THE UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

A STUDY OF PRINCIPALS' BELIEF SYSTEMS AND

RULE ORIENTATION AS RELATED TO SCHOOL

ORGANIZATION BUREAUCRACY

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF EDUCATION

BY

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Norman, Oklahoma

1967

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## ACKNOWLEDGMENT

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## Introduction

The complexity of school administration is rapidly
increasing, especially as school systems tend to grow larger.
This trend can be readily noted in the decrease in the number
of school districts and the increase in the size of those
districts which have consolidated and which have grown more
populous.   In 1931-32 there were over 127,000 school districts
reported in the United States; significantly, thirty-five
years later there were slightly more than 26,000 school
districts in existence.[1]   The major trend has been toward
the establishment of local districts which can afford a
better educational program through the strength of increase
in size and resources.

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[1]National Education Association, Research Bulletin,
Washington:   Research Division of N.E.A., XLIV (February,
1966), p. 22.

Over 42 million students were enrolled in public schools in the 1965-66 school year.[2] Today's apparent emphasis is directed toward holding the youth of our country in school through high school graduation, usually attempted through special program offerings in the school or by increased compulsory school age attendance. Approximately two-thirds of the young people in the United States now complete high school;[3] the financing of such a level of education is in itself staggering. Statistics indicate that in just over a century we have progressed from spending around $200,000 a year to spending an estimated annual outlay of over twenty billion dollars for education.[4] There is little doubt, especially with added state and federal emphasis, that education is, indeed, big business.

Naturally, as the number of students increase, so do the number of teachers and administrators. As schools become larger, a more complex organization for administrative purposes evolves. The one or two-teacher school of earlier times reflected a relative simplicity of organization and administration; however, today's more modern,

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[2]Ibid.

[3]U.S., Department of Health, Education and Welfare, Digest of Educational Statistics, (Washington: U.S. Government Printing Office, 1964), p. 3.

[4]Roger A. Freeman, School Needs in the Decade Ahead, (Washington: The Institute for Social Science Research, 1958), p. 3.

larger school presents a much more complicated situation.
More people are involved in the operation of these schools.
This has led to the creation of special offices on various
levels relative to certain individuals within the school
organization, such as the superintendent, central staff,
principal, department heads, counselors, teachers, and
others. Each one has his own function and area of technical
skill within a rather fixed sphere of authority. Management
of the various offices which has resulted has tended to be
more impersonal and to rely more frequently on a system of
rules, regulations, and procedures for efficiency of opera-
tion.

The resulting organization possesses many of the
characteristics set forth by Max Weber (1864-1920), a German
sociologist, economist, and political writer, who formulated
a theory of "bureaucracy," (see Chapter II). Although a
great deal of the thinking concerning bureaucracy is often
associated with Weber, the bureaucratic concept is historical,
dating back to the ancient empires of China, Egypt, and Rome.[5]
Weber's concept of the "ideal type" of bureaucracy is often
grouped under classical or traditional organizational theory
along with Frederick Taylor and scientific management
characterized by Gulick, Urwick, and others.[6] The bureaucratic

[5]H. H. Gerth and C. Wright Mills, From Max Weber:
Essays in Sociology, (New York: Oxford University Press,
1946), p. 204.

[6]Warren G. Bennis, "Leadership Theory and Administra-
tive Behavior: The Problem of Authority," Administrative

tendencies of organizations noted by Weber, and frequently voiced by other authorities, are often identified with political institutions only; however, they are present in all social situations, whether business, corporations, industry, churches, universities, or school systems.[7]

Within the bureaucratic framework described by Weber, the basis for decisions often grows out of the various rules and regulations which are part of the organization. This tends to limit the need for judgment by others in the hierarchy and permits the handling of a large number of cases by persons of modest competence at low levels of responsibility. Throughout bureaucratic administration, administrative regulations replace judgment.[8] Administration in the public schools frequently mirrors this same fundamental characteristic. In fact, few organizations probably exist which reflect a more rule-structured situation than the larger American school system of the present. For example, anyone who has been a principal in a small high school as well as a principal in a large high school will note the framework of rules, regulations, procedures, and policies which govern more rigidly in the operations of the

Science Quarterly, IV (1959), p. 263.

[7]Stuart Chapin, "The Growth of Bureaucracy: An Hypothesis," American Sociological Review, XVI (1951), p. 835.

[8]Lewis C. Mainzer, "Honor in Bureaucratic Life," The Review of Politics, XXVI (1964), pp. 70-71.

larger school. Despite this lack of fluidity, rules and
policies are interpreted and applied differently within the
established framework. Frequently the principal may discover
himself diligently seeking a rule which will help him make a
decision. If none exists, he may very well create a rule to
cover the immediate problem as well as other future eventual-
ities. The multiplicity of these problems is characteristic
of larger school operations; therefore, the increase in
reliability on rules and regulations is viewed as necessary.
The routine of daily decision making, then, usually involves
interpreting and applying various and sundry rules and regula-
tions made by the principal, his organization, and his
superiors.

Esser and Strother[9] used a measurement of rule
orientation of first line level supervisors to determine the
bureaucratization which had taken place in an organization.
One of the implications pointed towards individual managerial
techniques as a contributing factor involved in the differences
among organizations.[10] However, in order to determine the
bureaucratization of an organization, this study depended on
one measure from the characteristics of a bureaucratic
structure, rule orientation of those in an official position.

[9]Norbert J. Esser and George B. Strother, "Rule
Interpretation As An Indicator of Style of Management,"
Personnel Psychology, XV (Winter, 1962).

[10]Ibid., p. 385.

No method was used to discover the _degree_ of bureaucracy as perceived by the employees of the organization as it might be related to the rule orientation of the official.  This latter approach suggests that bureaucracy can be perceived by members of the organization more accurately, especially since officials differ from one organization to another in certain administrative behavior.  A basic example of this procedure is the matter of interpretation and application of various rules by which the school organization must operate.  Throughout the school system, various rules exist to provide efficient operation of the structure; these are not all interpreted or applied in a standardized manner, but they must depend upon the individual building principal who is in charge of implementing and carrying out rules proposed for larger organizational operation, as well as the individual school.  Decisions are frequently made which are not necessarily oriented toward the use of rules established to provide standard operating procedure; many of these decisions directly affect perceptions of teachers within the school.

The decisions of the principal, which are an important part of the basis for teacher perceptions, are affected by a number of considerations.  Fundamental to these considerations is the individual principal's unique values which serve as a foundation for his belief system.  Rokeach[11] conceives

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[11]Milton Rokeach, _The Open and Closed Mind_ (New York: Basic Books, Inc., 1960), p. 4.

of a belief system as operating in degrees of "openness" or "closedness," typifying an open or closed mind. The actions of the principal, under this assumption, may be guided by his particular system of beliefs. In this context, discretionary decision making often relies on the personal belief system of the decision maker. Rules and regulations frequently represent authority which may be invoked according to various situations; the degree of dependence of the school principal upon this authority in decision making is reflected in his personally held belief system. Consequently, this ultimately results in various perceptions by the teachers about the organization when these decisions affect them.

## Purpose of the Study

The basic purpose of this study was to determine whether the bureaucratic norm of a school system, as perceived by teachers, was more or less bureaucratic in individual schools and if this variation was influenced by the particular behavior of the individual school principal. The general definition of bureaucracy characteristically relies on rather rigid behavior of those in official capacities. It was the purpose of this investigation to examine the extent to which certain behavior of the principal modifies the impact of the bureaucratic structure on the perception of teachers who view the operations of the school organization in varying degrees of bureaucracy.

## Statement of the Problem

The problem of this study was to determine whether
the degree of teacher perceived school bureaucracy varied in
different schools, and to determine whether this was related
to (1) the orientation of the principal toward rules in
discretionary decision-making situations and (2) the belief
system characterizing the individual principal. The following
model is a graphical representation of the problem:
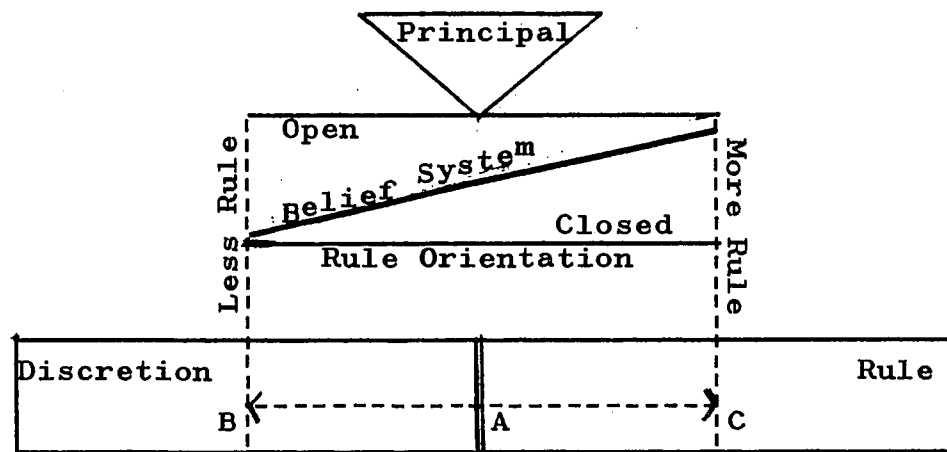


SCHOOL BUREAUCRACY AS PERCEIVED BY TEACHERS

The inverted triangle contains the subject of the
study, the school principal. The first panel illustrates
both the belief system and rule orientation of the principal.
The belief system is never completely closed or open; how-
ever, the more closed the system, the more rule oriented
the principal; the more open the system, the less rule
oriented the principal. The lower panel consists of the
degree of school bureaucracy as perceived by teachers. A
school system is characterized as having a bureaucratic

norm, point A in the panel. However, according to the belief system and rule orientation of the individual principal, a school within a system varies from the norm along a continuum towards either point B, where more discretion is used in decision making, or point C, where decisions are often governed by rules.

The following null hypotheses were formulated relative to the major problem of the study:

Ho 1: There will be no significant difference between principals who are more rule oriented with open-belief systems and principals who are less rule oriented with closed-belief systems.

Ho 2: There will be no significant difference between the degree of bureaucracy as perceived by teachers and the individual belief system of the principal.

Ho 3: There will be no significant difference between the rule orientation of principals and the degree of bureaucracy perceived by teachers within their schools.

Ho 4: There will be no significant difference between elementary and secondary school principals in terms of (a) belief systems, or (b) rule orientation.

Ho 5:   There will be no significant difference

between the degree of bureaucracy perceived

by elementary and secondary teachers.

Four other relationships were investigated as sub-
problems which were related to the degree of bureaucracy as
perceived by teachers within the school:   (1) age of teachers,
(2) teaching experience of teachers, (3) sex of the teacher,
and (4) size of the school organization.   The following sub-
hypotheses were formulated:

Sub Ho 1:   There will be no significant difference

between the age of teachers and the degree

of bureaucracy perceived by the teachers.

Sub Ho 2:   There will be no significant difference

between the number of years of teaching

experience of teachers and the degree of

bureaucracy perceived by teachers.

Sub Ho 3:   There will be no significant difference

between the sex of teachers and the degree

of bureaucracy perceived by teachers.

Sub Ho 4:   There will be no significant difference

between the size of the school and the

degree of bureaucracy perceived by

teachers.

### Significance of the Study

This study is important in that it adds to existing
knowledge a further means of identifying potential

administrators who should be encouraged toward careers in
school administration. Additional significance of the study
is the contribution to bureaucratic theory and bureaucratic
structure as (1) it may be modified by certain behaviors of
administrators, and (2) it may be perceived by subordinates
within the bureaucratic structure. Furthermore, the study
reveals the way in which the large school system bureau-
cratic structure influences not only the perceptions of
teachers, but also the behavior of principals.

## Definition of Terms

Bureaucracy. Conceived of as an ideal type which
rarely exists, bureaucracy refers to principles of organiza-
tion that find varying degrees of expression in a wide
variety of organizations. The bureaucracy is characterized
by (1) fixed and jurisdictional areas for members; (2) a
graded system of centralized authority; (3) a system of
central files; (4) a set of special skills called office
management; (5) official activities which demand the full
time of personnel; and (6) systematic and general rules
which define procedure and which are followed.[12]

Discretionary Decision Making. The process of
making choices within a framework which allows some degree
of flexibility in judgment and eventual choice.

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[12]Julius Gould and William Kolb (ed.), Dictionary of Social Sciences (New York:  The Free Press, 1964), p. 61.

More Rule Oriented. The inclination towards the use
of rules and regulations to govern decisions; in this context,
rules become ends rather than means.

Less Rule Oriented. There is less reliance on rules
and regulations to guide decisions; in this case, rules tend
to become means rather than ends.

Open Belief System. A system in which information
is evaluated and acted upon independently on its own merits,
in accord with the inner structural requirements of the
situation. The more open the belief system, the more the
person should be governed in his actions by internal self-
actualizing forces and less by irrational inner forces. He
has 'more strength to resist external reinforcements, rewards,
or punishments in terms of the way information will be
evaluated and acted upon.[13]

Closed Belief System. A system which is more closed
has difficulty in distinguishing between information received
about the world and information received about the source; a
person cannot be free to receive, evaluate, and act upon
information in terms of inner requiredness. He is exposed to
pressures, rewards, and punishments meted out by the source
designed to make him evaluate and act on the information in
the way the source wants him to.[14]

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[13]Rokeach, op. cit., p. 58.

[14]Ibid.

Elementary School. A school composed of the first six years of a pupil's education; it is normally divided into grades one through six in larger school systems.

Secondary School. A school consisting of the last six years of a pupil's education in public schools; it is normally divided into the junior high school, grades seven through nine, and the senior high school, grades ten through twelve, in the larger systems.

## Limitations

The following limitations should be noted regarding this study:

1. This study was limited to an investigation of all schools in an individual, large school district.

2. This study was limited to principals and teachers of this school district.

3. This study was limited to the validity and reliability of the instruments used as part of the investigation.

4. This study was limited in its follow-up procedures on teachers which would have increased the returns of the instrument used.

5. This study was limited to the variables of belief systems, rule orientation, and bureaucracy, as well as the variables of the sub-problems of age, sex, teaching experience, and school size regarding teachers.

## Data Collection

Data concerning principals' belief systems and rule orientation and teacher perceived bureaucracy within a school system were collected to test statistically the hypotheses of the study. A meeting of principals in the school system was held in order to explain the study, and a packet of materials was given to each principal. Each principal was requested to complete two questionnaire-type instruments which measured the belief system and rule orientation of the principal. Principals were asked to distribute another instrument, which measured teacher perceived bureaucracy, to teachers in their schools. All instruments were returned by mail by the individuals completing them. Further details of data collection and data-collection techniques are given in Chapter III.

## Overview of the Study

This study is divided into five chapters. The first chapter constitutes the introduction which identifies the problem investigated. The second chapter presents a study of selected literature related to the problem. The third chapter deals with the design of the study, and the instrumentation used in the investigation. The fourth chapter contains an analysis and interpretation of the collected data. The fifth chapter is composed of a summary, conclusions, and recommendations resulting from the study.

# CHAPTER II

## REVIEW OF SELECTED RELATED LITERATURE

The problem under consideration deals with belief systems, rule orientation, and organizational bureaucracy. In order to keep the review of literature within its proper bounds, several studies which were considered representative of each of the elements were selected for inclusion. The review of literature was divided into the three areas dealing with the major variables of the study.

### Belief Systems

Rokeach[1] conceives of belief systems as being independent of personality, and he reasons that individuals organize the world of ideas, people, and authority basically along belief congruence. That which is not congruent is further organized in terms of similarity to that which is congruent. Much of a person's behavior, with respect to diverse belief systems as well as persons and authorities identified with such systems, seems, at least in part, to be determined by such cognitive organizations.

