Form D instructions appearing in The Human Organization on page 211. This sentence in your instruction sheet would then read, "In addition, on the lines below each item, please place an 1 where you would like to have your organization fall with regard to that item." When you prepare your new instruction sheet, be sure to include the paragraph about the copyright appearing at the bottom of the page of our instruction sheet.

We have no objections to your omission of item 3 in the instructions on both the Form for Principals and in Part I of the Form for Teachers.

Sincerely yours,

/s/ Rensis Likert
Director

# APPENDIX B

## INSTRUMENTS USED IN THE STUDY

## Personal Data Form

Directions: Please place an X in the space opposite the choice that gives the correct information about you.

1. Sex: Male____, Female____.

2. Age: 20-29____, 30-39____, 40-49____, 50-59____, 60-70____.

3. Years of Teaching Experience:
   0-6____, 7-13____, 14-20____, Over 20____.

4. Certification Level:
   Bachelor____
   Master____
   Beyond Master____

5. Full-time Staff Position:
   Classroom Teacher____
   Counselor____
   Department Head____
   Assistant Principal____

6. Number of years you have worked at this school with the present principal:
   1 yr.____, 2 yrs.____, 3 yrs.____, 4 yrs.____, 5 yrs.____,
   6 yrs. or more____.

7. Subject(s) you teach (please list):
   1. _____ 3. _____
   2. _____ 4. _____
   3. _____ 5. _____

April 1968

# PROFILE OF A SCHOOL
(Form for Teachers)
Part I

Instructions for Teachers:

1. On the lines below each item, please place an n at the point which, in your experience, describes your school at the present time (n = now). Treat each horizontal line as a continuum from the extreme at one end to the extreme at the other, i.e., do not think of the vertical lines as barriers.

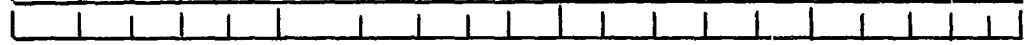
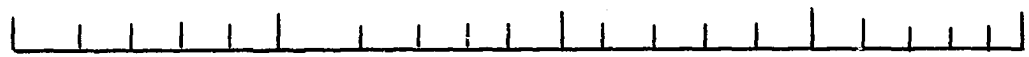
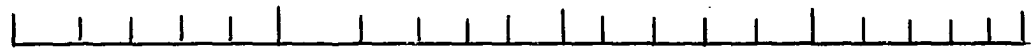
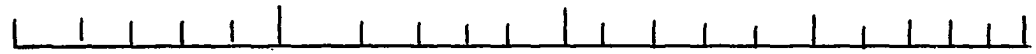
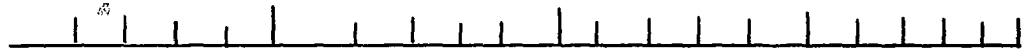
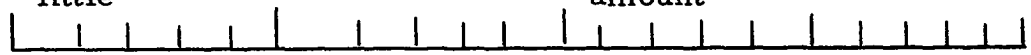
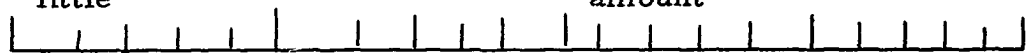
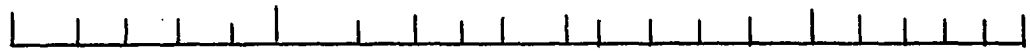
2. In addition, if you have been teaching in your present school one or more years, please also place a p on each line at the point which, in your experience, describes your school as it was one or two years ago (p = previously).

3. If you were not in your present school one or more years ago, please check here____and answer as of the present time, i.e., answer with an n only.

4. Since each teacher and student differs one from the other, answer the questions as describing the average situation or reaction.

Prepared by Jane Gibson Likert and Rensis Likert. Adapted from The Human Organization: Its Management and Value by Rensis Likert. Copyright (c) 1967 by McGraw-Hill, Inc. By permission of McGraw-Hill Book Company, Inc. No further reproduction or distribution authorized without permission of McGraw-Hill.

| | | | | | Item No. |
|---|---|---|---|---|---|
| How often is your principal's behavior seen as friendly and supportive by: | Rarely | Sometimes | Often | Very frequently | |
| a. teachers? | | | | | 1 |
| b. students? | | | | | 2 |
| How much confidence and trust does your principal have in his teachers? | Not very much | Some | Substantial amount | A great deal | 3 |
| How much confidence and trust do you have in your principal? | Not very much | Some | Substantial amount | A great deal | 4 |
| How free do you feel to talk to the principal about: | Not very free | Somewhat free | Rather free | Very free | |
| a. academic matters, such as course content, instructional plans, teaching methods, your work, etc? | | | | | 5 |
| b. non-academic school matters, such as student behavior, emotional problems of students, discipline, student activities, etc? | | | | | 6 |
| c. your personal problems? | | | | | 7 |

| | | Item No. |
|---|---|---|
| How often do you try to be friendly and supportive to: | Rarely — Sometimes — Often — Very frequently | |
| a. your principal? |  | 8 |
| b. other teachers? |  | 9 |
| How often are your ideas sought and used by the principal about: | Rarely — Sometimes — Often — Very frequently | |
| a. academic matters? |  | 10 |
| b. non-academic school matters? |  | 11 |
| How often are students' ideas sought and used by the principal about: | Rarely — Sometimes — Often — Very frequently | |
| a. academic matters? |  | 12 |
| b. non-academic school matters? |  | 13 |
| How much say do you think teachers should have about: | Relatively little — Some — Substantial amount — A great deal | |
| a. academic matters? |  | 14 |
| b. non-academic school matters? |  | 15 |
| How much say do you think students should have about: | Relatively little — Some — Substantial amount — A great deal | |
| a. academic matters? |  | 16 |
| b. non-academic school matters? |  | 17 |

