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THE RELATIONSHIP OF TEACHERS' LEVEL OF DOGMATISM AND
SENSE OF POWER TO THEIR RECEPTIVITY TO CHANGE

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
Degree Doctor of Philosophy in the Graduate
School of the Ohio State University

By

Roger Horton Peck, B.S., M.Ed.

* * * * * *

The Ohio State University
1969

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CHAPTER I

INTRODUCTION

For many years, the analysis of organizations was largely guided by a set of basic assumptions, most effectively stated by Max Weber.¹ In this analysis, the formal organization is viewed as a subculture which has at a minimum, a normative system that defines the purpose, the goal-orientation, of the personnel who occupy the specialized roles within the organization.² In order to carry out the goals of the organization in the most effective manner, "a control mechanism is established whereby the positions are linked together by a chain of command so that the authority and responsibility for each position is unambiguous."³

Attacks of many sorts have been launched against this "classical" conception of the formal organization; the main thrust of the criticism being an advocacy of an organization whose parts are actively interdependent, as opposed to one whose parts are all de-


dependent upon a centralized source of control.4

The school as a formal organization

In describing the school as a formal organization, Gallagher states:

Viewed from a global perspective, the most significant quality of the school as a formal organization to keep in mind is that it is a service organization. This means that the prime beneficiary of the organization is the client group which, in turn, becomes a crucial variable in determining the limits and kinds of authority that are developed, and the goal orientation that the organization will take.5

In general, the goals of schools tend to be stated in ambiguous and diffuse terms, presumably because educational outcomes are highly indeterminate. With this lack of a specific goal orientation, one would anticipate a flexible organizational structure; but, in many cases, this is not the situation. Many local educational organizations have established rigid control mechanisms and hierarchical structures, giving the illusion that clear-cut organizational goals exist.

Even when one of the major goals of the school organization becomes the successful introduction of innovation, the prevailing view is that such a goal must be accomplished within framework of the "classical" conception of the formal organization. This is brought out in the following statement by Bridges and Reynolds:

4 Ibid., p. 2.

5 Callaher, "Directed Change," p. 44.
The study of innovative persons in educational organizations almost exclusively has been directed toward a search for the attributes of superintendents that are associated with a school system's rate of innovativeness. One of the major factors responsible for the focus on the superintendent is the belief that he is the key figure in the innovation process at the local level. This belief is certainly grounded in the formal organizational reality, for the superintendent sits at the apex of the hierarchical structure. He, by virtue of his position, has the authority to make decisions on the organization and allocation of the resources and personnel; these decisions are presumed to be critical to the successful introduction of innovations of major scope.

Some school organizations are becoming concerned with more than just the adoption of a few major innovations. There is developing a felt need to establish as one of the organizational goals, the expectation of change shared by members of the target system. The assumption being, that with such a goal, channels will exist into which innovations can be fed with the greatest chance of success.

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9 Gallaher, "Directed Change," p. 43.
If expectation of change becomes one of the major goals of the educational organization, and one of the prime considerations in fulfilling such a goal is the participants in the target system, it appears that an examination should be made of the effects of the organizational control mechanisms on the participants' receptivity to change. It would also be important to know the types of teachers who would function best in a target system geared toward an expectation of change. Possible answers to these concerns focus on three main questions. (1) What personality factors of teachers show a positive relationship to receptivity to change? (2) What are the intervening variables between the control mechanisms of the school organization and the personal dimensions of the teachers which influence receptivity to change? (3) Does an interaction exist between certain personality factors and the intervening variables to influence receptivity to change?

In an attempt to find some answers to these questions, an effort was made to determine the relationship between teachers' receptivity to the trial of innovation and two factors - the teachers' level of dogmatism (open and closed mindedness) and their sense of power.

**Dogmatism**

The phenomenon of ideological dogmatism cannot be defined precisely. In the present study, the teachers' level of dogmatism was determined through the use of the Rokeach Dogmatism Scale, Form E.\(^{10}\)

Therefore, the definition of dogmatism was an operational one, limited to the considerations made by Rokeach and his associates in the development of the scale. According to Rokeach and his associates:

To say that a person is dogmatic or that his belief system is closed is to say something about the way he believes and the way he thinks— not only about single issues but also about networks of issues.¹¹

Further considerations which were made in the development of the scale are referred to by Rokeach and his associates in the following discussion of ideological dogmatism:

...it seemed clear that it (ideological dogmatism) referred to a number of things: a closed way of thinking which could be associated with any ideology regardless of content, an authoritarian outlook on life, an intolerance toward those with opposing beliefs, a sufferance of those with similar beliefs.¹²

**Sense of Power**

Seeman points out that the concept of powerlessness is the notion of alienation as it originated in the Marxian view of the worker's condition in a capitalist society.¹³ Weber extended the concept to the professional worker of modern times.¹⁴ In Seeman's version of alienation, the individual's expectancy for control of events is clearly distinguished from (a) the objective situation of powerlessness as some observer sees it, (b) the observer's judgement of that situa-

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¹¹Ibid., p. 71.