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[1] Rokeach, op. cit., p. 395.

Belief systems are often associated with values of the individual. A study conducted by Kemp[2] reflects the importance of change in value systems as related to belief systems. This investigation concerned a group of 104 religious-minded persons who were enrolled in a special training program in a denominational college in preparation for positions such as Boy Scout executives or Young Men's Christian Association or Young Women's Christian Association secretaries. The subjects were given a test of their value orientations, using the Allport-Vernon Scale of Values. Six years later the test was repeated, along with the Dogmatism Scale, which was also administered. Contrary to common-sense assumption, correlations between the Dogmatism Scale and the Allport-Vernon Scale of Values demonstrated that change is not associated with open systems or non-change with closed systems. The study pointed out that although it was not possible to predict on theoretical grounds the exact changes in values to be expected, it was found that both open and closed persons change their values over a period of time.[3]

One of the interesting findings of this study involved the vocational choices of the closed, middle, and

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[2]Gratton C. Kemp, "Changes in Values in Relation to Open and Closed Belief Systems," in Milton Rokeach, The Open and Closed Mind (New York: Basic Books, Inc., 1960), pp. 335-46.

[3]Ibid., p. 345.

open groups. Roughly 70 per cent of the middle group
became Boy Scout executives, as planned, or this group
entered closely related professions. But most of the open
and closed subjects changed their vocational choices after
leaving college. The open subjects more frequently entered
vocations requiring more advanced professional training in
careers involving social welfare, and the closed subjects
more frequently entered military and commercial careers of
an administrative nature.[4]

An investigation conducted by Hoy[5] relates closely
with the belief system of teachers and principals as related
to pupil control which often involves school rules and
regulations. In this study, pupil control ideology was
conceived along a continuum ranging from "custodialism"
at one extreme to "humanism" at the other. Custodialism
was defined in terms of the traditional viewpoints of
control, while humanism connoted the conception of the
organization as a community of human beings in which the
varied needs of the individual are met. The relationship
between pupil control ideology and dogmatism of public school
professional personnel was explored by using the Control
Ideology Scale and the Dogmatism Scale designed by Rokeach.

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[4]Ibid., p. 346.

[5]Wayne K. Hoy, "Dogmatism and the Pupil Control Ideol-
ogy of Public School Professional Staff Members," (Unpublished
Doctoral Dissertation, Pennsylvania, 1965).

Data from 805 teachers and 168 principals were collected

from a diverse sample of eleven school systems in Pennsylvania.

In general it was found that those individuals who scored high

in dogmatism (close minded) as measured by the Dogmatism Scale

were more custodial in their pupil-control ideology than

individuals who scored low in dogmatism (open minded). This

finding tends to uphold the basic hypothesis of Hoy's study:

(1) that pupil control ideology of close-minded teachers will

be significantly more custodial than pupil ideology of open-

minded teachers, and (2) that the pupil-control ideology of

close-minded principals will be significantly more custodial

than the pupil control of open-minded principals. Further-

more, organizational position was found to be significantly

related to pupil-control ideology. The pupil-control ideology

of principals was less custodial than that of teachers;

further, secondary teachers were more custodial than elementary

teachers in their pupil-control ideology.[6]

The two research studies deal with several factors

which are pertinent in considering belief systems and rule

orientation of principals. Individuals may be grouped into

closed, middle, and open patterns, reflecting some change of

values in the former and latter groups. The direction

of these changes is not necessarily constant. Furthermore,

pupil control which frequently involves rules and regulations

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[6]Ibid., pp. 43-70.

made by teachers and principals is more custodial in the case
of close-minded principals than open-minded principals. This
would seem to reflect the concept that principals with closed-
belief systems do incline to be more rule oriented than do
principals with open-belief systems.

## Rule Orientation

Weber emphasized the importance of rules, regulations,
and procedures in the bureaucratic structure. Various
studies have been made in regard to the relationships of the
components of the organization and the individual behavior
of those within the organization. In one study by Laswell[7]
it was found that the personalities of those in charge of
handling the complaints in a department differed widely in
their response to rule administration regarding the same
manner of approach by clients. The researcher attributed
this to the play of unconscious motives and past experiences
determining conduct of rule administration.

Gouldner[8] made a rather exhaustive case history of
a gypsum plant organization. He considered certain variables
which were largely ignored in Weber's theory of bureaucracy,
such as (1) what variations in patterns are associated with
different methods of initiating rules and (2) whom must the

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[7]Harold D. Laswell, _The Analysis of Political Behavior_
(London: Routledge and Kegan Paul Ltd., 1949), p. 165.

[8]Alvin W. Gouldner, _Patterns of Industrial Bureau-
cracy_ (Glencoe, Illinois: The Free Press, 1954), p. 31.

rules be useful to if bureaucratic authority is to be effective. Three bureaucratic types, which differ according to whether or not they enforced rules and the manner of enforcement, were identified by Gouldner as follows: (1) "mock" bureaucratic pattern characterized by rules which are neither enforced by management nor obeyed by workers; (2) "representative" bureaucracy which occurs when rules are enforced by management, obeyed by workers, and supported by informal sentiments of both groups, and (3) "punishment centered" bureaucracy which is found when the rules are enforced by one group and violated by another, calling for various sanctions.[9]

Esser and Strother[10] used rule orientation as a dependent variable, and they were concerned with the extent to which the profit objective and size were significant independent variables. Profit motives in this case provided a clear-cut tangible measure of goal-directed behavior. A series of incidents involving application of rules was adapted from textbooks and administered to 512 first level supervisors who were considered the focal point of the implementation of policy. Rule orientedness of the supervisor was used as a measure of organizational bureaucracy. It was discovered that the rule orientation of the supervisors was independent of the main study variables of size

[9]Ibid., pp. 181-207.

[10]Esser and Strother, op. cit., pp. 375-388.

and type of organization. The personal variables of age and number of years as a supervisor were found to be of minimal importance. A significant difference was determined in the supervisors' rule orientation depending on level of education. The supervisors with average education were found to be more rule oriented than those with either less or more education.

Numerous studies have been made using the Getzels-Guba theory which conceived of administration structurally as the hierarchy of subordinate-superordinate relationships within a social system. Functionally this hierarchy of relationships is the focus for allocating and integrating roles, personnel, and facilities in order to achieve the goals of the social system.[11] Two dimensions of activity in a social system are identified as (1) the nomothetic, or normative, dimension which is composed by the elements of institution, role, and expectation, and (2) the idiographic, or personal, dimension which is constituted by the individual, personality, and need disposition in a social system.[12] The nomothetic style of leadership-followship views the most expeditious route to a goal as residing in the nature of the institutional structure, rather than in any particular persons. An adherence to rules and procedures is reflected

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[11]J. W. Getzels and E. G. Guba, "Social Behavior and the Administrative Process," The School Review, LXV (Winter, 1957), p. 424.

[12]Ibid.

in this style. "The obligation of the followers is to do
things 'by the book'; the obligation of the leader is 'to
write the book'."[13] The idiographic style of leadership-
followership places emphasis on the requirements of the
individual and the need-disposition, rather than on the
requirements of the institution, the role, and the expecta-
tion.[14] The latter style uses less reliance on rules and
procedures of the organization and is more concerned with the
individual within the structure.

A representative investigation using the Getzels-
Guba model is reflected in a study conducted by Morgan[15]
concerning the expectations of the public school principal-
ship as viewed by subordinates, co-ordinates, and super-
ordinate positions. Teachers, principals, superintendents,
and boards of education in nine metropolitan school districts
of Utah participated in the study. A questionnaire provided
analysis of the groups' nomothetic (institutional), ideo-
graphic (individual), or transactional (combination of the
two) toward the role of the principal. A trend was noted
among the principals toward a moderate nomothetic orientation;

[13]Ibid., p. 426.

[14]Ibid., p. 437.

[15]Stanley R. Morgan, "The Public School Principal-
ship: Role Expectations by Relevant Groups," (Unpublished
Doctoral Dissertation, The University of Utah, 1965, Abstract:
Dissertation Abstracts, XXVI, 1966), pp. 4390-4391.

however, there was no significant difference between the mean
scores of elementary and secondary principals nor between
teachers on these two levels. This investigation appears
to indicate that school principals as a group may be inclined
toward the nomothetic style of leadership-followership with
its dependence upon institutional rules and procedures. A
further indication is noted in the fact that there is no
significant difference between the levels of principals;
elementary principals may be just as nomothetically inclined
as secondary principals.

## Bureaucracy

The major source of literature concerning bureau-
cracy is found in the field of sociology, business, govern-
ment, and industry. Therefore, a large portion of this
section was drawn from these areas. Due to limitations of
space, only certain materials were included which were
considered representative of the field.

Lipset[16] noted that in recent years there has been
a growing concern about the problem of bureaucracy in a
large scale society. The sheer size and complexity of
social organizations, whether private or public, have created
a need for a new class of administrators or bureaucrats to
operate organizations efficiently. Furthermore, there is

[16]Seymour M. Lipset, "Bureaucracy and Social Change,"
in Robert K. Merton, (ed.) Reader in Bureaucracy (New York:
The Free Press, 1952), pp. 221-232.

a feeling that modern democratic society faces a dilemma —
of making extensive grants of power to these individuals and
the feeling of danger in abdicating the right of democratic
constituency to change the policies and personnel of the
bureaucracy. This problem in itself creates much of the
frustration and anger directed at the bureaucratic organiza-
tion. The desire exists to change the bureaucratic structure
by those outside of it; conversely, there is the desire to
maintain the structure by those within it. However, main-
tenance is only one of a series of complex factors determining
individual actions of administrators in the organization.
In a given situation, each person acts somewhat differently
according to his background.[17]

Max Weber, who formulated a theory of organizational
bureaucracy, identified what the "ideal" or pure type of
bureaucracy would entail. Convinced that bureaucracy, from
the purely technical view, was the best means of attaining
the highest degree of efficiency, Weber also thought of it
as being the most rational means of controlled operations
involving people. Merton[18] discerned the chief merit of
bureaucracy as being its technical efficiency, with a premium
placed on precision, speed, expert control, continuity,
discretion, and optimal returns for imput.

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[17]Ibid., p. 230.

[18]Robert K. Merton, (ed.), Reader in Bureaucracy,
(New York: The Free Press, 1952), pp. 361-370.

Six basic characteristics of the bureaucratic structure were pointed out by Weber:[19]

1.  There is the principle of fixed and official
    jurisdictional areas which are generally
    ordered by rules, that is, by laws or
    administrative regulation.

2.  The principles of office hierarchy and
    levels of graded authority mean a firmly
    ordered system of super- and subordination
    in which there is a supervision of the
    lower offices by the higher ones.  Such
    a system offers the governed the possibility
    of appealing the decision of a lower office
    to its higher authority in a definitely
    regulated manner.

3.  The management of the modern office is
    based upon written documents ("the files"),
    which are preserved in their original or
    draft form.

4.  Office management, at least, all specialized
    office management--and such management is
    distinctly modern--usually presupposes
    thorough and expert training.

5.  When the office is fully developed, official
    activity demands the full working capacity
    of the official, irrespective of the fact
    that is obligatory time in the bureau may
    be firmly delimited.

6.  The management of the office follows general
    rules which are more or less stable, more or
    less exhaustive, and which can be learned.
    Knowledge of these rules represents special
    technical learning which the official
    possesses.  It involves jurisprudence, or
    administrative or business management.

    The reduction of the modern office management
    to rules is deeply embedded in its very nature.

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[19]Gerth and Mills, op. cit., pp. 196-198.

In addition, Weber conceived that the position of
the official within a bureaucracy as being particularly
associated with that type of structure indicating that the
"office" is a "vocation." This is shown first in the
requirement of a firmly prescribed course of training which
demands the entire capacity for work for a long period of
time. The personal position of the official was patterned
in the following manner:[20]

1. The official strives for and usually enjoys
   a distinct social esteem as compared with the
   governed.

2. The pure type of bureaucratic official is
   appointed by a superior authority. An
   official elected by the governed is not a
   purely bureaucratic figure.

3. Normally the position of the official is held
   for life; tenure for life is presupposed, even
   if the giving of notice or periodic reappoint-
   ment occurs.

4. The official is set for a "career" within the
   hierarchical order of the public service. He
   moves from the lower, less important and lower
   paid to the higher positions.

Max Weber's model of bureaucracy is frequently used
as a reference point by authorities regarding possible new
approaches. Litwak[21] views Weber's model as the most
efficient only when the organization deals primarily with
uniform events and occupations stressing traditional areas

[20]Ibid., pp. 198-203.

[21]Eugene Litwak, "Models of Bureaucracy Which Permit
Conflict," The American Journal of Sociology, LVII (September,
1961), pp. 177-184.

of knowledge and social skill. A different model is proposed, combining the Weberian model with one emphasizing primary group relations and organizational goals (as in the human relations approach) to create a third model termed "professional" bureaucracy. This model is deemed appropriate to contemporary society where most large-scale organizations have to deal with both uniform and non-uniform tasks or with occupations that demand traditional knowledge, as well as social skills.[22] Examples of this type of bureaucratic structure would be large hospitals, graduate schools, and research organizations.

A focal point of consideration of the bureaucratic structure has been an increased awareness of organizational behavior. Merton,[23] who is well known for his concise but penetrating analysis of the bureaucratic structure and personality, perceives certain frustrating aspects derived from specific features of this structure. These aspects often oppose the efficiency claimed by Weber and reflect some of the concern felt by Lipset.[24] Assessing the impact of the bureaucratic organization on employee personalities, it is pointed out that there is an inherent danger in organizational behavior which is so disciplined that conformance

[22]Ibid., p. 181.

[23]Merton, op. cit., pp. 361-370.

[24]Lipset, op. cit.

with regulations, whatever the situation, results in original
goal displacement, and rules become ends rather than means.
Another factor involves the stress on depersonalization of
relationships, for this also is a part of the bureaucratic
trained incapacity:

> . . . The personality pattern of the bureau-
> crat is nucleated about this norm of impersonality.
> Both this and the categorizing tendency, which
> develops from the dominant role of general abstract
> rules, tends to produce conflict in the bureaucrat's
> contacts with the public or clientele. . . Stereo-
> typed behavior is not adapted to the exigencies of
> individual problems. . .25

The behavior of those operating within the bureaucracy
oftentimes begins to accommodate to the organization, and
individuals become a part of the structure in different ways.
Presthus explores the idea that culture, which has been
promoted by big business, emphasizes the value of conformity,
authority, and success. A theoretical framework is developed
as follows: (1) bureaucracy is a major form of modern society;
(2) bureaucratic values reflect a major ingredient to culture;
(3) these values are acquired early in life or not at all,
and (4) those who have acquired the appropriate values and
defenses can accommodate to bureaucracy, but those who have
not will find accommodation difficult. Presthus[26] describes
three modal types of organizational members, which may be

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[25]Merton, op. cit., pp. 368-369.

[26]Robert Presthus, The Organizational Society (New
York: Vintage Books, 1965), pp. 164-256.

considered as personality types, in terms of the accommoda-

tion each makes to the bureaucracy:

1. The Upward Mobile -- one who aspires to organizational rewards and accepts the means by which they are obtained. The rules are regarded as the best means of decision making. As the best adapted type of bureau-crat, there is a tendency toward authoritar-ianism, prestige seeking, and pragmatic extroversion.

2. The Ambivalent -- one who cannot renounce organizational rewards but cannot play the role to obtain them. Making the poorest adaptation to bureaucracy, this type is considered introverted, intellectual, idealistic, individualistic, and authority fearing.

3. The Indifferent -- one who has low organiza-tional aspirations, and whose references lie outside the organization. Adjustment is often made by being casual, and his relation-ship with the organization is essentially an economic bargain. This type poses the most common pattern.