| | | | | | Item No. |
|---|---|---|---|---|---|
| What is the general attitude of teachers toward your school as a place to work? | Hostile | Sometimes hostile, sometimes favorable | Usually favorable | Strongly favorable | 18 |
| What is the direction of the flow of information about: | Downward from principal to teacher to student | Mostly downward | Down and up | Down, up and between teachers and between students | |
| a. academic matters? | | | | | 19 |
| b. non-academic school matters? | | | | | 20 |
| Are downward communications accepted? | On the surface yes. Secretly, no. Viewed with great suspicion | Some accepted, some viewed with suspicion | Usually accepted, sometimes cautious- | Almost always accepted. If not; openly and candidly questioned | 21 |
| How accurate is upward communication? | Usually inaccurate | Often inaccurate | Fairly accurate | Accurate | 22 |
| How well does your principal know the problems faced by teachers? | Not very well | Rather well | Quite well | Very well | 23 |

| | | | | | Item No. |
|---|---|---|---|---|---|
| What is the character and amount of interaction in your school: | Little interaction; usually with fear and distrust | Little interaction; principal and teachers usually maintain distance from one another | Moderate interaction; often with fair amount of confidence and trust | Extensive, friendly interaction with high degree of confidence and trust | |
| a. between principal and teachers? | | | | | 24 |
| b. among teachers? | | | | | 25 |
| How much cooperative teamwork is present in your school among principal,, teachers, students? | Very little | Relatively little | Moderate amount | Very substantial amount throughout school | 26 |
| At what level are decisions made about school matters, such as course content, instructional plans, teaching methods, student behavior, student activities, etc? | Bulk at top; by principal or superintendent of school | Policy at top; specific decisions by teachers but usually checked by principal before action | Broad policy at top; more specific decisions at lower levels | Throughout school. Principal, teachers and students participating in decisions affecting them | 27 |
| Is decision-making in your school based on man-to-man or a group pattern of operation? | Man-to-man only | Man-to-man almost entirely | Both man-to-man and group | Largely group | 28 |

| | | | | | Item No. |
|---|---|---|---|---|---|
| In general, what does the decision-making process contribute to the desire of teachers and students to do a good job? | Not very much, often weakens it | Relatively little | Some contribution | Substantial contribution | 29 |
| *Who holds high performance goals for your school? | Principal only | Principal and some teachers | Principal, most teachers, some students | Principal, teachers, students, parents | 30 |
| Who feels responsible for achieving high performance | Principal only | Principal and some teachers | Principal, most teachers, some students | Principal, teachers, students | 31 |
| How much secret resistance is there in achieving high performance goals? | Strong resistance | Moderate resistance | Some resistance and some cooperation | Little or no resistance and much cooperation | 32 |

*If no one expects a high level of performance, place a check mark here____and skip items 30-32.

## Interpersonal Needs and Interpersonal Needs Satisfaction Scale

Directions:

(a) Read each item carefully.
(b) Decide which one of the seven possible responses under each item best describes your feelings.
(c) Circle the one response under each item that best describes your feelings.
(d) Please do not circle more than one response under each item.

1. I want my principal and fellow teachers to include me in the activities that take place in my school.
   a. always b. usually c. often d. sometimes
   e. occasionally f. rarely g. never

2. Because of the leadership provided by my principal, I am included in the activities that take place in my school.
   a. always b. usually c. often d. sometimes
   e. occasionally f. rarely g. never

3. I want to have some say about the things done in my school which affect me.
   a. always b. usually c. often d. sometimes
   e. occasionally f. rarely g. never

4. Because of the leadership provided by my principal, I do have some say about the things done in my school which affect me.
   a. always b. usually c. often d. sometimes
   e. occasionally f. rarely g. never

5. I want my fellow teachers to act warm and friendly toward me.
   a. all teachers b. most teachers c. many teachers
   d. some teachers e. a few teachers f. one or two teachers g. none of the teachers

6. Because of the leadership provided by my principal, the teachers in my school are warm and friendly toward me.
   a. all teachers b. most teachers c. many teachers
   d. some teachers e. a few teachers f. one or two teachers g. none of the teachers