¹²Ibid.


¹⁴Ibid.
tion against some ethical standard, and (c) the individual's sense of a
discrepancy between his expectations for control and his desire for
control.\footnote{Ibid.}

In the context of the present study, the teacher's sense of
power was defined operationally as the degree of expectancy or proba-
bility held by the individual teacher that his own behavior can deter-
mine the occurrence of the outcomes, or reinforcements, he seeks con-
cerning the decisions made in the school and/or throughout the school
system. The assessment of the teacher's sense of power was made
through the use of teacher reaction scales. These scales were
developed on the basis that sense of power was a continuum upon which
teachers may be ordered; at one extreme are those who feel unlimited
in the degree to which they can affect decisions made in the school
and/or throughout the school system, and at the other end are those
teachers who feel totally powerless to influence the direction of the
school and/or school system in any way.

Receptivity to the
\textit{Trial of Innovation}

The teacher's receptivity to the trial of innovation was
assessed through the use of a modified form of the Bridges and
Reynolds' Teacher Receptivity to Change Scale.\footnote{Ibid.} In the development of
the scale, the operational definition of the teacher's receptivity to

\textit{Bridges and Reynolds, "Teacher Receptivity to Change."}
the trial of innovation was the degree to which the individual teacher was willing to initiate, or use upon request, an educational approach that is a deliberate, novel, specific change which is thought to be more efficacious in accomplishing the goals of the system.

Statement of the Problem

The primary objective of this study was to discover whether there is a relationship between a single factor, the receptivity of the Washington Township (Ohio) Middle School teachers to the trial of innovation; and an interaction between two factors - their level of dogmatism and their sense of power.

Purposes

The purposes of this study were:

1. Through the use of the Rokeach Dogmatism Scale, Form E, determine the individual levels of dogmatism of the Washington Township middle school teachers.

2. Through the use of a revised form of the Receptivity to Change Scale, originally developed by Edwin M. Bridges and Larry B. Reynolds, determine the receptivity of the individual Washington Township middle school teachers to the trial of innovation. Each teacher was rated individually by each of his fellow team members. The ratings were based on perceptions gained through a close planning and working relationship throughout the 1967-68 school year.

3. Through the use of a sense of power scale, determine the degree to which the individual Washington Township middle school teachers perceive their sense of power in the school situation. The
sense of power scale was developed during the study. The items focused
on a sense of power over the decisions made within the school in which
the teachers worked.

4. Through the use of Moeller's Sense of Power Scale, determine the degree to which the individual Washington Township middle
school teachers perceive their sense of power in influencing policies
made for the entire school system.

5. Through a statistical analysis of variance and analysis of
covariance, determine what relationship exists between the Washington
Township middle school teachers' level of dogmatism and their recep-
tivity to the trial of innovation.

6. By combining the factors of level of dogmatism and sense of
power, determine the relationship of these combined factors to the
Washington Township middle school teachers' receptivity to the trial of
innovation.

7. Through an interpretation of the findings, make recommendations as to the recruiting, hiring, and interviewing practices for
school districts which have similar goals as those found in the
Washington Township School District.

8. Through an interpretation of the findings, make recommendations as to the administrative strategies used in school districts
which have similar goals as those found in the Washington Township
School District.

9. Through an interpretation of the findings, make a contribu-
tion to the research and theory on the change processes in the
public schools.
Hypotheses

The major hypotheses were as follows:

1. Sense of power over decisions made in a school will have more effect on receptivity to the trial of innovation for teachers with a low level of dogmatism than for teachers with a high level of dogmatism.

2. Sense of power over school system-wide policy development will have more effect on receptivity to the trial of innovation for teachers with a low level of dogmatism than for teachers with a high level of dogmatism.

The minor hypotheses were as follows:

1. The Washington Township Middle School teachers with a low level of dogmatism will be more receptive to the trial of innovation than the teachers with a high level of dogmatism.

2. The Washington Township Middle School teachers with a high sense of power over decisions made within a school will be more receptive to the trial of innovation than the low power teachers.

3. The Washington Township Middle School teachers with a high sense of power over system-wide policy development will be more receptive to the trial of innovation than low power teachers.