Bureaucracy research studies on the school organiza-

tion have been rather limited. One such study, conducted

by Moeller,[27] explored the sense of power of teachers to

affect school system policy. Twenty school systems from

the St. Louis metropolitan area were used. Ratings by

judges were found to order the system on an objective scale

of bureaucracy. From the selected systems, a sample of 662

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[27]Gerald H. Moeller, "The Relationship between Bureaucracy in School System Organization and Teachers' Sense of Power," (Unpublished Doctoral Dissertation, Washing-ton University, 1962, Abstract: Dissertation Abstracts, XXIII, 1963), pp. 4589-90.

teachers were used in the subsequent analysis. These teachers responded to questionnaires which included a sense of power scale and indices of differences among the system in teachers' exposure of powerless-prone persons. The major hypothesis, that the bureaucratic structure would induce a sense of powerlessness, was denied. To the contrary, teachers in bureaucratic systems were significantly higher in a sense of power in all analysis of subgroups than were the teachers in the less fully bureaucratic systems.

Hall[28] conducted an investigation of ten organizations to determine whether bureaucracy could be measured along a continuum according to employee perceptions by using six bureaucratic dimensions. The six dimensions were hierarchy of authority, division of labor, rules, procedures, impersonality, and technical qualifications. These were incorporated into a questionnaire-type instrument and were administered to organizational employees. The organizations ranked in size from 65 to 3,096 employees and in organizational age from four to sixty-three years. The assumptions made regarding the nature of bureaucratic dimensions were upheld. The degree to which each dimension was present ranged along a continuum, rather than existing in a present or absent dichotomy. The magnitude of the dimensions varied independently

[28]Richard H. Hall, "An Emperical Study of Bureaucratic Dimensions and Their Relation to Other Organizational Characteristics," (Unpublished Doctoral Dissertation, The University of Ohio, 1961).

in the organization studied. Bureaucracy, in general, was
perceived as a matter of degree rather than kind. Several
factors related to the degree of bureaucratization along
each dimension were also examined. From the data available
the type of organizational activity appeared to be highly
related to the degree of bureaucratization. Although the
activity factor appeared to bear some relationship, the
elements of organizational age and size did not emerge as
important factors in this study.[29]

## Summary

Even though the belief systems of principals have
been explored in some studies, these have not been previously
associated with the theory of the bureaucratic structure.
A few studies have been concerned with rules and regulations
in a bureaucracy, but these have been notably restricted
to areas other than education. For example, Esser and
Strother's investigation concerning rule orientedness of
supervisors utilized rule orientation as a means of deter-
mining the degree of bureaucracy existing in an organization
rather than employee-perceived bureaucracy.

Hoy's study appears to provide a close association
between belief systems and rule orientedness. Measuring
the relation between pupil control and belief system, the
study also reflects the problem of belief system and rule

[29]Ibid., p. 50-56.

orientation. The fact that closed-minded principals were more custodial in pupil control than open-minded principals foreshadows the belief system-rule orientation relationship. Additional supporting evidence is noted also in the difference between elementary and secondary teachers regarding pupil control, with the secondary teachers being more custodial in pupil control. This factor may serve to emphasize the more bureaucratic nature of the secondary school.

The study conducted by Morgan indicated little difference between elementary and secondary school principals in regard to one being more inclined toward a role character-ized by an orientation toward rules than the other; both levels tended to be nomothetical. A relationship between the belief system and rule orientation of a principal would also appear to support the idea that perhaps principals do not necessarily differ significantly in belief systems from the elementary level to the secondary level.

Studies concerning the individual behavior of those within the bureaucratic structure reveal various aspects which may pertain to the principal and the school organiza-tion. Several investigations seem to indicate that just as individuals differ so do the administration of rules and regulations. It was also found that school principals may be oriented toward a role involving a dependence on institu-tional rules and procedures. Rule orientedness itself has been used as a determinant for organizational bureaucracy.

As principals with open-belief systems engage in discretionary decision-making situations regarding application and interpretation of various rules, a reflection of this bureaucratization may become apparent.

The present investigation was made to explore the relationship of the belief system and rule orientedness of principals to the bureaucracy of the school as perceived by teachers within the schools of the principals. Of particular concern was whether a bureaucratic norm existed within a school system and whether it varied according to the belief system and rule orientation of the individual principal. The process involved three basic measurements which were suggested by a review of the related literature: (1) a measurement of the belief system of the individual principal by using Rokeach's Dogmatism Scale; (2) a measure of the rule orientation of the individual principal by developing an instrument comparable to that suggested by Esser and Strother, and (3) a measure of the degree of organizational bureaucracy by perceptions of teachers in each school utilizing Hall's Organizational Inventory. These measurements will be subjected to statistical treatment to discover any major differences which may exist in order to support the theory that school bureaucracy varies according to certain administrative behavior.

CHAPTER III

RESEARCH DESIGN:   SAMPLE, INSTRUMENTATION,

STATISTICAL METHODS

## Sample

One of the characteristics most commonly associated
with the bureaucratic structure is size; consequently, a
large school system was selected because of its appropriate-
ness for this investigation.  Operationally, the study
involved principals who were considered the focal point of
rule interpretation and application, and teachers who were
located in a key position to perceive the operation of
bureaucracy within the individual school.  An investigation
of this type made it possible to study individual schools
which were subject to an overall bureaucratic norm operating
throughout the entire school system.

Representing the sample used in this study was a
school system of more than 32,000 pupil enrollment, 1373
teachers, and 46 principals.  Surveyed were 645 teachers and
12 principals on the secondary level and 728 teachers and
34 principals on the elementary level.  Of this number the

final sample was composed of 565 secondary teachers and 12
principals and 557 elementary teachers and 34 principals.

A basic problem of the study was maintaining
anonymity for those involved, while obtaining maximum partici-
pation of teachers and principals. Therefore, one of the
stipulations necessary in the study was that all respondents
would remain anonymous. By eliciting responses in this
manner, it was believed that the sample would represent more
reliability regarding the true attitudes of those responding.
Some follow-up procedure on principals was initiated by
having the principals return postal cards when they had
mailed completed questionnaires. However, the large number
of teachers involved in the study prohibited this same
procedure for them. The only follow-up on teachers was a
general reminder to all teachers asking them to return the
questionnaire if they had not already done so.

An outline of the detailed procedures that were used
in collecting data from the sample is given in the following
description:

1. A meeting was held with the superintendent of
schools, and the study was explained. A request was made
for the superintendent's assistance in enlisting the coopera-
tion of principals and teachers who were to be involved in
the investigation. The superintendent then granted approval
for the study to be conducted in the school system, and the
assistant superintendent in charge of instruction offered
his aid in the distribution of materials.

2. Principals were contacted concerning the study, and the procedure for gathering the data was explained.

3. According to plan, each of the forty-six principals received a packet of materials consisting of the following: (1) a covering letter to principals, (2) a copy of the Dogmatism Scale and Principal Orientation Inventory, (3) a postal card for principals, (4) a covering letter for each teacher, (5) a copy of the Organizational Inventory for each teacher in the school, and (6) follow-up reminders for teachers.

4. An unrecorded number appeared on the Dogmatism Scale and the Principal Orientation Inventory; this same number was also placed on the teachers' Organizational Inventory. This procedure served to pair responses of the principal and teachers within a school, but the school was not identified nor was the principal or teachers; therefore, anonymity could be assured.

5. Principals and teachers were requested to mail their responses directly to the writer within a week after receiving the instrument, using the self-addressed, stamped envelope provided for that purpose. A follow-up procedure on principals was made possible by requesting that the postal card, which had each principal's name typed on it and which was attached, be returned when the principal had completed and mailed the instruments. A general reminder directed to teachers was included in the packet, and principals

were requested to distribute these to each teacher in his building one week after the teachers had received the Organizational Inventory.

## Instrumentation

Three questionnaire-type instruments designed to measure the basic variables involved were used in this study: (1) the belief system of the principal as measured by Rokeach's Dogmatism Scale, Form E;[1] (2) the rule orientation of the principal as measured by the Principal Orientation Inventory, an original measure developed especially for this study; and (3) the degree of school bureaucracy as measured by Hall's Organizational Inventory.[2] Copies of covering letters and these instruments are included in Appendix A and B.

### The Dogmatism Scale, Form E

Developed primarily to measure individual differences in openness or closedness of belief systems, this scale also served to measure general authoritarianism and general intolerance. The instrument used included fifty-five items; however, only forty of these items consisted of the Dogmatism Scale. Reliability scores from .68 to .93 with a median of .74 have been obtained for this instrument.[3] The Method

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[1]Rokeach, op. cit., pp. 71-80.

[2]Hall, op. cit., pp. 104-108.

[3]Rokeach, op. cit., pp. 89-90.

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of Known Groups was used to determine whether the scale was valid.[4]

Respondents were asked to mark the degree of agreement or disagreement on a six-point scale ranging from -3 to +3, with the zero point excluded to force responses toward disagreement or agreement. Subsequently this was converted, for scoring purposes, to a 1-7 scale by adding a constant of 4 to each item score. The total score was the sum scores obtained on all items in the test. For all statements, agreement was scored as closed, disagreement as open. Thus those principals with high scores on the Dogmatism Scale were considered to have closed belief systems, and those scoring low were considered to have open belief systems.

This scale measured three aspects of the open and closed belief system. The belief--disbelief dimension existed with the following characteristics: degree of rejection of disbelief system, degree of differentiation of belief system as compared with disbelief system, and the degree of differentiation within the belief system.[5] The central-peripheral dimension also existed which Rokeach described as:

> . . . the more closed a person's belief system, the more he should evaluate others according to their agreement or disagreement with his own system; also, the more difficult should it be

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[4]Ibid., pp. 101-108.

[5]Ibid., p. 62.

to discriminate between and separately evaluate
a belief and the person holding the belief. Con-
versely, the more open the belief system, the less
should beliefs held in common be a criterion for
evaluating others, and the more should others be
positively valued regardless of their beliefs. . .[6]

Another aspect of the open and closed belief systems
which the scale measured was the time-perspective dimension
which had the following characteristics:

. . . in closed systems, the main cognitive basis
is missing from the distinction between the immediate
and remote future. Knowledge about the remote future
is impossible to refute and, hence, one can be safely
preoccupied with it. The more open the system, the
more the immediate future should be in service of
confirming predictions about the present. It is the
other way around in closed systems. Things that happen
in the present should be in the service of "confirming"
the remote future. For this reason, a narrow, future-
oriented time perspective, rather than a more balanced
conception of past, present, and immediate future
in relation to each other, is also seen to be a defining
characteristic of closed systems.[7]

Principal Orientation Inventory

The Principal Orientation Inventory, a questionnaire-
type instrument, was composed of twenty incidents designed to
measure a principal's orientation towards the use of rules in
discretionary decision-making situations. To obscure the
basic measure of rule orientation, the title omitted any
reference to "rule".

Cases used in this instrument were derived from the
experiences of different principals on the elementary and
secondary level. From the original instrument which was

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[6]Ibid., p. 63.

[7]Ibid., p. 64.

composed of forty items, five items were eliminated due to
lack of application. The remaining thirty-five cases were
pretested on a group of forty-nine persons engaged in
graduate level school administration courses at the University
of Oklahoma. Many of these people held various positions in
school administration. Each of the thirty-five items in the
Principal Orientation Inventory constituted a short descrip-
tive situation involving rules, regulations, or policies. In
each instance, the principal involved in the incident made
some type of decision regarding interpretation or application
of a rule. Nineteen cases were composed of incidents in which
the principal made a decision in favor of a rule (rule-
oriented); but in sixteen cases the principals did not
support the rule involved (less rule-oriented). Respondents
in the pretest were instructed to mark their agreement or
disagreement with the principal's decision in the incident
on a five point scale: strongly agree, agree, undecided,
disagree, strongly disagree. Rule-oriented responses of the
principal were scored 5-1 from strongly agree to strongly
disagree; less rule-oriented responses were scored 1-5.

One method of obtaining test validity was to have
qualified judges examine the material in regard to content
and judge it according to some guideline. In the develop-
ment of this instrument, a panel of three judges, two
professors of educational administration and a principal,
judged each of the thirty-five cases on the basis of the

decision of the principal in the incident being rule-
oriented or non-rule oriented. A correlation of .87 was
ascertained in classifying the cases into the two categories
of "rule oriented" and "non-rule oriented" decisions of the
principal. A split-half coefficient of reliability of
.79 on the pretested instrument was provided by Stanley's
formula.[8] Twenty of the original thirty-five items showing
the greatest consistency in differentiating the rule and
non-rule responses were selected for inclusion in the final
measure.

In the final instrument composed of twenty cases,
eleven of the items were judged rule oriented and nine were
judged non rule oriented. The cases were broken down into
incidents of school rules for students, incidents of rules
for teachers, and incidents involving school board policy,
and rules made by teachers. Table 1 gives the item number
of each category.

The distribution of cases was not intended to
represent the types of situations encountered most frequently
by principals. However, this distribution did provide a
range of items which involved discretionary decision making
by school principals in the daily operations of their schools.
The four areas designated in Table 1 do indicate a basic

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[8]Julian C. Stanley, "A Simplified Procedure for
Estimating the Split-Half Reliability Coefficient of a Test,"
Harvard Educational Review, XXI (Fall, 1951), pp. 221-224.

TABLE 1

CLASSIFICATION OF ITEMS ON THE PRINCIPAL
ORIENTATION INVENTORY

| Type of Item | Incident Number | | | |
|---|---|---|---|---|
| | Rules for Students | Rules for Teachers | School Board Policy | Rules by Teachers |
| Rule Oriented | 2, 9, 11, 12, 16, 18, 20 | 6, 19 | 10 | 14 |
| Non-Rule Oriented | 1, 3, 17 | 8, 13, 15 | 4, 7 | 5 |

grouping which exists regarding rules, regulations, and

policies which often demand decisions.

The Organizational Inventory

The Organizational Inventory, developed by Hall,[9]

a questibnnaire-type instrument, utilized six principles of

bureaucracy in the form of six bureaucratic scales: (1)

hierarchy of authority, (2) division of labor, (3) rules for

incumbents, (4) procedural specifications, (5) impersonality,

and (6) technical competency. Each dimension constituted a

different measure of that particular principle of bureau-

cracy. The hierarchy of authority dimension deals with the

feeling of organizational employees regarding superior

authority. Job attitudes concerning variety of work,

[9]Hall, op. cit., pp. 104-108.

specificness of work and levels of work are contained in
the division of labor dimension. Having a rules manual,
following written regulations, and applications of rules
are examples of the rules dimension. The procedures dimen-
sion examines procedural emphasis concerning individual
problems, decision making, personal judgment, and superior
authority. The impersonality dimension deals with the
feelings of the individual in his personal and social
relationships within the organization. Such things as
hiring, promotions, qualifications, and evaluations reflect
the technical qualification dimension.

There were sixty-two items in the instrument. All
of the bureaucratic dimensions had ten items each with scores
ranging from 10-50, except the hierarchy of authority dimen-
sion which had twelve items with scores ranging from 12-60.
Reliability for the six scales ranged from .80 to .90.[10]
The instrument was made up of short statements concerning
organizations which reflected the six bureaucratic dimen-
sions. The respondent was asked to indicate whether the
particular statement described his organization as follows:
definitely true, partially true, undecided, partially false,
or definitely false. The analysis of each school organiza-
tion was accomplished by totaling all of the respondents'
scores on the six bureaucratic scales and determining the
mean score of each school. Low scores indicated a high

[10]Ibid., p. 20.

degree of bureaucracy perceived by teachers; high scores

indicated a low degree of bureaucracy. Examples of items

from each scale are as follows:

1. Hierarchy of authority scale: "A person can
   make his own decisions without checking with
   anyone else."
2. Division of labor scale: "One thing people like
   around here is the variety of work."
3. System of rules scale: "Most people here make
   their own rules on the job."
4. System of procedures scale: "We are to follow
   strict operating procedures at all times."
5. Impersonality scale: "No matter how serious a
   person's problem is, he is treated the same as
   anyone else."
6. Technical competence scale: "Employees are
   periodically evaluated to see how well they
   are doing."