# APPENDIX C

## VARIABLE IDENTIFICATION AND MEAN SCORES BY SCHOOLS

VARIABLE IDENTIFICATION AND MEAN SCORES FOR

SCHOOL A

| A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 11.781 | 5.667 | 5.333 |
| 1 | 2 | 2 | 1 | 1 | 4 | 0 | 7.625 | 5.000 | 4.000 |
| 1 | 3 | 3 | 2 | 1 | 4 | 3 | 12.781 | 6.000 | 5.667 |
| 1 | 2 | 2 | 1 | 1 | 1 | 4 | 13.719 | 6.000 | 6.000 |
| 1 | 4 | 3 | 2 | 3 | 6 | 5 | 14.062 | 6.667 | 6.000 |
| 1 | 2 | 2 | 2 | 1 | 1 | 5 | 12.719 | 6.333 | 5.333 |
| 1 | 2 | 2 | 1 | 1 | 2 | 2 | 11.821 | 6.667 | 5.333 |
| 1 | 1 | 1 | 1 | 1 | 2 | 3 | 9.455 | 6.333 | 4.333 |
| 1 | 2 | 2 | 3 | 1 | 6 | 4 | 11.355 | 6.000 | 5.000 |
| 1 | 1 | 1 | 1 | 1 | 1 | 5 | 12.312 | 5.667 | 5.000 |
| 1 | 1 | 1 | 1 | 2 | 1 | 0 | 15.781 | 6.667 | 6.333 |
| 1 | 2 | 1 | 1 | 3 | 2 | 6 | 13.500 | 6.667 | 6.000 |
| 1 | 2 | 3 | 1 | 1 | 1 | 3 | 15.469 | 6.667 | 6.333 |
| 1 | 2 | 2 | 1 | 2 | 5 | 6 | 13.969 | 6.333 | 6.333 |
| 1 | 1 | 1 | 1 | 3 | 3 | 1 | 13.187 | 6.667 | 6.000 |
| 1 | 1 | 1 | 2 | 3 | 1 | 6 | 10.937 | 6.000 | 6.000 |
| 1 | 4 | 2 | 2 | 1 | 3 | 2 | 11.406 | 6.333 | 5.000 |
| 1 | 2 | 1 | 1 | 1 | 2 | 5 | 11.781 | 6.000 | 5.667 |
| 1 | 1 | 1 | 1 | 1 | 1 | 3 | 12.687 | 6.333 | 6.667 |
| 1 | 3 | 3 | 1 | 3 | 5 | 4 | 12.500 | 6.667 | 6.000 |
| 1 | 1 | 1 | 1 | 1 | 2 | 5 | 10.000 | 5.000 | 4.667 |
| 1 | 2 | 2 | 3 | 1 | 6 | 5 | 15.258 | 6.000 | 6.000 |
| 1 | 2 | 1 | 1 | 1 | 1 | 5 | 14.156 | 6.667 | 6.667 |
| 1 | 3 | 3 | 3 | 1 | 6 | 5 | 15.233 | 7.000 | 7.000 |
| 1 | 1 | 1 | 1 | 1 | 2 | 5 | 12.406 | 6.000 | 6.000 |
| 1 | 1 | 1 | 1 | 3 | 1 | 6 | 6.630 | 5.667 | 3.333 |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 | 10.506 | 6.000 | 4.667 |
| 2 | 1 | 1 | 1 | 1 | 1 | 4 | 10.219 | 5.667 | 5.333 |
| 2 | 1 | 1 | 1 | 1 | 1 | 2 | 10.654 | 5.667 | 4.667 |
| 2 | 4 | 4 | 3 | 2 | 6 | 0 | 15.781 | 6.000 | 6.000 |
| 2 | 3 | 3 | 2 | 3 | 2 | 6 | 9.656 | 6.333 | 4.667 |
| 2 | 3 | 3 | 2 | 1 | 3 | 5 | 12.562 | 7.000 | 7.000 |
| 2 | 4 | 1 | 2 | 1 | 2 | 6 | 11.452 | 7.000 | 4.000 |
| 2 | 4 | 1 | 2 | 1 | 2 | 6 | 14.062 | 6.667 | 6.667 |
| 2 | 1 | 1 | 1 | 1 | 1 | 2 | 11.437 | 6.667 | 5.000 |
| 2 | 1 | 1 | 1 | 3 | 4 | 2 | 14.097 | 5.667 | 6.000 |
| 2 | 4 | 2 | 1 | 1 | 4 | 5 | 17.500 | 6.667 | 7.000 |
| 2 | 1 | 1 | 1 | 1 | 1 | 2 | 11.844 | 6.000 | 5.667 |

SCHOOL A--Continued

| A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 1 | 1 | 1 | 1 | 1 | 5 | 10.167 | 4.667 | 5.000 |
| 2 | 1 | 1 | 1 | 1 | 1 | 2 | 11.344 | 5.333 | 5.333 |
| 2 | 5 | 2 | 2 | 1 | 5 | 4 | 15.969 | 6.333 | 6.333 |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 | 15.125 | 6.667 | 6.333 |
| 2 | 4 | 4 | 2 | 2 | 6 | 0 | 16.656 | 7.000 | 7.000 |
| 2 | 3 | 3 | 2 | 1 | 5 | 5 | 12.562 | 6.667 | 5.667 |
| 2 | 1 | 1 | 1 | 1 | 1 | 2 | 11.750 | 7.000 | 6.000 |
| 2 | 1 | 1 | 1 | 1 | 1 | 2 | 11.033 | 6.333 | 4.000 |
| 2 | 2 | 1 | 1 | 1 | 3 | 3 | 9.969 | 5.667 | 5.333 |
| 2 | 1 | 1 | 1 | 1 | 1 | 2 | 12.452 | 6.000 | 5.000 |
| 2 | 3 | 3 | 1 | 1 | 1 | 1 | 16.469 | 6.667 | 6.667 |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 | 11.500 | 6.000 | 4.667 |
| 2 | 1 | 1 | 1 | 1 | 1 | 2 | 13.781 | 6.000 | 6.000 |
| 2 | 5 | 4 | 2 | 1 | 5 | 0 | 10.969 | 5.667 | 4.333 |
| 2 | 4 | 3 | 2 | 3 | 6 | 2 | 11.531 | 4.000 | 5.333 |
| 2 | 1 | 1 | 1 | 1 | 2 | 2 | 13.406 | 7.000 | 6.667 |
| 2 | 2 | 1 | 2 | 3 | 1 | 6 | 14.219 | 6.333 | 6.000 |
| 2 | 1 | 1 | 1 | 1 | 2 | 4 | 13.500 | 7.000 | 5.667 |
| 2 | 3 | 1 | 1 | 1 | 1 | 5 | 12.687 | 6.000 | 6.000 |
| 2 | 1 | 1 | 1 | 1 | 1 | 6 | 10.448 | 4.333 | 4.667 |
| 2 | 5 | 4 | 3 | 1 | 6 | 2 | 14.125 | 6.000 | 6.000 |

LEGEND

A Sex 1 males; 2 females
B Age 1 & 2 (20-39); 3, 4 & 5 (40-above)
C Years of Experience 1 & 2 (0-13); 3 & 4 (14-above)
D Certification Level 1 bachelor; 2 & 3 master and beyond
E Relative Status 1 classroom teacher; 2, 3 & 4 Counselor, Department Head and/or Asst. Principal
F Number of Years Worked With Principal 1, 2 & 3 (1-3); 4, 5 & 6 (4-above)
G Subject Taught 1 & 4 math and science; 2, 3, 5 & 6 all other subjects
H Mean Scores on Likert Scale
I Mean Scores on Needs Scale
J Mean Scores on Needs Satisfaction Scale