Additional Definition of Terms

The following terms were defined operationally as used in this study:

1. Level of dogmatism is a certain way a person believes or thinks - not only about single issues, but also about networks of
issues. In the present study, the individual's level of dogmatism was determined by the score he made on the Rokeach Dogmatism Scale, Form E. A high score on the scale denoted a high level of dogmatism indicating a closed belief system, a closed way of thinking which could be associated with any ideology regardless of content; an authoritarian outlook on life; an intolerance toward those with opposing beliefs; and a sufferance of those with similar beliefs. A low score on the Rokeach scale denoted a low level of dogmatism indicating an open belief system, an open way of thinking which could be associated with any ideology regardless of content; a non-authoritarian outlook on life; and a tolerance toward those with opposing beliefs.\(^\text{17}\)

2. Sense of power, in general, is the degree of expectancy or probability held by the individual that his own behavior can determine the occurrence of the outcomes, or reinforcements, he seeks.\(^\text{18}\) In the context of the present study, two different aspects of the teacher's sense of power were identified. First, a high score on the Sense of Power (Peck) Scale\(^\text{19}\) indicated a high degree of expectancy or probability held by the teacher that his own behavior can determine the occurrence of the outcomes, or reinforcements, he seeks in his association with the principal of the school in which the teacher works.

\(^{17}\) Rokeach, Open and Closed Mind, p. 71.

\(^{18}\) This definition, with modification, was taken from Melvin Seeman's definition of alienation. See Seeman, "Meaning of Alienation," p. 784.

\(^{19}\) The Sense of Power (Peck) Scale was developed by the investigator during the present study.
Second, a high score on the Sense of Power (Moeller) Scale\(^20\) indicated a high degree of expectancy or probability held by the teacher that his own behavior can determine the occurrence of the outcomes, or reinforcements, he seeks in his attempt to influence policies developed for the entire school system.

3. **Receptivity to the trial of innovation** (also referred to as receptivity to change) is the degree to which a teacher is willing to initiate, or use upon request, an educational approach that is a deliberate, novel, specific change which is thought to be more efficacious in accomplishing the goals of the system\(^21\). This was determined through a rating by fellow members on the teacher's teaching team on a modified form of the Teacher Receptivity to Change Scale\(^22\).

4. **Washington Township middle school teachers** include the classroom teachers in the two Washington Township middle schools who teach on teaching teams, and who teach within sight of other members on the team.

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\(^{22}\) The Teacher Receptivity to Change Scale was developed by Edwin Bridges and Larry Reynolds. See Bridges and Reynolds, "Teachers' Receptivity to Change."
Assumptions in the Study

1. Respondents would react to an attitudinal instrument in terms of their belief systems.

2. Under the conditions of working and planning closely together, and teaching within sight of one another throughout the school year, a team member's perception of another team member was an adequate source for gaining information as to the second team member's behavior, or tendencies toward certain behavior.

3. The teacher would give his perception of a team member's receptivity to the trial of innovation by objectively analyzing the behavior that team member had displayed throughout the school year.

4. The teacher's perception as to his sense of power in the school situation was an important factor in influencing his behavior; even though he may not have actually possessed this degree of power.

Limitations of the Study

1. In this study, the term receptivity was used in the definitional context of value judgements and opinions on a level of perception. In giving perceptions as to his fellow team member's receptivity to the trial of innovation, the respondent's attitudes and belief system may have influenced the responses.

2. The scope of the study was limited to the teaching staffs of two middle schools located in one school district; therefore, the findings have limitations because of regional, state, and local factors. The findings would be of greatest value to school districts which have similar goals as those found in the Washington Township
middle schools.

3. Since the ex post facto design was used in the study, the existence of a relationship between the dependent and independent variables does not necessarily demonstrate causality.

Integration of Concepts

The present study was based on an integration of two separate conceptual sequences developed by Milton Rokeach and Melvin Seeman. Through the studies of belief systems conducted by Rokeach and his colleagues, reported in a later chapter, the DOGMATISM - BEHAVIOR sequence has been fairly well substantiated. In reference to this concept, Rokeach states, "A person's cognitive functioning is not a thing apart from his affective or emotional functioning. They are seen to be different facets of a person's total behavior."24

The findings of a study conducted by Jamias and Troldahl25 suggest that particular situations will activate different beliefs in persons who vary in the structure of their belief systems, thereby producing different behavior. In reference to the study of an

23Infra, pp. 36-43.


individual's behavior in a particular situation, some authors stress the need for the identification of an intervening variable. Talacchi asserts that an intervening variable "serves to mediate the lack of a one-to-one correspondence between external stimuli and behavioral responses on the part of individuals." Several studies conducted by Seeman, based on the theoretical model embodying the STRUCTURE-ALIENATION-BEHAVIOR sequence, have been reported in a later chapter. The findings from these studies imply that "given the emphasis upon personal alienation as an intervening variable, some version of psychology theory is necessarily implicated in the propositions of mass society theory." Through these studies, Seeman has shown that the structural conditions of a social system have alienative effects, and that alienation has specified behavioral consequences.