## Population Response

Each principal in the school system was requested

to complete the Dogmatism Scale and the Principal Orienta-

tion Inventory. Each teacher was requested to complete the

Organizational Inventory. The overall response is indicated

in Table 2.

### TABLE 2

### POPULATION RESPONSE

| Level | Teachers Surveyed | Response | Per-centage | Principals Surveyed | Response | Per-centage |
|---|---|---|---|---|---|---|
| Elementary | 728 | 557 | 76.6 | 34 | 34 | 100 |
| Secondary | 645 | 565 | 87.8 | 12 | 12 | 100 |
| Total | 1373 | 1122 | 81.9 | 46 | 46 | 100 |

## Statistical Methods

The Dogmatism Scale, Principal Orientation Inventory, and the Organizational Inventory respectively measured the belief system of the individual principal, the rule orientation of the principal, and the degree of bureaucracy, as perceived by teachers, within the individual school. These constituted the major variables of the study and were examined through the use of three nonparametric tests. To explore the relationships (1) between the belief system of the principals and rule orientation of principals, (2) between the belief system of principals and the degree of bureaucracy perceived by teachers, and (3) between the rule-orientation of principals and the degree of bureaucracy perceived by teachers, the Spearman rank order correlation coefficient test was utilized. The following formula was used:[11]

$$R = 1 - \frac{6 \sum (X-Y)^2}{N(N^2-1)}$$

To determine the significance of the rank order correlation coefficient, a transformation was used:[12] $Z = R \sqrt{N-1}$ and each relationship was tested under the null hypothesis of no significant difference at the .05 level using a two tail test. A $\underline{Z}$ score greater than 1.96 or -1.96 had to be obtained to reject the null hypothesis

[11]George N. Weinburg and John Schumaker, Statistics: An Intuitive Approach (Belmount, Calif.: Wadsworth Publishing Co., 1965), p. 293.

[12]Ibid., p. 296.

and demonstrate that a significant relationship existed.
Acceptance of the null hypothesis indicated that the data
were not related at the .05 level of significance.

Differences between elementary and secondary principals
on (1) belief systems and (2) rule orientation were examined
through the use of the Mann-Whitney $\underline{U}$ test. When the forty-
six principals were broken down by level, unequal N's of
thirty-four and twelve resulted. The means of the two groups
were compared by obtaining a $\underline{U}$ score based on the sum of the
ranks. The $\underline{U}$ score was obtained by using the following
formula:[13]

$$\underline{U} = n_1 \, n_2 + \frac{n_1 \, (n_1 + 1)}{2} - R_1$$

The sampling distribution of the mean of $\underline{U}$ was $\frac{n_1 \, n_2}{2}$ and the
standard deviation of $\underline{U}$ was $\sqrt{\frac{n_1 \, n_2 \, (n_1 + n_2 + 1)}{12}}$. The $\underline{U}$
score, $\underline{U}$ mean, and standard deviation of $\underline{U}$ were used to
compute a $\underline{Z}$ score when N was greater than twenty. The $\underline{Z}$
score formula was $\underline{Z} = \frac{U - \mathcal{H}_U}{\sigma_U}$. In order to reject the null
hypothesis of no significant differences at the .05 level
using a two tail test, a $\underline{Z}$ score greater than 1.96 or -1.96
had to be obtained, which indicated that the data were not
from the same population and that a significant difference
did exist. Acceptance of the null hypothesis denoted that
there were no significant differences in the two groups con-
sidered.

[13]John E. Fruend, <u>Modern Elementary Statistics</u>
(Englewood, N.J.: Prentice-Hall, Inc., 1960), pp. 296-300.

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Statistical analysis of the variables of teacher age, sex, and teaching experience, along with school size and organizational level, to teacher perceived bureaucracy were treated through the use of the chi-square method. The following formula was used:[14] $\chi^2 = \sum \frac{(O-E)^2}{E}$ . The null hypothesis of no significant differences was used for each chi-square test. All tests were two-by-two crossbreak tables with one degree of freedom. In order for the null hypothesis to be rejected, the derived chi-square had to be larger than 3.841 at the .05 level of significance. To be significant at the .01 level, the derived chi-square had to be greater than 6.635. If the derived chi-square was smaller than the .05 level of significance with one degree of freedom, the decision was made to accept the null hypothesis of no significant difference; therefore, the variables considered would not be related.

Scoring and Programming the Data

Since forty-six principals were administered the Dogmatism Scale and the Principal Orientation Inventory, these measures were scored by hand, and the results of the statistical tests which were applied to the data were derived through the use of an electric calculator.

In order to handle the large quantity of data obtained through the Organizational Inventory, processing of the data

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[14]Weinburg, op. cit., p. 219.

was accomplished through the use of computer programming.
The identification and personal data for each teacher and
the answering responses to the questionnaire were punched
on an IBM card. The data were then programmed on an IBM 1410
computer at the Oklahoma University Computer Laboratory to
obtain (1) a score for each teacher on each of the six
bureaucratic dimensions on the Organizational Inventory,
(2) a mean for each of the forty-six schools on each of the
six bureaucratic dimensions, (3) a standard deviation for
each of the forty-six schools on each of the six bureau-
cratic dimensions, and (4) a total mean and standard devia-
tion for the complete sample for each of the six bureau-
cratic dimensions. Other statistical information was
derived through the use of the statistical sorter in the
statistical laboratory of the Oklahoma University Depart-
ment of Education. Resulting data were computed on an
electric calculator at the statistical laboratory and
applied to the various statistical tests involved in the
investigation.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

The purpose of this chapter is to provide an analysis
and interpretation of the data and comparison of the results
of the several treatments with the results of previous studies.
The descriptions of the treatments of the data were organized
around the presentation of data tables. Raw data of principal
scores on the Dogmatism scale and the Principal Orientation
Inventory, along with the raw data of school means of teacher-
perceived bureaucracy, appears in Appendix C. Discussion of
the data was approached through the consideration of each of
the hypotheses used to test the theoretical model of the
study. Data pertinent to each hypothesis was presented in
the appropriate tables.

The null hypothesis of no significant differences
was used to test each stated hypothesis in the study. In
order to prove significance, the .05 level of confidence
was used. Tests which derived $\underline{Z}$ scores had to achieve a
score of 1.96 to be significant at the .05 level of confidence
and 2.58 at the .01 level. Chi-square tests were made
through the use of two-by-two crossbreak tables with one

degree of freedom. At the .05 level of significance derived
chi-squares had to be larger than 3.841; at the .01 level the
computed chi-square had to be larger than 6.635.

## Presentation of Data

The various tests of significance involved 46
principals and 1122 teachers. Thirty-four of the principals
were on the elementary level, and of that number two were
female. Twelve of the principals were on the secondary
level, and of that number all were male. Table 3 indicates
the breakdown of the responding teachers in the sample.

As shown in Table 3, approximately one-fourth of
the responding teachers were male and three-fourths were
female. It should be pointed out that only a very small
percentage of the males were located in the elementary
schools; consequently, 82 per cent of the males were located
in the secondary schools. Therefore, of approximately one-
half of the responding teachers on the elementary level,
the majority were female. On the secondary level there were
approximately 8 per cent more females than males.

The responding teachers were represented predominately
in the younger age bracket. One-third of the teachers were
in the middle-age bracket, and one-fifth in the older age
bracket. Approximately two-thirds of those in the sample
had from 0-15 years of teaching experience, one-fourth in
the 16-30 year bracket, and one-eighth in the most teaching

TABLE 3

DATA ON RESPONDING TEACHERS

| | Elementary | | Secondary | | Total | |
|---|---|---|---|---|---|---|
| | Number | Percentage | Number | Percentage | Number | Percentage |
| **Sex** | | | | | | |
| Male | 52 | 4.7 | 237 | 21.1 | 289 | 25.8 |
| Female | 505 | 45.0 | 328 | 29.2 | 833 | 74.2 |
| Total | 557 | 49.7 | 565 | 50.3 | 1122 | 100.0 |
| **Age** | | | | | | |
| 21-35 | 236 | 21.0 | 277 | 24.6 | 513 | 45.7 |
| 36-50 | 186 | 16.7 | 184 | 16.4 | 370 | 33.0 |
| 51-65 | 135 | 12.0 | 104 | 9.3 | 239 | 21.3 |
| Total | 557 | 49.7 | 565 | 50.3 | 1122 | 100.0 |
| **Experience** | | | | | | |
| 0-15 | 354 | 31.6 | 371 | 33.1 | 725 | 64.6 |
| 16-30 | 140 | 12.5 | 126 | 11.2 | 266 | 23.7 |
| 31-45 | 63 | 5.6 | 68 | 6.0 | 131 | 11.7 |
| Total | 557 | 49.7 | 565 | 50.3 | 1122 | 100.0 |
| **School Size** | | | | | | |
| Below 499 | 253 | 22.5 | ... | .... | 253 | 22.6 |
| 500-999 | 304 | 27.2 | 162 | 14.4 | 466 | 41.5 |
| 1000-1499 | ... | .... | 211 | 18.8 | 211 | 18.8 |
| Above 1500 | ... | .... | 192 | 17.1 | 192 | 17.1 |
| Total | 557 | 49.7 | 565 | 50.3 | 1122 | 100.0 |

experience range. This group was quite evenly divided between the elementary and secondary level of each experience bracket.

Almost two-thirds of the responding teachers taught in schools of less than 1000 pupil enrollment; one third taught in schools of more than 1000 pupil enrollment. All

schools above 1000 enrollment were on the secondary level;
conversely, all schools below 500 were on the elementary
level. Approximately one-half of the teachers in the sample
taught in schools of between 500-999 pupil enrollment.

The total respondent group may be described as a
comparatively young teaching staff, with the majority of the
teachers having less than sixteen years of teaching experience.
The elementary schools were predominately female teachers;
the secondary schools contained slightly fewer males than
females. A majority of the teachers taught in schools of less
than 1000 pupils, with the largest percentage in schools of
500-999, which reflected both elementary and secondary levels.

Ho 1: There will be no significant difference
between principals who are more rule oriented with open-
belief systems and principals who are less rule oriented
with closed-belief systems.

Scores in Table 4 were ranked from 1-46, low scores
to high scores, and the table consists of the ranks of
principals' scores on the Dogmatism Scale and the Principal
Orientation Inventory. Low scores represented open-belief
systems and less rule orientation, while high scores
represented closed-belief systems and more rule orientation.

The null hypothesis of no significant differences
at the .05 level was rejected. The derived $\underline{Z}$ score indicated
that the belief system and rule orientation were related
beyond the .01 level of significance. By rejecting the null

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TABLE 4

RANK ORDER CORRELATION OF PRINCIPALS' BELIEF
SYSTEMS AND RULE ORIENTATION

| Belief System | Rule Orientation | Difference | Belief System | Rule Orientation | Difference |
|---|---|---|---|---|---|
| 1.0 | 29.5 | -28.5 | 24.0 | 19.5 | 4.5 |
| 2.0 | 9.5 | - 7.5 | 25.0 | 44.0 | -19.0 |
| 3.0 | 6.0 | - 3.0 | 26.0 | 19.5 | 6.5 |
| 4.5 | 3.0 | 1.5 | 27.5 | 46.0 | -18.5 |
| 4.5 | 6.0 | - 1.5 | 27.5 | 25.0 | 2.5 |
| 6.0 | .5 | 5.5 | 29.5 | 34.5 | - 5.0 |
| 7.0 | 15.5 | - 8.5 | 29.5 | 37.5 | - 8.0 |
| 8.5 | 15.5 | - 7.0 | 31.0 | 15.5 | 15.5 |
| 8.5 | 29.5 | -21.0 | 32.0 | 6.0 | 26.0 |
| 10.0 | 29.5 | -19.5 | 33.0 | 32.0 | 1.0 |
| 11.0 | 41.5 | -30.5 | 34.0 | 36.0 | - 2.0 |
| 12.5 | 6.0 | 6.5 | 35.5 | 23.0 | 12.5 |
| 12.5 | 21.5 | - 9.0 | 35.5 | 40.0 | - 4.5 |
| 15.0 | 12.0 | 3.0 | 37.0 | 25.0 | 12.0 |
| 15.0 | 15.5 | - .5 | 38.0 | 29.5 | 8.5 |
| 15.0 | 6.0 | 9.0 | 39.0 | 28.0 | 11.0 |
| 17.0 | 37.5 | -20.5 | 40.0 | 43.0 | - 3.0 |
| 18.5 | 39.0 | -20.5 | 41.0 | 25.0 | 16.0 |
| 18.5 | 18.0 | .5 | 43.0 | 28.0 | 15.0 |
| 20.0 | 9.5 | 10.5 | 43.0 | 45.0 | - 2.0 |
| 21.0 | 12.0 | 9.0 | 43.0 | 28.0 | 15.0 |
| 22.5 | 21.5 | 1.0 | 45.0 | 41.5 | 3.5 |
| 22.5 | 12.0 | 10.5 | 46.0 | 34.5 | 11.5 |

$d^2 = 7300.50$     $r = .55$     $\underline{Z} = 3.69$[a]

[a]Significant beyond the .01 level.

hypothesis, it can be concluded that, in this sample, principals with open-belief systems were inclined to be less rule oriented in discretionary decision-making situations. Principals with closed-belief systems tended to be more rule oriented. As the belief system of the principal varied along

a continuum, the rule orientation of the principal varied in the same direction.

The data collected in this study supported the construct that the principals' belief systems varied from open to closed. Also, as the belief system varied, so did the rule orientation of the principal. Principals with more open-belief systems were inclined to be less rule oriented, while principals with closed-belief systems tended to be more rule oriented.

Several factors characterize the school principal, regarding belief system, which may be related from other studies. For example, principals with open-belief systems are less custodial in pupil control than principals with closed-belief systems.[1] In addition, those whose belief systems are considered as open or closed are apt to change their values over a period of time;[2] open individuals have more ability than closed-minded persons to engage successfully in critical thinking.[3]

Ho 2: There will be no significant difference between the degree of bureaucracy as perceived by teachers and the individual belief system of the principal.

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[1]Hoy, op. cit., p. 49.

[2]Gratton G. Kemp, op. cit., pp. 335-346.

[3]Gratton G. Kemp, "Effect of Dogmatism on Critical Thinking," School Science Mathematics, LX (April, 1960), pp. 314-319.

The scores in Table 5 were ranked from open (low scores) to closed (high scores) on the Dogmatism Scale; the degree of teacher perceived bureaucracy was ranked from less bureaucratic (high scores) to more bureaucratic (low scores).

TABLE 5

RANK ORDER CORRELATION OF BELIEF
SYSTEMS AND BUREAUCRACY

| | Bureaucratic Dimension | | | | | |
|---|---|---|---|---|---|---|
| | Hierarchy of Authority | Division of Labor | Rules | Procedures | Imperson-ality | Technical Qualifica-tions |
| r | -.06 | .16 | -.22 | -.14 | -.24 | .14 |
| z | -.41 | 1.07 | -1.48 | -.93 | -1.61 | .94 |

The null hypothesis of no significant difference was accepted on all dimensions, indicating that the degree of teacher perceived bureaucracy in the school was not significantly related to the belief system of the principal. Small negative and positive relationships were noted in various dimensions but not to the extent of reaching the .05 level of significance.