VARIABLE IDENTIFICATION AND MEAN SCORES FOR

SCHOOL B

| A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 | 2 | 3 | 1 | 1 | 6 | 15.531 | 5.000 | 6.000 |
| 1 | 2 | 1 | 1 | 1 | 1 | 6 | 14.355 | 5.667 | 2.333 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 8.677 | 6.667 | 3.333 |
| 1 | 2 | 2 | 1 | 1 | 2 | 5 | 9.826 | 7.000 | 3.000 |
| 1 | 4 | 4 | 3 | 3 | 6 | 2 | 13.437 | 6.000 | 4.333 |
| 0 | 3 | 3 | 2 | 1 | 6 | 2 | 16.594 | 6.667 | 6.333 |
| 1 | 4 | 4 | 3 | 0 | 3 | 0 | 15.000 | 7.000 | 7.000 |
| 1 | 1 | 1 | 1 | 1 | 4 | 2 | 10.516 | 6.333 | 5.000 |
| 1 | 3 | 4 | 3 | 1 | 6 | 5 | 14.000 | 6.000 | 6.000 |
| 1 | 1 | 1 | 1 | 1 | 2 | 4 | 7.792 | 5.333 | 3.000 |
| 0 | 3 | 3 | 3 | 1 | 5 | 5 | 10.677 | 6.667 | 4.000 |
| 1 | 2 | 2 | 3 | 4 | 2 | 0 | 13.969 | 6.333 | 5.667 |
| 1 | 2 | 1 | 1 | 1 | 3 | 3 | 14.281 | 4.333 | 4.000 |
| 1 | 3 | 4 | 2 | 3 | 3 | 6 | 11.094 | 6.000 | 5.333 |
| 1 | 3 | 4 | 2 | 2 | 3 | 0 | 15.625 | 6.667 | 6.667 |
| 1 | 2 | 3 | 2 | 3 | 2 | 4 | 10.219 | 5.333 | 5.000 |
| 1 | 3 | 2 | 1 | 1 | 3 | 6 | 11.094 | 5.000 | 5.000 |
| 1 | 1 | 2 | 2 | 1 | 3 | 4 | 10.344 | 6.000 | 5.000 |
| 1 | 4 | 4 | 1 | 1 | 2 | 6 | 15.067 | 6.667 | 6.000 |
| 1 | 2 | 2 | 2 | 1 | 2 | 5 | 13.387 | 5.667 | 6.333 |
| 1 | 2 | 1 | 1 | 1 | 6 | 5 | 11.533 | 6.000 | 4.667 |
| 1 | 5 | 4 | 1 | 3 | 6 | 6 | 12.969 | 5.667 | 5.333 |
| 1 | 3 | 3 | 1 | 1 | 2 | 5 | 10.323 | 6.667 | 6.000 |
| 1 | 3 | 4 | 1 | 1 | 3 | 5 | 15.281 | 6.333 | 6.667 |
| 1 | 2 | 1 | 1 | 1 | 1 | 5 | 12.375 | 6.667 | 6.000 |
| 1 | 1 | 1 | 1 | 1 | 2 | 3 | 13.219 | 6.000 | 4.667 |
| 1 | 1 | 1 | 1 | 1 | 1 | 3 | 8.812 | 5.000 | 5.000 |
| 1 | 2 | 2 | 1 | 1 | 6 | 1 | 12.687 | 6.667 | 4.333 |
| 1 | 3 | 3 | 2 | 1 | 6 | 5 | 10.516 | 6.667 | 4.333 |
| 1 | 4 | 4 | 3 | 4 | 2 | 0 | 17.387 | 7.000 | 7.000 |
| 1 | 4 | 4 | 3 | 2 | 3 | 0 | 14.844 | 7.000 | 6.333 |
| 1 | 2 | 1 | 1 | 1 | 3 | 4 | 8.931 | 3.667 | 3.333 |
| 1 | 3 | 3 | 3 | 3 | 2 | 6 | 13.344 | 6.333 | 6.333 |
| 2 | 2 | 1 | 1 | 1 | 1 | 2 | 11.259 | 6.667 | 5.667 |
| 2 | 1 | 1 | 1 | 1 | 1 | 2 | 13.594 | 6.667 | 6.000 |
| 2 | 1 | 1 | 1 | 1 | 1 | 2 | 11.625 | 6.667 | 5.667 |
| 2 | 1 | 1 | 1 | 1 | 1 | 3 | 12.562 | 6.667 | 5.000 |
| 2 | 2 | 3 | 2 | 1 | 3 | 5 | 13.531 | 6.000 | 6.000 |