The results of this hypothesis seemed to indicate that other factors exist which exerted a more powerful influence over teacher perceptions of bureaucracy than the individual belief system of the principal. Teacher variables such as age and sex may be influencing elements which tend to

negate a relationship between principal's belief system and
teacher perceptions of bureaucracy. There was also an
indication that the system wide bureaucratic norm may tran-
scend the influence of the individual behaviors of the school
principal. In this context, despite the particular belief
system of the principal, teachers may be more inclined to
be influenced in their perceptions by the total operations
of the entire system rather than the operation of the
principal in the local school.

Ho 3: There will be no significant difference between
the rule orientation of principals and the degree of bureau-
cracy perceived by teachers in their schools.

In Table 6, scores on the Principal Orientation
Inventory were ranked from less rule oriented (low scores)
to more rule oriented (high scores); the degree of teacher-
perceived bureaucracy was ranked from less bureaucratic
(high scores) to more bureaucratic (low scores).

There were no significant correlations on any of the
six bureaucratic dimensions; therefore, the null hypothesis
of no significant differences was accepted. This sample of
principals and teachers indicated no relationship between
the rule orientation of principals and the degree of teacher-
perceived bureaucracy within the school. A principal may be
highly rule oriented in discretionary decision making
situations, but this does not necessarily influence the
perceptions of teachers in viewing the bureaucracy in the
school.

## TABLE 6

### RANK ORDER CORRELATION OF RULE
### ORIENTATION AND BUREAUCRACY

| | Bureaucratic Dimension | | | | | |
|---|---|---|---|---|---|---|
| | Hierarchy of Authority | Division of Labor | Rules | Procedures | Impersonality | Technical Qualifications |
| r | -.06 | .16 | -.14 | -.05 | -.09 | .06 |
| z | -.41 | 1.07 | -.94 | -.34 | -.60 | .41 |

As the belief system of the principal did not necessarily affect teacher perceptions of school bureaucracy, neither did the rule orientation of the principal. Less rule-oriented principals were found to have schools with perceived bureaucracy as high as that of more rule-oriented principals. The study of Esser and Strother which used rule orientation as a measure of bureaucratization of an organization cannot be supported by the findings of the present study when the perceptions of those subordinates within the organization are considered. The principal may be rule oriented, but still have a relatively low degree of teacher-perceived bureaucracy in his school.

As in the case of principal belief systems, it seems that basic teacher variables and the school system bureaucratic norm represents more of an influential determinate in teacher perceptions than whether a principal was more rule oriented or less rule oriented in his behavior.

Ho 4:  There will be no significant differences between elementary and secondary school principals in terms of (a) belief systems or (b) rule orientation.

(a)  All principals were ranked from open belief system (low scores) to closed belief system (high scores) on the Dogmatism Scale in Table 7.  They were then separated according to organizational level and a test was made to determine if there were any significant differences.  By using the Mann-Whitney $U$ test, a $Z$ score of -1.83 was derived, which was not significant at the .05 level using a two-tailed test.  Consequently, the null hypothesis of no significant difference was accepted.

TABLE 7

ORGANIZATION LEVEL AND BELIEF SYSTEMS
AND RULE ORIENTATION

| | (a) Belief System | | (b) Rule Orientation | |
|---|---|---|---|---|
| | Elementary | Secondary | Elementary | Secondary |
| N = 46 | $n_2$= 34 | $n_1$= 12 | $n_2$= 34 | $n_1$= 12 |
| Sum of Ranks | 726 | 355 | 787 | 316 |
| Mean of Ranks | 21.4 | 29.6 | 23.14 | 26.3 |
| U Score | 131 | | 170 | |
| Mean of U | 204 | | 204 | |
| SD of U | 39.98 | | 39.98 | |
| Z | -1.83 | | - .85 | |

In this sample of principals, regardless of whether they were elementary or secondary, the belief system did not significantly change with organizational level.  Therefore,

elementary and secondary principals differed little in open-
ness or closedness of their belief systems. This finding was
supported by Hoy's study in which no differences were found
in organizational level with principals; the means of the
elementary and secondary principals were almost identical.[4]
In the present study, the mean scores on the Dogmatism Scale
of secondary principals were higher than those of elementary
principals.  However, the differences between the groups in
the two studies may be explained by the fact that Hoy's
study used a much larger sample of secondary principals than
the present investigation.

(a)  All principals were ranked from less rule oriented
(low scores) to more rule oriented (high scores) on the
Principal Orientation Inventory.  They were then separated
according to organizational level and a test was made to
determine if there were any significant differences.  By
using the Mann-Whitney $U$ test, a $Z$ score of -.85 was derived
using a two-tailed test; this was not significant at the
.05 level.  Therefore, the null hypothesis of no significant
difference was accepted.  In this sample, principals did
not differ in rule orientation from one organizational level
to another.

The study by Morgan[5] supports the finding that there
were no significant differences between elementary and secondary

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[4]Hoy, op. cit., pp. 43-70.

[5]Morgan, op. cit., pp. 4390-4391.

principals in regard to rule orientation. Using the nomo-thetic role, which principals were inclined to assume and which depended on institutional rules and procedures, Morgan found no significant differences between elementary and secondary principals regarding this role. This would tend to disprove a misconception which sometimes exists that secondary principals were inclined to be more oriented toward the use of rules in their operations than elementary principals.

Ho 5: There will be no significant differences between the degree of bureaucracy perceived by elementary and secondary teachers.

All teachers composing the sample were divided at the median on each of the six bureaucratic dimensions by organizational level. Those who appeared below the median (more bureaucratic) were placed in the high cells; those who appeared above the median (less bureaucratic) were placed in the low cells. A chi-square was then calculated to deter-mine if there was any relationship between the level of the teacher and the degree of perceived bureaucracy. Table 8 indicates the results of the chi-square tests.

The results of the table below may be summarized as follows:

1. Hierarchy of authority -- reject the null hypo-thesis at the .01 level of significance. Secondary teachers perceived the school organization as being more bureaucratic

TABLE 8

ORGANIZATIONAL LEVEL AND BUREAUCRACY

| | Bureaucratic Dimension[c] | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Hier. of Authority | | Division of Labor | | Rules | | Procedures | | Imper- sonality | | Tech. Qualif. | |
| | High | Low | High | Low | High | Low | High | Low | High | Low | High | Low |
| Elem. | 245 | 312 | 256 | 301 | 295 | 262 | 263 | 294 | 309 | 248 | 298 | 259 |
| Sec. | 316 | 249 | 305 | 260 | 266 | 299 | 298 | 267 | 252 | 313 | 263 | 302 |
| $\chi^2$ | $16.01^b$ | | $7.22^b$ | | $3.88^a$ | | $3.43$ | | $13.27^b$ | | $5.42^a$ | |

[a]Significant at the .05 level.

[b]Significant at the .01 level.

[c]High cells represent more bureaucratic, low cells less bureaucratic.

than elementary teachers on this dimension.

2. Division of labor -- reject the null hypothesis at the .01 level. Secondary teachers perceived the school organization as being more bureaucratic on this dimension.

3. Rules -- reject the null hypothesis at the .05 level of significance. Elementary teachers viewed this dimension as more bureaucratic than secondary teachers.

4. Procedures -- accept the null hypothesis at the .05 level of significance. Little difference was evidenced between elementary and secondary teachers in terms of their perceptions of procedures.

5. Impersonality -- reject the null hypothesis at the .01 level of significance. Elementary teachers perceived

the school organization as more bureaucratic than secondary teachers on this dimension.

6. Technical qualifications -- reject the null hypothesis at the .05 level of significance. Secondary teachers were inclined to see the school organization as more bureaucratic in terms of technical qualifications than elementary teachers.

In testing the following null sub-hypotheses, the teachers in the sample were divided at the median on each of the six bureaucratic dimensions by (1) age, (2) teaching experience, (3) sex, and (4) size of school. Those who appeared below the median (more bureaucratic) were placed in the high cells; those who appeared above the median (less bureaucratic) were placed in the low cells. A chi-square statistic was then calculated to determine if there was any significant relationship between the variables and the degree of teacher-perceived bureaucracy.

Sub Ho 1: There will be no significant difference between the age of teachers and the degree of bureaucracy perceived by teachers.

In order to determine if younger teachers perceived the school organization as more bureaucratic than older teachers, only those teachers in the youngest and oldest age intervals were considered in Table 9.

The null hypothesis of no significant difference was rejected at the .05 level on the dimension of rules and

TABLE 9

TEACHER AGE AND BUREAUCRACY

| | Bureaucratic Dimension[c] | | | | | | | | | | | |
| Age | Hier. of Authority | | Division of Labor | | Rules | | Procedures | | Imper-sonality | | Tech. Qualif. | |
| | High | Low | High | Low | High | Low | High | Low | High | Low | High | Low |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21-35 | 258 | 255 | 260 | 253 | 262 | 251 | 262 | 251 | 253 | 260 | 235 | 278 |
| 51-65 | 116 | 123 | 96 | 143 | 102 | 137 | 109 | 130 | 107 | 132 | 144 | 95 |
| $\chi^2$ | .20 | | $7.23^b$ | | $4.60^a$ | | 1.95 | | 1.35 | | $13.61^b$ | |

[a]Significant at the .05 level.

[b]Significant at the .01 level.

[c]High cells are more bureaucratic, low cells less bureaucratic.

the .01 level on the dimensions of division of labor and technical qualifications. Younger teachers viewed the school organization as more bureaucratic in division of labor and rules, and less bureaucratic in technical qualifications. The perceptions of older teachers were the reverse of this. The null hypothesis was accepted in terms of hierarchy of authority, procedures, and impersonality. Younger and older teachers, in general, tended to hold similar perceptions of the degree of bureaucracy existing in the school organization concerning these dimensions.

Sub Ho 2: There will be no significant differences between the teaching experience of teachers and the degree of teacher-perceived bureaucracy.

To determine if differences existed in the perceptions of teachers with various number of years of teaching experience, teachers within the first and third experience intervals were compared in Table 10.

TABLE 10

TEACHING EXPERIENCE AND BUREAUCRACY

| | Bureaucratic Dimension[c] | | | | | |
|---|---|---|---|---|---|---|
| Yrs. Exp. | Hier. of Authority | Division of Labor | Rules | Procedures | Imper-sonality | Tech. Qualif. |
| | High Low | High Low | High Low | High Low | High Low | High Low |
| 0-15 | 359 366 | 364 361 | 370 355 | 371 354 | 355 370 | 329 396 |
| 31-45 | 58 73 | 63 68 | 52 79 | 59 72 | 60 71 | 80 51 |
| $\chi^2$ | 1.22 | .20 | $5.71^a$ | 1.60 | .45 | $10.94^b$ |

[a]Significant at the .05 level.

[b]Significant at the .01 level.

[c]High cells are more bureaucratic, low cells less bureaucratic

The null hypothesis was rejected at the .05 level when the dimensions of rules and technical qualifications were considered. Respondent teachers with less teaching experience were inclined to discern the school organization as more bureaucratic in terms of rules; teachers with more experience saw the school as more bureaucratic along the line of technical qualifications. There was no significant relationship between teaching experience and hierarchy of authority, division of labor, procedures, and impersonality.

Sub Ho.3; There will be no significant difference between the sex of teachers and the degree of bureaucracy perceived by teachers.

The null hypothesis of no significant differences was rejected at the .05 level when testing the difference in sex concerning the dimensions of division of labor, rules, and technical qualifications. Table 11 indicates that female teachers were inclined to see the school organization as being more bureaucratic in terms of division of labor, rules, and technical qualifications. Where significant differences did exist, male teachers characteristically felt the school organization less bureaucratic than female teachers.

TABLE 11

TEACHER SEX AND BUREAUCRACY

| Sex | Bureaucratic Dimensions[c] | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Hier. of Authority | | Division of Labor | | Rules | | Procedures | | Imper- sonality | | Tech. Qualif. | |
| | High | Low | High | Low | High | Low | High | Low | High | Low | High | Low |
| Male | 150 | 139 | 125 | 164 | 124 | 165 | 137 | 152 | 141 | 148 | 115 | 174 |
| Female | 411 | 422 | 436 | 397 | 437 | 396 | 424 | 409 | 420 | 413 | 446 | 377 |
| $\chi^2$ | .57 | | 7.09[b] | | 7.89[b] | | 1.05 | | .23 | | 17.37[b] | |

[a]Significant at the .05 level.

[b]Significant at the .01 level.

[c]High cells are more bureaucratic, low cells less bureaucratic.

The null hypothesis was accepted in considering the dimensions of hierarchy of authority, procedures, and impersonality. There was no significant difference in the perceptions of male and female teachers regarding these dimensions.

Sub Ho 4:   There will be no significant difference between the size of the school and the degree of teacher perceived bureaucracy.

In order to compare the perceptions necessary for this hypothesis, the teachers were divided into two groups according to the size of the school in which they were teaching.   Two basic intervals resulted, those teachers in schools of 999 pupil enrollment and below, and those teachers in schools above 999.   All of the schools in the latter interval were on the secondary level; those in the former interval were composed of both elementary and secondary schools.

The null hypothesis of no significant differences was rejected at the .05 level in four of the six dimensions-hierarchy of authority, division of labor, rules, and impersonality.   Teachers in larger schools tended to view the school organization as more bureaucratic in terms of hierarchy of authority and division of labor.   Teachers in smaller schools discerned the school organization as more bureaucratic in terms of rules and impersonality.

The null hypothesis was accepted on two dimensions-procedures and technical qualifications.   Table 12 reflects

that, for the most part, teachers in all sizes of schools
were inclined to see the school organization as having
similar teacher perceived bureaucracy regardless of size
when the dimensions of procedures and technical qualifica-
tions were tested.

TABLE 12

SCHOOL SIZE AND BUREAUCRACY

| Size | Bureaucratic Dimensions[c] | | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | Hier. of Authority | | Division of Labor | | Rules | | Procedures | | Imper-sonality | | Tech. Qualif. | |
| | High | Low | High | Low | High | Low | High | Low | High | Low | High | Low |
| Below 999 | 342 | 377 | 340 | 379 | 380 | 339 | 357 | 362 | 388 | 331 | 373 | 346 |
| Above 999 | 219 | 184 | 221 | 182 | 181 | 222 | 204 | 199 | 173 | 230 | 188 | 215 |
| $\chi^2$ | $4.74^a$ | | $5.89^a$ | | $6.51^a$ | | .10 | | $12.58^b$ | | 2.82 | |

[a]Significant at the .05 level.

[b]Significant at the .01 level.

[c]High cells are more bureaucratic, low cells less
bureaucratic.

## Summary

The degree of bureaucracy perceived in a school was
not necessarily influenced by the belief system or rule
orientation of the principal. Variables of teacher age, sex,
and teaching experience, combined with the size of the school
and organizational level, provided some explanation for the

variation of the school system bureaucratic norm, rather than the variables associated with the principal. As the bureaucratic norm varied from school to school, there was also variation in the magnitude of the six bureaucratic dimensions in the individual schools. In general, this study was supported by Hall's study which displayed the same characteristic. Means of the business organizations in Hall's study were comparable to those of the school organization with two exceptions.[6] One exception was that the range of means of teachers on the bureaucratic dimension of hierarchy of authority tended to be much broader. The range of means for school organizations was 27.0 to 44.9 on this dimension; the range of means for business organizations was 33.1 to 38.9. The lower the mean, the more bureaucratic the organization was perceived. As can be noted, teachers appeared to be more sensitive to the existence of the hierarchy of authority in the school organizations than employees in business organizations.

Another exception was that the mean scores of business and school organizations varied on the dimension of rules. The range of means for school organizations was 16.5 to 27.9; the range of means for business organizations was 22.2 to 36.9. The lower the mean, the more bureaucratic the organization was perceived. There does exist some indication

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[6]Hall, op. cit., p. 37.

that school organizations may be perceived as being more
bureaucratic on this dimension than business organizations.
This could point up the importance of rules and regulations
in the operation of the school organization.

The bureaucratic dimensions frequently varied from
school to school according to teacher sex, age, teaching
experience, school size, and organizational level. A summary
of the dimensions follows:

1. Hierarchy of authority. Organizational level and
size of school seem to be particularly related to the
hierarchy of authority dimension. Secondary teachers,
especially in the larger schools, felt the school organization
was more bureaucratic in this respect. Since the organiza-
tional and administrative pattern of the school does tend
to become more complex with the increase in size, this
finding reflects one of the basic characteristics of the
bureaucratic structure. It should be noted, however, that
as schools became larger in this sample, they became
distinctly secondary in character. Because of this factor,
there was no comparison of larger elementary and larger
secondary schools.

2. Division of labor. All of the variables were
related in some manner to the division of labor dimension,
except that of teaching experience. Apparently the fact
that a teacher may be less experienced or more experienced
does not affect his perceptions regarding this dimension.

Younger female teachers in secondary schools seem to be
particularly aware of the operation of this dimension,
perceiving the school as being more bureaucratic in this
respect. Older female teachers in the elementary schools
felt that the school was less bureaucratic on division of
labor. This dimension may have the tendency to echo the
organizational pattern of the secondary school and to be
influenced more in the size of the school than the level
of the school.

3. Rules. There was some relationship of all of
the teacher variables to the rules dimension. The school
organization was perceived as being more bureaucratic by
female teachers, younger teachers, less experienced teachers,
and teachers in smaller schools and elementary schools.
Older, more experienced teachers felt the organization was
less bureaucratic. Teachers discerning the school as being
more bureaucratic were prone to be more sensitive to its
operations in terms of rules concerning the organization
itself. Having a rules manual, following written regula-
tions from superiors, and applying rules to teachers in the
operation of the school are examples of the rules dimension,
often concerning the elementary teacher more than the secon-
dary teacher. In all probability, the outcome of this dimen-
sion was largely influenced by whether an individual was
male or female. The elementary schools in the investigation
were staffed primarily with female teachers; the secondary

schools were comprised of almost one-half male teachers.
Discretion must be used in interpreting this data in terms
of one level of teaching perceiving the school organization
as more bureaucratic than another level.

4. Procedures. Procedures was the only dimension
which was not related to any of the variables considered.
An argument could be made for the operation of the system-
wide bureaucratic norm concerning the procedures dimension.
It is possible that school procedures may be so outlined
and pursued system-wide, that the bureaucratic norm over-
comes the individual operations of principals in the local
school. Consequently, teachers in the various schools may
see the school organization as a total operation rather than
an individual school operation.

5. Impersonality. Organizational level and size of
school appear to be related to this dimension, for teachers
in the elementary school and teachers in smaller schools
viewed the school organization as being more bureaucratic
in this respect.

6. Technical qualifications. Apparently, all
variables were related to the technical qualifications
dimension except school size. Technical qualifications
includes : hiring, promotions, qualifications, and evalua-
tion. Thus, older female teachers, who had long years of
teaching experience, particularly at the elementary level,
perceived the school organization as more bureaucratic in

this dimension.  Having been a part of the school system for
a long period of time, a noticeable sensitivity exists within
this group regarding the aspects of technical qualifications.
Younger teachers with less teaching experience perceived the
school as less bureaucratic in this area.

It may be noted that perception of the school organiza-
tion as more bureaucratic was characteristic of younger
teachers, many of whom were encountering the complexity of
the structure for the first time as an employee.  However, it
would appear that as teachers became older and more experienced,
these perceptions seemed to undergo some change, and the
school was considered less bureaucratic oftentimes.  This
transformation may be explained by the concept of accom-
modation advanced by Presthus.  Under this assumption, the
large school system could be construed as emphasizing the
value of conformity, authority, and success.  The younger
inexperienced teacher does not necessarily have the appro-
priate values and defenses to adjust readily to the demands
of the large school system.  However, as the teacher remains
within the organization, he begins to acquire values and
defenses necessary to accommodate to the school bureau-
cracy.  Consequently, those institutional demands which are
unacceptable to the individual when a younger teacher
begin to gain acceptance in later years.

Although some teacher perceptions of school bureau-
cracy demonstrated differences sufficient to be significant,

these frequently existed in terms of age and sex of teachers. To be considered also is the operation of the bureaucratic norm of the school system, which may conceivably influence perceptions of teachers. A prime example of the bureaucratic norm as a cogent force operating to influence teacher perceptions was the procedures dimension. Following prescribed procedures, stressing use of channels, and routinizing operations are characteristic of this dimension. The procedures dimension was not related to either the principal variables or teacher variables. Functioning throughout the school system, it is possible that teachers felt the bureaucratic dimension operating system-wide rather than at the level of the individual school. The school system bureaucratic norm may exist as a potent force for shaping teacher perceptions of school organizational bureaucracy.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

## Summary

As with many present day social institutions, school
systems have increased in size and complexity, resulting in
a decidedly more intricate situation for school administra-
tion. As this development has progressed, an equally complex
administrative machinery has come into existence. The
resulting organization features bureaucratic characteristics
of size, specialization, hierarchy, rules, procedures,
impersonality, and technical competence. Numerous studies
have been conducted on administrative behavior and the
perceptions of those within the school organization; however,
few studies have attempted to relate certain bureaucratic
administrative behavior and teacher-perceptions of the
bureaucratic structure. The problem of this study was to
determine whether the degree of teacher-perceived school
bureaucracy varied in different schools, and to determine
whether this was related to (1) the orientation of the
principal toward rules in discretionary decision making

situations and (2) the belief system characterizing the individual principal.

A model was developed which theorized that principals' belief systems and rule orientation varied along a continuum from an open belief system and less rule orientedness to a closed belief system and more rule orientedness. The degree of organizational bureaucracy was determined by perceptions of teachers. A school system was characterized as having a bureaucratic norm which varied from school to school on a continuum from less bureaucratic to more bureaucratic, according to the belief system and rule orientation of the principal. In this context, principals with open-belief systems, and who were less rule oriented, would tend to have schools in which there was less teacher perceived bureaucracy; principals with closed belief systems, and who were more rule oriented, would tend to have schools in which there was more teacher perceived bureaucracy.

To insure the operations of the principals and teachers under an individual bureaucratic norm, a single, larger school system was utilized in the investigation. The school system involved in this study had an enrollment of over 32,000 scholastics with 1373 teachers and 46 principals. The final sample was composed of 557 elementary teachers and 34 elementary principals, and 565 secondary teachers and 12 secondary principals.

Three questionnaire-type instruments were used to collect the data necessary for the study. The Dogmatism Scale provided the belief system of the principal, and the Principal Orientation Inventory provided the rule orientation of the principal. The Organizational Inventory furnished the degree of bureaucracy perceived by teachers in all schools on six bureaucratic dimensions - hierarchy of authority, division of labor, rules, procedures, impersonality, and technical competence.

Rank order correlation methods were applied to test the relationships (1) between the principal's belief system and rule-orientation, (2) between the principal's belief system and the degree of teacher perceived bureaucracy, and (3) between the principal's rule orientation and the degree of teacher-perceived bureaucracy. The Mann-Whitney $\underline{U}$ test was used to test for differences between elementary and secondary principals regarding belief systems and rule orientation. The chi-square method was utilized to test for differences between the degree of teacher perceived bureaucracy and (1) teaching level, (2) teacher age, (3) teaching experience, (4) teacher sex, and (5) size of the school.

Data were gathered and the following null hypotheses of no significant differences were tested:

1. There will be no significant difference between principals who are more rule oriented with open belief systems and principals who are less rule oriented with closed belief systems.

2.  There will be no significant difference between
    the degree of bureaucracy as perceived by teachers
    and the individual belief system of the principal.

3.  There will be no significant differences between
    the rule-orientation of principals and the degree
    of bureaucracy perceived by teachers in their
    schools.

4.  There will be no significant differences between
    elementary and secondary school principals in
    terms of (a) belief system or (b) rule orienta-
    tion.

5.  There will be no significant differences between
    the degree of bureaucracy perceived by elementary
    and secondary teachers.

Certain sub-hypotheses were developed in order to
treat other variables which were pertinent to the study. The
following null hypotheses of no significant differences were
tested:

1.  There will be no significant difference between
    the age of teachers and the degree of bureau-
    cracy perceived by teachers.

2.  There will be no significant difference between
    the teaching experience of teachers and the degree
    of bureaucracy perceived by teachers.

3.  There will be no significant difference between
    the sex of teachers and the degree of bureaucracy
    perceived by teachers.

4. There will be no significant differences between the size of the school and the degree of bureaucracy perceived by teachers.

## Conclusions

The underlying purpose of this study was to determine whether a bureaucratic norm of a school system, as perceived by teachers, was more or less bureaucratic in individual schools and whether this variation was influenced by the belief system or rule orientation of the principal. The following conclusions grew out of the data collected regarding the purpose of the investigation:

1. The belief system and rule orientation of the principal are strongly related. A principal with an open belief system tends to be less rule oriented; a principal with a closed belief system tends to be more rule oriented. As the belief system of the principal becomes more open, there is less reliance placed upon rules in discretionary decision-making situations and more concern for the individual. A more closed belief system reflects a tendency for the principal to rely more on rules to assist in making decisions involving the individual.

Morgan[1] found that principals demonstrated some inclination toward a nomothetic role with its emphasis on

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[1]Morgan, loc. cit.

institutional rules and procedures. In this context, the nomothetic role could represent the more rule oriented principal with a closed belief system. The contrasting role would be considered the ideographic with its emphasis on the individual personality and needs disposition. The ideographic role could represent the less rule oriented principal with an open belief system.

2. Elementary and secondary principals do not vary significantly in their belief systems or in rule orientation. A misconception which sometimes exists is that elementary principals are oriented towards the use of rules to a lesser degree than secondary principals. The findings of this study refute this idea, and these are supported by Morgan's study[2] which pointed out that even though there was a tendency for principals to be inclined toward the nomothetic role, there was no significant difference regarding elementary or secondary principals being more inclined toward the nomothetic role as a group. A study by Hoy[3] also supports the finding that there are no significant differences between elementary and secondary principals in terms of belief system.

3. In this sample of principals and teachers no relationship was discovered regarding the principal's belief system and rule orientation to the degree of teacher perceived bureaucracy in the school. This finding did not support the

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[2]Ibid.

[3]Hoy, op. cit., pp. 43-70.

concept that rule orientation could be used as a measure of organizational bureaucracy, according to employee perceptions. An official may be rule oriented, but subordinates could perceive the organization as operating less bureaucratically.

4. The bureaucratic norm of the school system varies from school to school, but not according to the belief system and rule orientation of the principal. It is influenced, to some extent, by basic teacher variables such as sex, age, and teaching experience.

Generally, where differences exist in teacher perceptions of school bureaucracy, female teachers will tend to feel the organization is more bureaucratic than male teachers, and younger teachers are inclined to feel it is more bureaucratic than older teachers. Since the composition of the elementary teaching staff is predominately female, and the secondary teaching staff is rather evenly balanced in this regard, other variables of organizational level and school size appear to reflect results which are influenced by the teacher sex factor.

According to the variables considered with teachers on the six bureaucratic dimensions, the following conclusions appear warranted:

    a. Age - where differences exist, younger teachers will view the school organization as being more bureaucratic than older teachers on the dimensions of division of labor and rules. Older teachers

will view the school organization as more bureau-
cratic in the area of technical competence.

b. Teaching experience - less experienced teachers
   will view the school organization as being more
   bureaucratic in terms of the rules dimension.
   More experienced teachers will tend to see the
   school as more bureaucratic regarding the
   technical competence dimension.

c. Sex - where differences exist, female teachers
   will be inclined toward perceiving the school
   organization as being more bureaucratic than
   male teachers.

d. School size - teachers in larger schools have an
   inclination towards perceiving the school organiza-
   tion as being more bureaucratic in terms of
   hierarchy of authority and division of labor.
   Teachers in smaller schools feel the school as
   being more bureaucratic in terms of rules and-
   impersonality.

e. Organizational level - secondary teachers often
   discern the school organization as being more
   bureaucratic regarding the dimensions of hierarchy
   of authority and division of labor, and elementary
   teachers regarding the dimensions of rules,
   impersonality, and technical competence.

5. The bureaucratic dimensions exist along a continuum and vary independently of each other in magnitude; therefore, bureaucracy perceived by teachers tends to be a matter of degree, rather than a dichotomy of its presence or absence. This same characteristic was also noted in the study conducted by Hall.[4] In comparison with Hall's study, it was noted that teacher-perceived bureaucracy may tend to differ from perceived bureaucracy in business organizations in terms of hierarchy of authority and rules. Some indication exists that teachers might see the hierarchy of authority dimension working on a broader plane than business employees. Furthermore, teachers may view the school organization as being more bureaucratic in regard to the rules dimension than employees would view the business organization.

6. The tendency of teachers to see the school organization as less bureaucratic in their older years appears to support the theory of organizational accommodation proposed by Presthus. As a result of this accommodation to the demands of the institution, teachers would be inclined to accept the values of the organization as they grow older, and to develop the necessary defenses to remain in the structure without the serious conflict which they may have encountered as younger teachers.

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[4]Hall, op. cit.

7.  The bureaucratic norms emanating from the central office of a school system may have a greater influence and act more powerfully on teachers' perceptions, as defined by the six bureaucratic dimensions, than the bureaucratic nature of the individual school.  Often these bureaucratic norms represent system-wide policy, regulations, and procedures over which the principal may exercise little intercessory influence.  The principal, therefore, tends to operate in a narrowly prescribed framework and finds it difficult to modify, to any appreciable extent, the power of the system-wide bureaucratic norms on teacher perceptions.  Consequently, these central office operations are more monolithic in their impact on perceptions of teachers than other norms representing differences in structure and administrative behavior existing among individual schools.

## Recommendations

Findings and conclusions of this study purport the following recommendations:

1.  Since this sample was limited to forty-six principals, it is recommended that the relationship of the belief system and rule orientation be broadened to include a wider sample of principals in various school systems and a comparative analysis between principals and assistant principals in the same school.

2.  The findings of this study were based on a single, larger school system.  It is suggested that a study be made

of various types and sizes of school systems regarding the difference in teacher-perceived bureaucracy.

3. The degree of bureaucracy as perceived by superiors and subordinates in school systems warrants investigation to determine how these perceptions differ.

4. Further study should be conducted on the principals' belief systems, rule orientation, and the decision-making process in school administration.

5. Additional study is suggested relative to the perceptions of teachers regarding school organization bureaucracy as compared with perceptions of employees in business organizations and the manner in which they may differ.

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APPENDIX A

CORRESPONDENCE RELATED TO THE STUDY

108H West Constitution
Norman, Oklahoma
November 15, 1966

Richard H. Hall, Assistant Professor
Department of Sociology
Indiana University
Bloomington, Indiana

Dear Dr. Hall:

I am presently engaged in developing a doctoral prospectus
under the direction of Dr. Robert E. Ohm, Department of
Education, at the University of Oklahoma.  The problem will
be concerned with an investigation of the school bureau-
cracy and certain administrative behavior of school princi-
pals, and I am interested in using the measurement of organiza-
tional bureaucracy which you have developed.  I would
appreciate your approval for the use of this instrument in
this study.

Thank you for your consideration regarding this matter.

Sincerely,


Jim L. Kidd

cc:  Dr. Robert E. Ohm

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INDIANA UNIVERSITY
Bloomington, Indiana

Department of Sociology                          `Area Code 812
Ballantine Hall                                  Tel. No.