SCHOOL B--Continued

| A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 4 | 4 | 2 | 1 | 6 | 3 | 16.312 | 7.000 | 6.667 |
| 2 | 4 | 4 | 2 | 3 | 2 | 6 | 16.969 | 7.000 | 7.000 |
| 2 | 4 | 4 | 2 | 1 | 3 | 6 | 11.452 | 6.000 | 5.333 |
| 2 | 4 | 4 | 3 | 1 | 2 | 5 | 15.844 | 6.333 | 6.333 |
| 2 | 4 | 3 | 3 | 1 | 3 | 3 | 14.594 | 5.667 | 5.333 |
| 2 | 3 | 3 | 3 | 1 | 1 | 6 | 13.667 | 7.000 | 6.333 |
| 2 | 3 | 3 | 2 | 1 | 6 | 5 | 10.900 | 6.333 | 6.333 |
| 2 | 0 | 4 | 3 | 3 | 2 | 1 | 7.400 | 6.000 | 6.333 |
| 2 | 4 | 4 | 2 | 1 | 2 | 5 | 13.656 | 6.333 | 5.667 |
| 2 | 4 | 4 | 3 | 3 | 6 | 5 | 13.625 | 6.333 | 5.667 |
| 2 | 3 | 3 | 1 | 1 | 2 | 1 | 16.500 | 6.000 | 6.000 |
| 2 | 3 | 3 | 1 | 1 | 6 | 5 | 10.437 | 7.000 | 6.667 |
| 2 | 2 | 4 | 2 | 1 | 2 | 2 | 16.531 | 6.000 | 6.333 |
| 2 | 3 | 3 | 3 | 1 | 6 | 6 | 13.594 | 6.000 | 6.000 |
| 2 | 1 | 1 | 1 | 1 | 5 | 2 | 8.133 | 6.667 | 5.667 |
| 2 | 3 | 3 | 3 | 3 | 2 | 0 | 15.031 | 6.333 | 6.000 |
| 2 | 1 | 1 | 2 | 1 | 1 | 1 | 9.266 | 5.667 | 4.667 |
| 2 | 2 | 2 | 1 | 3 | 3 | 2 | 14.844 | 7.000 | 6.667 |
| 2 | 1 | 1 | 1 | 1 | 1 | 5 | 11.281 | 6.667 | 3.667 |
| 2 | 1 | 1 | 1 | 1 | 1 | 3 | 11.516 | 5.333 | 5.667 |
| 2 | 1 | 1 | 1 | 1 | 1 | 2 | 12.333 | 6.667 | 5.000 |

LEGEND

A Sex 1 males; 2 femals
B Age 1 & 2 (20-39); 3, 4, & 5 (40-above)
C Years of Experience 1 & 2 (0-13); 3 & 4 (14-above)
D Certification Level 1 bachelor; 2 & 3 master and beyond
E Relative Status 1 classroom teacher; 2, 3 & 4 Counselor, Department head and/or Asst. Principal
F Number of Years Worked With Principal 1, 2 & 3 (1-3); 4, 5 & 6 (4-above)
G Subject Taught 1 & 4 math and science; 2, 3, 5 & 6 all other subjects
H Mean Scores on Likert Scale
I Mean Scores on Needs Scale
J Mean Scores on Needs Satisfaction Scale

VARIABLE IDENTIFICATION AND MEAN SCORES FOR

SCHOOL C

| A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | 4 | 3 | 4 | 6 | 0 | 12.906 | 7.000 | 4.667 |
| 1 | 3 | 3 | 3 | 1 | 6 | 6 | 11.656 | 6.667 | 2.667 |
| 1 | 1 | 1 | 2 | 1 | 1 | 6 | 15.031 | 5.667 | 5.667 |
| 1 | 2 | 2 | 1 | 1 | 6 | 5 | 12.187 | 4.667 | 4.667 |
| 1 | 1 | 1 | 1 | 1 | 3 | 3 | 13.062 | 6.000 | 6.000 |
| 1 | 2 | 2 | 2 | 1 | 4 | 5 | 11.312 | 6.667 | 6.000 |
| 1 | 2 | 2 | 1 | 1 | 4 | 1 | 8.062 | 5.000 | 4.667 |
| 1 | 3 | 3 | 1 | 1 | 2 | 2 | 9.633 | 6.667 | 4.333 |
| 1 | 3 | 1 | 2 | 1 | 3 | 3 | 9.969 | 5.000 | 5.000 |
| 1 | 3 | 4 | 1 | 1 | 5 | 5 | 9.875 | 6.333 | 5.000 |
| 1 | 4 | 4 | 3 | 1 | 6 | 3 | 13.031 | 4.667 | 4.333 |
| 1 | 1 | 1 | 1 | 3 | 1 | 6 | 12.219 | 5.667 | 5.333 |
| 1 | 4 | 4 | 3 | 3 | 6 | 6 | 10.437 | 7.000 | 5.000 |
| 1 | 3 | 1 | 1 | 1 | 1 | 5 | 9.133 | 6.667 | 5.333 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 10.310 | 5.000 | 5.000 |
| 1 | 4 | 4 | 1 | 1 | 6 | 1 | 10.966 | 6.333 | 6.000 |
| 1 | 2 | 1 | 2 | 1 | 1 | 2 | 9.667 | 5.667 | 4.333 |
| 1 | 2 | 2 | 2 | 1 | 6 | 5 | 14.000 | 6.000 | 5.333 |
| 1 | 4 | 2 | 1 | 1 | 6 | 6 | 12.344 | 6.333 | 3.000 |
| 1 | 1 | 1 | 1 | 1 | 2 | 3 | 7.562 | 6.333 | 6.000 |
| 1 | 1 | 1 | 1 | 1 | 1 | 4 | 11.656 | 6.667 | 3.333 |
| 1 | 5 | 3 | 1 | 1 | 6 | 5 | 10.000 | 4.333 | 3.667 |
| 1 | 2 | 2 | 1 | 1 | 1 | 3 | 8.187 | 5.667 | 4.667 |
| 0 | 2 | 2 | 1 | 3 | 6 | 5 | 13.750 | 6.000 | 5.667 |
| 1 | 1 | 1 | 1 | 1 | 2 | 6 | 8.581 | 6.667 | 3.667 |
| 1 | 3 | 3 | 2 | 1 | 6 | 4 | 10.625 | 6.667 | 3.333 |
| 1 | 4 | 4 | 1 | 1 | 6 | 6 | 13.267 | 6.000 | 6.000 |
| 1 | 3 | 4 | 2 | 2 | 6 | 0 | 15.281 | 5.667 | 6.000 |
| 2 | 4 | 4 | 3 | 1 | 6 | 0 | 11.194 | 6.333 | 3.000 |
| 2 | 1 | 1 | 1 | 1 | 4 | 4 | 11.844 | 6.667 | 5.333 |
| 2 | 3 | 3 | 2 | 1 | 2 | 2 | 9.125 | 5.000 | 3.333 |
| 2 | 1 | 1 | 1 | 1 | 2 | 2 | 10.516 | 5.667 | 6.000 |
| 2 | 4 | 4 | 3 | 1 | 6 | 5 | 12.937 | 5.667 | 5.333 |
| 2 | 5 | 4 | 3 | 2 | 4 | 0 | 11.607 | 6.000 | 5.333 |
| 2 | 4 | 4 | 2 | 1 | 6 | 6 | 14.625 | 6.333 | 6.667 |
| 2 | 1 | 1 | 1 | 1 | 3 | 1 | 10.156 | 6.333 | 5.000 |
| 2 | 1 | 1 | 1 | 1 | 2 | 5 | 8.562 | 6.000 | 5.000 |
| 2 | 4 | 3 | 1 | 1 | 6 | 5 | 11.406 | 6.000 | 5.667 |