November 18, 1966

Mr. Jim L. Kidd
108-H West Constitution
Norman, Oklahoma

Dear Mr. Kidd:

        Thank you for your letter of inquiry regarding the
bureaucracy scales.  I would be most happy to see you use
them.  You might check an article by Michael Aiken and
Jerald Hage in the August, 1966 American Sociological
Review in which they suggest that on the basis of factor
analysis, some separate dimensions emerge from the six
which I used.

        Good luck on your research.  If possible, I would
like to have any reports of your research as they become
available if this is possible, since I have recently applied
some of the same items to a number of professional organiza-
tions, including schools.

                                    Sincerely yours,


                                    Richard H. Hall
                                    Associate Prof.

108-H West Constitution
Norman, Oklahoma
November 15, 1966

Milton Rokeach, Professor of Psychology
Department of Psychology
Michigan State University
East Lansing, Michigan

Dear Dr. Rokeach:

I am presently engaged in developing a doctoral prospectus
under the direction of Dr. Robert E. Ohm at the University
of Oklahoma. I am interested in using the Dogmatism Scale
developed by you in conjunction with a study of organiza-
tional bureaucracy and administrative behavior of school
principals. I would appreciate your approval for the use
of this instrument in this study.

Sincerely,

Jim L. Kidd

cc: Dr. Robert E. Ohm

MICHIGAN STATE UNIVERSITY East Lansing . Michigan 48823

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Department of Psychology . Olds Hall

December 1, 1966

Mr. Jim L. Kidd
108-H West Constitution
Norman, Oklahoma

Dear Mr. Kidd:

You certainly have my permission to use the
Dogmatism Scale for research purposes. All
you have to do is mimeograph it yourself with
the instructions from The Open and Closed Mind.
May I suggest, however, that you mix up the items
well, and, if possible pad them with a few items
from any other scale that you care to choose. It
doesn't matter how you mix them up and it doesn't
matter what items you use to pad them with.

I certainly hope that you will furnish me with a
copy of the results of your research.

Sincerely yours,

Milton Rokeach
Professor

MR/jeh

February 1, 1967

Dear_____

　　Recently Mr. Ashworth granted his approval for conducting
research for a doctoral dissertation in the Amarillo School
System. Your assistance by participating in this study is
very important. The investigation will be concerned with (1)
the way school principals think about various things and their
reactions to certain decision-making situations and (2) the
manner in which teachers perceive the school organization.
　　An outline of the data-collecting procedure is as follows:

　　1. The packet which you received contains three kinds of
questionnaire-type instruments; two are to be completed by the
principal and one is to be completed by the teachers.
　　2. The principal is requested to complete those instruments
entitled (1) <u>Dogmatism Scale</u> and (2) <u>Principal Orientation
Inventory</u>. These are self administering and should require
less than an hour to complete. Please return these within a
week after you receive them in the self-addressed, stamped
envelope provided for you.
　　3. A post card is attached to the principal's question-
naires. When you have returned the questionnaires, please
mail the attached card.
　　4. The third questionnaire, entitled <u>Organization
Inventory</u>, is to be completed by teachers and should require
less than thirty minutes to fill out. Please distribute one
of these to each teacher in your building. They are requested
to complete the questionnaires and return them by mail within
a week after they are received. A week after the question-
naires have been distributed, it would be helpful if you would
place the memos included in the packet in the boxes of teachers
to remind them to return the questionnaires.
　　5. Since there is no necessity for identification, please
do not identify yourself or your school in any way. All
principals and teachers will be anonymous participants in the
study.

　　Realizing that your time is valuable, let me assure you
that your assistance is important to the success of this
endeavor. I will be grateful for your cooperation and
interest.

Cordially,


Jim Kidd

February 1, 1967

To Teachers:

      Mr. Robert Ashworth has given his approval for
conducting research for a doctoral dissertation in the Amarillo
School System. This study will involve both principals and
teachers. Therefore, attached you will find a questionnaire
which contains various statements about organizations. You
are asked to complete the questionnaire, indicating the
degree to which you feel that these statements are true in
regard to your school organization.

      Please complete the questionnaire within a week and
mail it, using the self-addressed, stamped envelope which has
been provided. All responses remain absolutely anonymous
since identification is not necessary for a study of this
nature.

      The importance of your participation in this study
cannot be overly emphasized, for the success of the research
depends largely on the participation of you, the teacher. The
demands on a teacher's time are numerous, however, your
efforts will be greatly appreciated.

                  Sincerely,


                  Jim L. Kidd

February 8, 1967

To Teachers:

Last week questionnaires were provided teachers
regarding organizational information to be used in a doctoral
study. Many teachers have returned the completed question-
naire; if you have not already done so, would you please
return the questionnaire within the next few days. Your
information is quite valuable to this study. If you have
already responded, I would like to express my appreciation
for your participation and cooperation.

Sincerely,


Jim L. Kidd

APPENDIX B

COPY OF INSTRUMENTS USED IN THE STUDY

# DOGMATISM SCALE

The following is a study of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others; whether you agree or disagree with any statement, you can be sure that many people feel the same as you do.

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark every one. Write +1, +2, +3, -1, -2, -3 depending on how you feel in each case.

+1: I AGREE A LITTLE        -1: I DISAGREE A LITTLE
+2: I AGREE ON THE WHOLE    -2: I DISAGREE ON THE WHOLE
+3: I AGREE VERY MUCH       -3: I DISAGREE VERY MUCH

_____ 1.* A good leader should be able to follow others at times.

_____ 2. The United States and Russia have just about nothing in common.

_____ 3. The highest form of government is a democracy and the highest form of democracy is a government run by those who are the most intelligent.

_____ 4.* When I change my ideas because of others, I feel it is a sign of weakness.

_____ 5. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.

_____ 6. It is only natural that a person would have a much better acquaintance with ideas he believes in than with ideas he opposes.

_____ 7.* Superiors occupy their positions because they are often more intelligent.

_____ 8. Man on his own is a helpless and miserable creature.

_____ 9. Fundamentally, the world we live in is a pretty lonesome place.

_____ 10.* If we kept out of world politics, we would not have near as much trouble.

_____ 11. Most people just don't give a "damn" for others.

_____ 12. I'd like it if I could find someone who would tell me how to solve my personal problems.

_____ 13.* A person must do something in the world no matter how small the contribution.

_____ 14. It is only natural that a person be rather fearful of the future.

_____ 15. There is so much to be done and so little time to do it in.

_____ 16.* Riches can never make man completely happy.

___17. Once I get wound up in a heated discussion I just can't stop.

___18. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.

___19.* In order to accomplish anything really worthwhile, one must be prepared to make certain sacrifices.

___20. In a heated discussion I generally become so absorbed in what I am going to say that I forget to listen to what others are saying.

___21. It is better to be a dead hero than a live coward.

___22.* When I believe in certain issues, I feel I must defend those beliefs.

___23. The main thing in life is for a person to want to do something important.

___24. While I don't like to admit this even to myself, my secret ambition is to become a great man like Einstein, or Beethoven, or Shakespeare.

___25.* It is difficult to really understand the works of great artists.

___26. If given the chance I would do something of great benefit to the world.

___27. In the history of mankind there have probably been just a handful of really great thinkers.

___28. There are a number of people I have come to hate because of the things they stand for.

___29. A man who has not believed in some great cause has not really lived.

___30. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.

___31. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.

___32. Of all the different philosophies which exist in the world there is probably only one which is really correct.

___33.* A person gets enthusiastic about too many causes and does not do a good job of any.

___34. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.

___35. When it comes to difference in opinion in religion we must be careful not to compromise with those who believe differently from the way we do.

___36. A person who gets enthusiastic about too many causes is likely to be a "wishy-washy" sort of a person.

___37. In times like these, a person must be pretty selfish if he considers primarily his own happiness.

___38.* Personal goals should always be set high in case one has to accept a lesser goal.

___39. The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.

____40. In times like these it is often necessary to be more on guard against ideas put out by people or groups in one's own camp than by those in the opposing camp.

____41.* One must take a chance on being wrong at times if he expects to ever be right.

____42. A group which tolerates too much difference of opinion among its own members cannot exist for long.

____43. There are two kinds of people in this world: Those who are for truth and those who are against truth.

____44. My blood boils whenever a person stubbornly refuses to admit he is wrong.

____45.* There is probably a tendency for the younger members of society to take things for granted.

____46. A person who thinks primarily of his own happiness is beneath contempt.

____47. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.

____48. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.

____49.* Inconsistency is a trait which is considered as a weakness.

____50. In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.

____51. The present is all too often full of unhappiness. It is only the future that counts.

____52.* Childhood days often seem very happy, perhaps more than they really were.

____53. If a man is to accomplish his mission in life it is sometimes necessary to gamble "all or nothing at all."

____54. Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what's going on.

____55. Most people just don't know what's good for them.

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*Items added, but not scored.

PRINCIPAL ORIENTATION INVENTORY

    Any one of the following incidents might occur in the day of a school
principal. In each incident the principal has made some decision or initiated
some action. You are requested to indicate the extent to which you agree or
disagree with the decision or action. Since there is no right or wrong answer,
please circle the answer that you feel would be most appropriate.

    Please circle only one item. There are five possible answers for each
incident. They are as follows: Strongly Agree (SA), Agree (A), Undecided (U),
Disagree (D), Strongly Disagree (SD)

1.  Ann had been caught cheating on a semester examination and was
    sent to the principal. Students had been told that they would
    receive a zero on any examination if they were guilty of cheating.
    The student admitted her dishonesty. After checking Ann's record,
    talking to her teachers and grade counselor, the principal found
    that Ann had not been involved in such conduct before. The
    principal was satisfied that he was dealing with an average student
    who, it was found, had been under considerable parental pressure
    for better grades. Since a zero on the semester test would fail
    her, Ann was allowed to take another exam but would not receive
    any grade above a C.
        Regarding the decision of the principal, do you:          SA A U D SD

2.  Two boys were brought into the principal's office for fighting.
    The student body knew of the regulation which provided a three
    day suspension automatically for fighting. After hearing the
    boys' explanations and talking to witnesses, it was learned that
    one of the boys actually started the altercation, and the other
    boy had attempted to dissuade him from fighting. However, since
    both boys had violated the regulation, the principal decided that
    he had to suspend both of them.
        Regarding the decision of the principal, do you:          SA A U D SD

3.  The librarian consulted with the principal, and they decided on
    a policy calling for students to completely clear their library
    records before they could take mid-term tests. On the day mid-
    term tests were to begin, a large number of students had not
    paid library obligations. Rather than delay a large number from
    taking their mid-term tests, the principal decided to allow those
    students to continue with tests, but to hold up report cards
    until the library records were cleared.
        Regarding the decision of the principal, do you:          SA A U D SD

4.  A teacher, who had used all of her sick leave for the year,
    became ill at noon and had to leave school. There was no
    policy which provided for a teacher once her sick leave was

depleted; the teacher would have to be docked. The principal asked teachers who had preparation periods that afternoon to fill in for the absent teacher as a courtesy, and he did not report her absent that day.

     Regarding the decision of the principal, would you:      SA A U D SD

5. One day Allen's English teacher told him to stay in for a week for talking out in class without permission. Allen protested to the principal that this was excessive, even though he had been guilty of the offense a number of times. The teacher was a beginning teacher, and the principal felt that perhaps she was attempting to control the class by making an example out of Allen. He planned to talk to the teacher regarding some reduction in the punishment, but told Allen to work the problem out with the teacher.

     Regarding the decision of the principal, would you:      SA A U D SD

6. At the beginning of the school year, the principal made it a requirement for teachers to keep lesson plans at least a week in advance in a lesson-plan book provided by the school. One week the teachers were requested to turn in their lesson-plan books and it was found that a number of teachers were not making lesson plans. In order to see that teachers met the original requirement, the principal asked that each teacher turn in his lesson-plan book every Friday so it may be checked.

     Regarding the decision of the principal, would you:      SA A U D SD

7. Benny was found cutting on a school desk and was sent to the principal's office. School board policy made parents financially responsible for vandalism to school property. Upon checking the desk, it was discovered that several other students had also carved upon it. The teacher indicated that he had warned Benny previously and urged the principal to apply the system policy. The principal, however, decided to call Benny's parents and issue the warning that any further destruction of school property on Benny's part would result in costly damages for them.

     Regarding the decision of the principal, would you:      SA A U D SD

8. Teachers were told that they would have to pay for all textbooks which were checked out to them if they were not returned. Mrs. Stone came out seven books short at the end of the year. The principal felt that she had been careless with her books, but also knew that several other classes had used Mrs. Stone's room during the year and had access to the textbooks. The decision was made to pay for the books out of the school activity fund.

     Regarding the decision of the principal, would you:      SA A U D SD

9. Reed wanted to be a candidate for the president of his class.
   He had to have the signatures of fifty of his classmates on a
   petition before he could file for office. After he had turned
   his petition in to the principal and had his name placed on the
   ballot, it was discovered that his petition had been misnumbered
   and was actually ten signatures short. In talking with Reed,
   the principal felt that the shortage was an unintentional mis-
   take. However, the deadline for filing had past and Reed was
   not permitted to run because of the incomplete petition.
      Regarding the decision of the principal, would you:            SA A U D SD

10. An outside organization rented a classroom for a night meeting
    at the school. The meeting developed into a larger one than
    expected, and the principal was contacted by the president on
    the night of the meeting. He requested the use of the school
    cafeteria which was not in use at the time. However, the
    principal denied the request because the requisition rental
    did not specify anything other than a classroom.
       Regarding the decision of the principal, would you           SA A U D SD

11. Boys who had participated in football were given letter
    awards at the end of the first semester. Tom had played foot-
    ball for half the season as a member of the varsity team, but
    he had been injured the rest of the season. At the end of
    the semester, Tom was given a B team award. The player
    objected to the principal on the grounds that he had played
    varsity football until he was injured. Tom was told that
    since he had not played a majority of the time on the
    varsity team, according to lettering regulations, he could
    not receive a varsity letter.
       Regarding the decision of the principal, would you           SA A U D SD

12. After being tardy to school repeatedly, Bill was reminded of
    the regulation that allowed a maximum number of tardies with-
    out penalty, but that after that time, he would be given a
    detention for each tardy. The following week Bill was tardy
    again. His mother sent the excuse that she had dispatched
    Bill to the drug store for medicine for a younger brother.
    Deciding that the school had made as much allowance for Bill
    as possible, the principal gave him a detention for the
    tardiness.
       Regarding the decision of the principal, would you:          SA A U D SD

13. A school had a no smoking rule in the building except in the
    faculty lounge. Upon checking, the principal noticed that
    several of the men teachers, who were located a good distance
    from the lounge, sometimes smoked in their classrooms after
    school was dismissed. Since the teachers usually made sure
    that no pupils were around, the principal decided to say
    nothing to them unless the practice became more widespread,

or if the teachers became careless about students being
present when they smoked.
  Regarding the decision of the principal, would you:          SA A U D SD

14. The physical education teacher stipulated that any boy
who did not have a gym suit had to run five laps around
a football field. Joe told the teacher that his suit
had been stolen, and he refused to run the required laps.
The teacher sent Joe to the principal. The boy claimed
that his suit had been stolen twice and his parents re-
fused to buy another. The principal explained to Joe
that many boys used this type of excuse, and he would
have to be treated the same as the others. He insisted
on the five laps originally assigned.
  Regarding the decision of the principal, do you:             SA A U D SD