SCHOOL C--Continued

| A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | 2 | 3 | 1 | 6 | 2 | 12.250 | 6.000 | 6.000 |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 | 9.687 | 5.000 | 3.667 |
| 2 | 4 | 2 | 2 | 1 | 6 | 2 | 10.312 | 4.333 | 4.333 |
| 2 | 1 | 1 | 1 | 1 | 2 | 2 | 5.273 | 4.333 | 2.000 |
| 2 | 1 | 1 | 1 | 1 | 2 | 4 | 9.433 | 5.667 | 4.000 |
| 2 | 4 | 4 | 3 | 3 | 6 | 4 | 12.687 | 6.667 | 6.000 |
| 2 | 0 | 4 | 3 | 1 | 6 | 0 | 12.401 | 7.000 | 6.000 |
| 2 | 4 | 4 | 2 | 1 | 2 | 6 | 12.385 | 4.000 | 4.000 |
| 2 | 4 | 4 | 2 | 1 | 6 | 5 | 11.935 | 6.000 | 6.000 |
| 2 | 5 | 4 | 1 | 3 | 6 | 2 | 10.531 | 6.000 | 5.667 |
| 2 | 3 | 1 | 1 | 1 | 2 | 2 | 14.138 | 5.667 | 6.000 |
| 2 | 4 | 4 | 3 | 2 | 6 | 0 | 13.129 | 6.333 | 6.333 |
| 1 | 3 | 1 | 1 | 1 | 5 | 5 | 12.812 | 6.333 | 6.000 |

LEGEND

A Sex 1 males; 2 females
B Age 1 & 2 (20-39); 3, 4 & 5 (40-above)
C Years of Experience 1 & 2 (0-13); 3 & 4 (14-above)
D Certification Level 1 bachelor; 2 & 3 master and beyond
E Relative Status 1 classroom teacher; 2, 3 & 4 Counselor, Department Head and/or Asst. Principal
F Number of Years Worked With Principal 1, 2 & 3 (1-3); 4, 5 & 6 (4-above)
G Subject Taught 1 & 4 math and science; 2, 3, 5 & 6 all other subjects
H Mean Scores on Likert Scale
I Mean Scores on Needs Scale
J Mean Scores on Needs Satisfaction Scale

# VARIABLE IDENTIFICATION AND MEAN SCORES FOR SCHOOL D

| A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 5 | 5 | 13.000 | 5.667 | 5.667 |
| 1 | 2 | 2 | 2 | 1 | 3 | 3 | 15.875 | 6.333 | 6.000 |
| 1 | 1 | 1 | 1 | 1 | 1 | 5 | 11.094 | 6.667 | 6.667 |
| 1 | 4 | 4 | 1 | 1 | 6 | 2 | 12.187 | 6.333 | 5.667 |
| 1 | 2 | 2 | 2 | 1 | 6 | 6 | 10.581 | 7.000 | 7.000 |
| 1 | 3 | 2 | 3 | 2 | 6 | 0 | 12.719 | 4.667 | 5.333 |
| 1 | 2 | 1 | 1 | 1 | 1 | 5 | 13.094 | 6.333 | 6.333 |
| 1 | 3 | 1 | 1 | 1 | 1 | 4 | 15.562 | 7.000 | 6.000 |
| 1 | 1 | 1 | 1 | 1 | 4 | 4 | 12.625 | 6.000 | 5.667 |
| 1 | 2 | 2 | 2 | 2 | 6 | 0 | 14.625 | 6.333 | 6.333 |
| 6 | 5 | 4 | 3 | 1 | 6 | 2 | 11.069 | 5.667 | 5.667 |
| 1 | 1 | 1 | 2 | 1 | 4 | 4 | 13.969 | 5.333 | 5.333 |
| 1 | 3 | 4 | 2 | 2 | 6 | 0 | 13.687 | 6.333 | 6.000 |
| 1 | 1 | 1 | 1 | 1 | 1 | 4 | 11.594 | 6.667 | 6.333 |
| 1 | 5 | 4 | 2 | 1 | 6 | 2 | 11.250 | 4.667 | 4.667 |
| 1 | 2 | 1 | 0 | 1 | 0 | 5 | 14.125 | 6.000 | 6.333 |
| 1 | 3 | 4 | 1 | 1 | 5 | 2 | 14.406 | 6.333 | 6.333 |
| 1 | 1 | 1 | 1 | 1 | 3 | 3 | 16.437 | 6.333 | 6.667 |
| 1 | 1 | 1 | 1 | 1 | 1 | 3 | 14.000 | 7.000 | 6.667 |
| 1 | 3 | 1 | 2 | 1 | 3 | 6 | 14.032 | 7.000 | 7.000 |
| 1 | 3 | 3 | 1 | 3 | 6 | 1 | 16.586 | 6.333 | 6.000 |
| 1 | 1 | 1 | 1 | 1 | 1 | 5 | 0.400 | 5.000 | 4.333 |
| 1 | 1 | 1 | 1 | 1 | 1 | 5 | 8.862 | 6.333 | 4.667 |
| 0 | 4 | 2 | 3 | 2 | 6 | 0 | 11.562 | 5.667 | 3.667 |
| 1 | 2 | 2 | 2 | 1 | 2 | 3 | 13.719 | 6.000 | 5.667 |
| 1 | 1 | 1 | 2 | 1 | 1 | 3 | 13.500 | 5.333 | 5.333 |
| 1 | 2 | 2 | 2 | 1 | 6 | 6 | 11.625 | 6.000 | 5.667 |
| 1 | 2 | 2 | 3 | 1 | 1 | 4 | 13.656 | 6.000 | 5.333 |
| 1 | 2 | 3 | 3 | 3 | 4 | 6 | 8.481 | 4.333 | 4.667 |
| 1 | 1 | 1 | 1 | 1 | 1 | 5 | 11.323 | 6.000 | 4.000 |
| 1 | 3 | 4 | 2 | 3 | 6 | 3 | 16.839 | 6.333 | 6.667 |
| 1 | 2 | 1 | 1 | 1 | 3 | 2 | 12.419 | 6.333 | 6.000 |
| 2 | 3 | 1 | 1 | 1 | 2 | 5 | 13.367 | 5.667 | 5.667 |
| 1 | 2 | 2 | 3 | 4 | 6 | 0 | 13.581 | 5.667 | 6.000 |
| 2 | 1 | 1 | 1 | 1 | 1 | 2 | 16.344 | 7.000 | 6.333 |
| 2 | 4 | 4 | 3 | 1 | 6 | 1 | 15.625 | 5.667 | 5.667 |
| 2 | 2 | 3 | 2 | 1 | 1 | 4 | 13.500 | 5.667 | 5.333 |
| 2 | 2 | 1 | 2 | 1 | 3 | 3 | 12.219 | 6.333 | 6.000 |

SCHOOL D--Continued

| A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 4 | 4 | 2 | 1 | 6 | 4 | 10.833 | 6.000 | 6.000 |
| 2 | 4 | 2 | 1 | 3 | 6 | 2 | 15.875 | 6.667 | 7.000 |
| 2 | 3 | 2 | 2 | 1 | 6 | 2 | 12.750 | 6.000 | 5.667 |
| 2 | 4 | 3 | 3 | 1 | 6 | 1 | 13.793 | 6.000 | 6.333 |
| 2 | 1 | 1 | 1 | 1 | 1 | 6 | 13.812 | 7.000 | 6.333 |
| 2 | 3 | 2 | 1 | 1 | 2 | 3 | 17.006 | 6.667 | 7.000 |
| 2 | 5 | 4 | 2 | 2 | 6 | 0 | 14.125 | 6.000 | 5.000 |
| 2 | 1 | 1 | 1 | 1 | 3 | 2 | 13.839 | 7.000 | 6.333 |
| 2 | 4 | 4 | 3 | 1 | 6 | 6 | 14.719 | 6.333 | 5.667 |
| 2 | 2 | 3 | 1 | 1 | 6 | 6 | 16.812 | 5.667 | 6.333 |
| 2 | 3 | 1 | 2 | 3 | 2 | 0 | 13.300 | 6.333 | 5.333 |
| 2 | 5 | 3 | 2 | 3 | 6 | 0 | 14.187 | 7.000 | 7.000 |
| 2 | 2 | 2 | 1 | 1 | 5 | 5 | 11.613 | 5.333 | 5.667 |
| 2 | 5 | 4 | 3 | 1 | 6 | 2 | 14.687 | 5.000 | 6.000 |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 | 13.586 | 6.667 | 6.000 |
| 2 | 1 | 1 | 1 | 1 | 3 | 1 | 14.125 | 5.667 | 5.667 |
| 2 | 3 | 2 | 1 | 3 | 6 | 5 | 15.750 | 6.667 | 6.667 |
| 2 | 1 | 1 | 1 | 3 | 4 | 5 | 17.281 | 6.333 | 6.000 |
| 2 | 3 | 1 | 1 | 1 | 1 | 2 | 11.375 | 4.667 | 5.000 |
| 2 | 3 | 1 | 1 | 1 | 3 | 6 | 14.500 | 6.333 | 6.333 |
| 2 | 4 | 4 | 2 | 1 | 5 | 5 | 15.750 | 6.667 | 6.667 |
| 2 | 4 | 4 | 3 | 1 | 4 | 1 | 15.750 | 6.333 | 6.000 |

LEGEND

A Sex 1 males; 2 females
B Age 1 & 2 (20-39); 3, 4 & 5 (40-above)
C Years of Experience 1 & 2 (0-13); 3 & 4 (14-above)
D Certification Level 1 bachelor; 2 & 3 master and beyond
E Relative Status 1 classroom teacher; 2, 3 & 4 Counselor, Department Head and/or Asst. Principal
F Number of Years Worked With Principal 1, 2 & 3 (1-3); 4, 5 & 6 (4-above)
G Subject Taught 1 & 4 math and science; 2, 3, 5 & 6 all other subjects
H Mean Scores on Likert Scale
I Mean Scores on Needs Scale
J Mean Scores on Needs Satisfaction Scale