15. Checking of class roll by the individual teacher was re-
quired; students were not permitted to this for teachers.
A number of mistakes in attendance accounting began to
appear on the attendance roll of the band. On investi-
gating, the principal found that the band director allowed
students to check roll. The band director said that by
having students check each group after he had divided the
band into sections, he could have more class time. Agreeing
with the band director, the principal permitted him to
continue this practice, provided that he personally check
those students marked absent before the attendance roll
was sent to the office.
  Regarding the decision of the principal, do you:             SA A U D SD

16. At the beginning of the school year, the principal announced
to his faculty that no student would be moved from teachers'
classes because of discipline problems. At the end of the
first semester, a student asked the principal to move him
from Mrs. Brown's English class because he kept getting in
trouble. Upon checking, the principal found that although
the boy had no problems with other teachers, he had had
similar difficulties with Mrs. Brown the previous year.
Convinced that the boy should remain in her class and
learn to behave himself, Mrs. Brown reminded the principal
of his announcement. The principal decided that he should
enforce what he had told the teachers; thus, he refused to
move the boy.
  Regarding the decision of the principal, do you:             SA A U D SD

17. Frank, who had completed fourth grade, moved into a new
school district during the summer. His parents requested
the principal of the receiving school to double-promote
Frank as the sending school had planned to do. The prin-

cipal had made it a rule not to double promote students. However, after receiving the boy's records, he concluded that Frank would merit being accelerated. Evaluating the situation, he decided to promote Frank to the sixth grade at the beginning of the new term.
Regarding the decision of the principal, do you:                                        SA A U D SD

18. The principal made it a rule to suspend a student for three days if he were truant from school on more than two different occasions. James had been truant twice, and after a family quarrel, he ran away from home for two days. During this time, he did not attend school. When he returned home and went to school, the principal told James he had been considered truant during the past two days and would be suspended since this was his third offense.
Regarding the decision of the principal, do you:                                        SA A U D SD

19. The school principal felt that teachers were not using their preparation period properly and made an announcement that the faculty lounge was to be used only during the first and last ten minutes of their preparation periods. During the second period, three teachers did not have their rooms available because other classes were using them. They asked for permission to use the lounge during their planning period. The principal decided he could not make exceptions and told the teachers that they would have to do their work in the library at that time.
Regarding the decision of the principal, do you:                                        SA A U D SD

20. Two of the school's honor students skipped the last period on Tuesday. The honor society's constitution provided that members who were truant would be dismissed from the organization. One of the girl's parents, however, insisted that her daughter had come home ill; the girls would not admit being together. The other girl's parents readily admitted that their daughter had been truant, but thought that the two girls were together. The principal was convinced the two girls were truant, but since he could not prove truancy for both, only the proven truant was dismissed from the honor society.
Regarding the decision of the principal, do you:                                        SA A U D SD

ORGANIZATIONAL INVENTORY

We would like to find out some things about your organization. This questionnaire consists of a number of statements about organizations. For each statement please indicate how well the statement describes your own organization.

There are five possible answers for each statement. They are: Definitely True (DT), Partially True (PT), Undecided (U), Partially False (PF), and Definitely False (DF). For each statement circle the answer which you feel comes closest to describing your own organization.

Individual respondents will not be identified in any way, so do not hesitate to give your true judgment on each statement.

DT PT U PF DF 1. I feel that I am my own boss in most matters.
DT PT U PF DF 2. A person can make his own decisions without checking with anyone else.
DT PT U PF DF 3. People here do the same job in the same way every day.
DT PT U PF DF 4. The organization has a manual of rules and regulations to be followed.
DT PT U PF DF 5. Whatever situation arises, we have procedures to follow for dealing with it.
DT PT U PF DF 6. Every person who calls the organization from the outside is treated the same.
DT PT U PF DF 7. In order to get a promotion, you have to "know somebody."
DT PT U PF DF 8. No one can get necessary supplies without permission.
DT PT UPPF DF 9. Everyone has a specific job to do.
DT PT U PF DF 10. Written rules from higher up are followed unquestioningly.
DT PT U PF DF 11. Employees are too often left to their own judgment as to how to handle various problems.
DT PT U PF DF 12. People who have contact with customers or clients, including parents, are taught the correct way to greet and talk with them.
DT PT U PF DF 13. Applicants must be qualified before they can be hired here.
DT PT U PF DF 14. Everyone has a superior to whom he regularly reports.
DT PT U PF DF 15. When a person finishes a report, it always goes next to the same person.
DT PT U PF DF 16. The employees are constantly being checked on for rule violations.
DT PT U PF DF 17. Most of us are encouraged to use our own judgment.
DT PT U PF DF 18. The organization does not encourage employee parties.
DT PT U PF DF 19. Promotions are based entirely on how well a person does his job.
DT PT U PF DF 20. There can be little action until a supervisor approves a decision.
DT PT U PF DF 21. One thing people like around here is the variety of work.
DT PT U PF DF 22. Employees are not allowed to leave their work stations without permission.
DT PT U PF DF 23. The same procedures are to be followed in most situations.
DT PT U PF DF 24. A lot of people around here get together on weekends.
DT PT U PF DF 25. Employees are periodically evaluated to see how well they are doing.
DT PT U PF DF 26. How things are done around here is left pretty much up to the person doing the work.
DT PT U PF DF 27. We are encouraged to be able to teach more than one subject.
DT PT U PF DF 28. The time for coffee breaks are strictly regulated.
DT PT U PF DF 29. The same steps must be followed in processing every piece of work.
DT PT U PF DF 30. The organization is always sponsoring employee get togethers.
DT PT U PF DF 31. People aren't promoted simply because they have pull.
DT PT U PF DF 32. People around here always get their orders from higher up.
DT PT U PF DF 33. Most jobs have something new happening every day.
DT PT U PF DF 34. Nothing is said if you come to work late occasionally.
DT PT U PF DF 35. Red tape isn't often a problem in getting a job done.
DT PT U PF DF 36. Management here sticks pretty much to themselves.

DT PT U PF DF 37. Past work experience plays a large part in the hiring of a person.

DT PT U PF DF 38. Any decision I make has to have my boss's approval.

DT PT U PF DF 39. People working here usually find their jobs to be very monotonous.

DT PT U PF DF 40. Most people here make their own rules on the job.

DT PT U PF DF 41. Going through the proper chanels is constantly stressed.

DT PT U PF DF 42. We are encouraged <u>not</u> to become overly friendly with outsiders.

DT PT U PF DF 43. The organization keeps a record of everyone's job performance.

DT PT U PF DF 44. A person who wants to make his own decisions would quickly become discouraged here.

DT PT U PF DF 45. Few people here find their work challenging.

DT PT U PF DF 46. People feel as though they are constantly being watched to see that they obey all the rules.

DT PT U PF DF 47. We are to follow strict operating procedures at all times.

DT PT U PF DF 48. We are expected to be courteous, but reserved, at all times.

DT PT U PF DF 49. Many people are hired simply because they are attractive.

DT PT U PF DF 50. Even small matters have to be referred to someone higher up for a final answer.

DT PT U PF DF 51. We usually work under the same circumstances from day to day.

DT PT U PF DF 52. There is no rules manual.

DT PT U PF DF 53. When we have a problem, we are supposed to go to the same person for an answer.

DT PT U PF DF 54. No matter how serious a person's problem is, he is treated the same as anyone else.

DT PT U PF DF 55. You get promoted according to how well you are liked.

DT PT U PF DF 56. People here are allowed to do almost as they please.

DT PT U PF DF 57. There is something different to do every day.

DT PT U PF DF 58. Smoking is permitted only in certain designated areas.

DT PT U PF DF 59. There is only one good way to do a job -- the boss's way.

DT PT U PF DF 60. People are to be treated within the rules, no matter how serious a problem they may have.

DT PT U PF DF 61. There isn't much chance for a promotion unless you are "in" with the boss.

DT PT U PF DF 62. I have to ask the boss before I do almost anything.

----------------------------------------------------------------------------

## INFORMATION SHEET

Please provide the following information:

Age_____    Sex _M  F_    Years of Teaching Experience _____

Grade Level Teaching Assignment  ( )  Elementary        ( )  Secondary

Size of School_____

For Computational use Only:

| I | II | III | IV | V | VI |
|---|----|-----|----|----|----|
| ___ | ___ | ___ | ___ | ___ | ___ |

SCORING OF THE ORGANIZATIONAL INVENTORY

| Scale | Description | Statement Number |
|---|---|---|
| I | Hierarchy of Authority | 1*, 2*, 8, 14, 20, 26*, 32, 38, 44, 50, 56*, 62 |
| II | Division of Labor | 3, 9, 15, 21*, 27*, 33*, 39, 45, 51, 57* |
| III | Rules | 4, 10, 16, 22, 28, 34*, 40*, 46, 52*, 58 |
| IV | Procedures | 5, 11*, 17*, 23, 29, 35*, 41, 47, 53, 59 |
| V | Impersonality | 6, 12, 18, 24*, 30*, 36, 42, 48, 54, 60 |
| VI | Technical Qualifications | 7*, 13, 19, 25, 31*, 37, 42, 49*, 55*, 61* |

*These items are scored as follows: DT 5, PT 4, U 3, PF 2, DF 1; all other items are scored as follows: DT 1, PT 2, U 3, PF 4, DF 5.

# APPENDIX C

# SCORES ON THE INSTRUMENTS USED

TABLE 1

COMPILED DATA FOR ALL SCHOOLS

| School | Dogmatism Scale | Principal Orientation Inventory | Hierarchy of Authority | Division of Labor | Rules | Procedures | Impersonality | Technical Qualifications |
|---|---|---|---|---|---|---|---|---|
| | Individual Scores of Principals | | Mean Scores of Schools on Each Bureaucratic Dimension[c] | | | | | |
| 1[a] | 130 | 49 | 38.1 | 33.1 | 24.4 | 29.3 | 29.8 | 25.5 |
| 2 | 132 | 64 | 38.0 | 32.5 | 24.6 | 29.2 | 30.1 | 26.3 |
| 3 | 176 | 59 | 37.4 | 32.8 | 24.5 | 29.1 | 31.9 | 24.9 |
| 4 | 176 | 70 | 36.4 | 32.4 | 23.8 | 29.5 | 29.5 | 25.0 |
| 5 | 153 | 63 | 39.8 | 35.3 | 25.9 | 31.8 | 28.8 | 24.6 |
| 6 | 154 | 52 | 40.9 | 33.1 | 26.8 | 32.4 | 31.5 | 24.2 |
| 7 | 119 | 60 | 36.3 | 31.1 | 23.9 | 27.2 | 29.1 | 27.0 |
| 8 | 156 | 49 | 34.1 | 30.9 | 23.2 | 30.0 | 26.7 | 22.4 |
| 9 | 136 | 55 | 41.2 | 34.8 | 25.5 | 31.3 | 30.0 | 23.9 |
| 10 | 192 | 61 | 36.3 | 32.2 | 22.9 | 28.0 | 28.1 | 23.2 |
| 11 | 135 | 51 | 37.4 | 34.7 | 23.5 | 31.6 | 29.5 | 23.2 |
| 12 | 188 | 66 | 40.6 | 34.7 | 22.8 | 28.8 | 29.6 | 23.0 |
| 13[b] | 131 | 63 | 37.1 | 36.0 | 22.9 | 31.5 | 29.3 | 25.5 |
| 14 | 129 | 55 | 39.1 | 37.5 | 20.9 | 27.8 | 23.6 | 23.2 |
| 15 | 128 | 66 | 38.8 | 34.3 | 26.4 | 30.7 | 26.2 | 22.4 |
| 16 | 148 | 54 | 38.9 | 33.7 | 27.7 | 31.7 | 26.7 | 25.8 |
| 17 | 173 | 67 | 43.9 | 37.9 | 26.0 | 32.3 | 32.3 | 21.3 |
| 18 | 176 | 59 | 36.8 | 35.9 | 23.8 | 30.3 | 28.8 | 21.4 |
| 19 | 108 | 46 | 27.4 | 29.2 | 17.7 | 22.1 | 24.5 | 23.8 |
| 20 | 122 | 60 | 38.2 | 35.4 | 23.8 | 31.1 | 26.6 | 25.0 |
| 21 | 149 | 57 | 37.6 | 35.1 | 23.0 | 30.9 | 25.8 | 23.5 |
| 22 | 107 | 48 | 33.3 | 35.4 | 21.9 | 25.0 | 25.3 | 23.4 |
| 23 | 138 | 54 | 44.9 | 36.4 | 27.9 | 34.1 | 27.6 | 20.9 |
| 24 | 119 | 52 | 31.0 | 35.3 | 20.8 | 26.4 | 27.0 | 21.8 |
| 25 | 167 | 57 | 36.9 | 33.4 | 23.3 | 29.4 | 28.2 | 21.3 |

TABLE 1--<u>Continued</u>

| School | Dogmatism Scale | Principal Orientation Inventory | Hierarchy of Authority | Division of Labor | Rules | Procedures | Impersonality | Technical Qualifications |
|--------|-----------------|--------------------------------|------------------------|-------------------|-------|------------|---------------|--------------------------|
| | Individual Scores of Principals | | Mean Scores of Schools on Each Bureaucratic Dimension[c] | | | | | |
| 26 | 170 | 60 | 27.0 | 31.7 | 16.5 | 23.5 | 24.9 | 22.3 |
| 27 | 174 | 57 | 39.5 | 35.8 | 24.5 | 31.0 | 29.5 | 24.0 |
| 28 | 165 | 65 | 39.2 | 36.2 | 24.3 | 31.2 | 29.1 | 22.8 |
| 29 | 153 | 61 | 41.5 | 34.4 | 25.7 | 31.1 | 27.4 | 21.8 |
| 30 | 157 | 46 | 38.2 | 36.0 | 23.4 | 30.6 | 27.0 | 23.8 |
| 31 | 136 | 51 | 39.2 | 37.8 | 24.2 | 34.1 | 27.3 | 23.9 |
| 32 | 130 | 51 | 41.8 | 36.3 | 26.2 | 32.4 | 29.3 | 22.9 |
| 33 | 158 | 62 | 35.3 | 34.6 | 24.6 | 29.8 | 28.2 | 23.1 |
| 34 | 101 | 50 | 36.8 | 35.7 | 21.7 | 30.9 | 24.7 | 20.7 |
| 35 | 133 | 50 | 39.0 | 34.8 | 22.3 | 30.1 | 29.1 | 25.2 |
| 36 | 130 | 52 | 36.5 | 33.9 | 23.8 | 29.8 | 29.3 | 25.0 |
| 37 | 129 | 49 | 38.6 | 33.9 | 23.9 | 30.7 | 29.1 | 24.0 |
| 38 | 145 | 69 | 29.0 | 31.6 | 20.3 | 24.3 | 26.8 | 27.1 |
| 39 | 116 | 52 | 36.4 | 35.7 | 21.8 | 29.1 | 25.8 | 21.7 |
| 40 | 149 | 72 | 35.5 | 34.0 | 22.1 | 28.0 | 28.7 | 24.0 |
| 41 | 171 | 59 | 36.8 | 34.5 | 23.3 | 31.0 | 28.3 | 21.7 |
| 42 | 100 | 60 | 41.0 | 37.9 | 25.9 | 31.5 | 32.7 | 20.1 |
| 43 | 132 | 53 | 30.8 | 35.4 | 21.9 | 27.6 | 27.5 | 26.5 |
| 44 | 165 | 56 | 40.0 | 37.4 | 23.6 | 30.0 | 30.3 | 25.0 |
| 45 | 107 | 49 | 40.9 | 37.0 | 21.6 | 28.5 | 28.9 | 25.7 |
| 46 | 106 | 49 | 36.4 | 34.2 | 19.9 | 26.5 | 26.7 | 25.0 |

[a]Secondary school scores from 1-12.

[b]Elementary school scores from 13-46.

[c]Low scores indicate more bureaucratic, high scores less bureaucratic.