# VARIABLE IDENTIFICATION AND MEAN SCORES FOR SCHOOL E

| A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 | 3 | 2 | 1 | 6 | 4 | 15.187 | 6.000 | 6.667 |
| 1 | 2 | 1 | 2 | 1 | 4 | 1 | 11.531 | 7.000 | 5.667 |
| 1 | 4 | 4 | 1 | 1 | 1 | 3 | 9.464 | 6.000 | 5.667 |
| 1 | 1 | 1 | 1 | 1 | 1 | 5 | 11.429 | 6.667 | 6.333 |
| 1 | 3 | 4 | 2 | 1 | 6 | 6 | 9.906 | 6.667 | 5.333 |
| 1 | 5 | 4 | 3 | 3 | 6 | 4 | 13.125 | 6.333 | 6.000 |
| 1 | 3 | 3 | 1 | 1 | 6 | 5 | 11.250 | 6.000 | 5.333 |
| 1 | 2 | 2 | 1 | 1 | 6 | 1 | 10.250 | 5.667 | 4.667 |
| 1 | 2 | 2 | 2 | 1 | 4 | 2 | 12.094 | 6.333 | 6.000 |
| 1 | 3 | 3 | 2 | 1 | 6 | 3 | 13.125 | 4.667 | 5.000 |
| 1 | 1 | 1 | 1 | 1 | 2 | 6 | 10.469 | 4.667 | 4.333 |
| 1 | 1 | 1 | 1 | 1 | 1 | 5 | 14.062 | 6.667 | 5.333 |
| 1 | 3 | 3 | 1 | 1 | 1 | 1 | 14.937 | 6.333 | 6.000 |
| 1 | 3 | 1 | 1 | 1 | 2 | 5 | 12.531 | 5.333 | 5.333 |
| 1 | 2 | 2 | 2 | 1 | 3 | 3 | 9.097 | 6.000 | 4.667 |
| 1 | 2 | 2 | 1 | 1 | 1 | 6 | 14.333 | 6.667 | 5.333 |
| 1 | 1 | 1 | 1 | 1 | 1 | 3 | 11.875 | 6.333 | 5.333 |
| 1 | 2 | 2 | 3 | 4 | 2 | 0 | 15.250 | 6.333 | 6.333 |
| 1 | 1 | 1 | 3 | 1 | 2 | 0 | 11.387 | 5.667 | 4.333 |
| 1 | 2 | 2 | 2 | 1 | 3 | 1 | 13.562 | 5.333 | 6.000 |
| 1 | 2 | 2 | 2 | 2 | 6 | 0 | 14.156 | 5.333 | 4.667 |
| 2 | 2 | 1 | 1 | 1 | 1 | 5 | 11.969 | 7.000 | 7.000 |
| 2 | 4 | 4 | 2 | 3 | 6 | 1 | 13.250 | 6.333 | 5.667 |
| 2 | 2 | 2 | 1 | 1 | 6 | 2 | 11.906 | 6.333 | 6.000 |
| 2 | 5 | 4 | 3 | 3 | 6 | 6 | 15.000 | 6.000 | 6.333 |
| 2 | 3 | 3 | 2 | 1 | 6 | 5 | 11.500 | 6.000 | 6.000 |
| 2 | 5 | 4 | 1 | 1 | 6 | 6 | 10.645 | 4.333 | 4.667 |
| 2 | 2 | 2 | 1 | 1 | 6 | 4 | 8.750 | 5.667 | 3.000 |
| 2 | 3 | 2 | 1 | 1 | 2 | 6 | 12.781 | 7.000 | 6.000 |
| 2 | 4 | 3 | 1 | 1 | 1 | 1 | 11.862 | 6.000 | 6.000 |
| 2 | 3 | 1 | 2 | 1 | 4 | 5 | 11.267 | 5.667 | 5.000 |
| 2 | 4 | 4 | 2 | 1 | 6 | 4 | 14.125 | 5.667 | 6.000 |
| 2 | 4 | 4 | 1 | 1 | 6 | 2 | 11.844 | 7.000 | 6.000 |
| 2 | 1 | 1 | 1 | 1 | 1 | 2 | 13.437 | 6.667 | 6.333 |
| 2 | 4 | 4 | 2 | 1 | 6 | 2 | 13.062 | 6.000 | 5.333 |
| 2 | 4 | 4 | 1 | 3 | 6 | 5 | 9.333 | 6.333 | 5.667 |
| 2 | 3 | 2 | 2 | 1 | 4 | 5 | 18.437 | 6.667 | 6.667 |
| 2 | 2 | 2 | 3 | 1 | 4 | 5 | 12.062 | 6.333 | 6.000 |

SCHOOL E--Continued

| A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 1 | 1 | 1 | 1 | 1 | 2 | 10.065 | 6.667 | 5.667 |
| 2 | 3 | 1 | 1 | 1 | 3 | 6 | 14.000 | 6.667 | 6.333 |
| 2 | 2 | 2 | 3 | 1 | 1 | 2 | 15.267 | 5.000 | 4.000 |
| 2 | 1 | 1 | 1 | 1 | 1 | 2 | 12.937 | 5.333 | 5.000 |
| 2 | 4 | 4 | 3 | 1 | 6 | 0 | 13.437 | 6.000 | 6.333 |
| 2 | 1 | 1 | 1 | 1 | 2 | 2 | 9.937 | 6.333 | 5.333 |
| 2 | 5 | 4 | 2 | 1 | 6 | 6 | 13.581 | 5.667 | 5.333 |
| 2 | 2 | 1 | 2 | 1 | 1 | 2 | 9.871 | 4.667 | 5.000 |
| 2 | 1 | 1 | 1 | 1 | 3 | 2 | 8.355 | 5.000 | 4.333 |
| 2 | 4 | 2 | 1 | 1 | 6 | 2 | 12.187 | 4.000 | 4.000 |
| 2 | 2 | 2 | 2 | 1 | 2 | 6 | 14.812 | 6.667 | 6.333 |
| 2 | 1 | 1 | 1 | 1 | 1 | 3 | 10.710 | 6.333 | 3.667 |

LEGEND

A Sex 1 males; 2 females
B Age 1 & 2 (20-39); 3, 4 & 5 (40-above)
C Years of Experience 1 & 2 (0-13); 3 & 4 (14-above)
D Certification Level 1 bachelor; 2 & 3 master and beyond
E Relative Status 1 classroom teacher; 2, 3 & 4 Counselor, Department Head and/or Asst. Principal
F Number of Years Worked With Principal 1, 2 & 3 (1-3); 4, 5 & 6 (4-above)
G Subject Taught 1 & 4 math and science; 2, 3, 5 & 6 all other subjects
H Mean Scores on Likert Scale
I Mean Scores on Needs Scale
J Mean Scores on Needs Satisfaction Scale