The model illustrating the integration of Rokeach's DOGMATISM-BEHAVIOR concept and Seeman's STRUCTURE-ALIENATION-BEHAVIOR concept is shown in Figure 1.


28 Infra, pp. 43-53.

Fig. 1. — General hypothetical model showing the interaction of the intervening variable - alienation, with the personal dimension - dogmatism.

From the preceding model, one would predict that the behavioral response of an individual would be, at least in part, a consequence of an interaction between the individual's level of dogmatism, a personality factor, and his degree of alienation, an intervening variable identified from a specific social structure.

In applying the components of the general hypothetical model, shown in Figure 1, to the context of the present study, the following applications were made. The social structure in which the study was conducted was a school system. The form of alienation which was the intervening variable identified to be studied was the teacher's sense of power (powerlessness). The level of dogmatism was a measurement of the organization of the teacher's belief-disbelief system. The specific behavior on which the study focused was the teacher's receptivity to the trial of innovation. The application of the general model within the context of the present study is summarized in Figure 2.


31 Rokeach, Open and Closed Mind, pp. 31-53.
Fig. 2. -- Application of the general hypothetical model to a school system, focusing on receptivity to the trial of innovation as a consequence of an interaction between sense of power (powerlessness) and level of dogmatism.

From the preceding model, one would predict that a teacher's receptivity to the trial of innovation would be, at least in part, a consequence of an interaction between the teacher's level of dogmatism and his sense of power in the school situation. Since there is little in the way of theory regarding the phenomenology of receptivity to work-related change, this prediction is tentative, and the present study was largely an exploratory one.

Design of the Study

The investigation was a correlational study with the dependent variable being the teachers' receptivity to the trial of innovation and the independent variable being an interaction between teachers' sense of power and level of dogmatism.\(^\text{32}\)

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\(^{32}\) Two separate interactions were studied, they were (1) sense of power (Peck) x dogmatism and (2) sense of power (Moeller) x dogmatism.
To test the hypotheses, a set of questionnaires was administered to forty-eight middle school teachers in the Washington Township middle schools. The set of questionnaires consisted of four sections: (a) the Teacher Receptivity to Change Scale,\(^{33}\) (b) the Rokeach Dogmatism Scale, Form E,\(^{34}\) (c) the teacher's sense of power (Peck) scale,\(^{35}\) and (d) the teacher's sense of power (Moeller) scale.\(^{36}\) Biographical information for the respondents, such as sex, age, experience as a teacher, and length of tenure in the school system, were taken from the personnel files in the central office of the school district.

The independent variable, the interaction of the teachers' sense of power, and their level of dogmatism, was determined in the following manner:

1. The teachers' level of dogmatism was measured by having each of the forty-eight teachers give self-responses on the Rokeach Dogmatism Scale, Form E.

2. The teachers' sense of power (Peck) was determined by having each of the forty-eight teachers give self-responses on a sense of power scale. This scale was composed of a set of Likert-form questionnaire items. To generate items for the questionnaire, two interviewers, who were not officially affiliated with the Washington

\(^{33}\)Bridges and Reynolds, "Teachers' Receptivity to Change."

\(^{34}\)Rokeach, Open and Closed Mind.

\(^{35}\)This scale was developed during the present study.

\(^{36}\)Moeller, "Teachers' Sense of Power."
Township School District, conducted focused interviews with seventeen teachers from the elementary and middle schools in the Washington Township School District. The seventeen teachers, selected on a random basis, represented ten percent of the teaching staff in the five elementary and two middle schools in the district.

The interviews were focused around the following two questions:

a. What are the factors in your own school which lead teachers to feel that they have a great deal of control in their own school situations?

b. What are the factors in your own school which lead teachers to feel that they have very little control in their own school situations?

The items for the questionnaire were selected from the information on the interview tapes. The list was composed of ten items which was tested on a pilot group of one hundred classroom teachers in a school system outside the Washington Township School District. The list was then subjected to a Guttman Scale Analysis. The final questionnaire was developed by using those items which formed a pattern that yielded the smallest number of errors.

3. The teachers' sense of power (Moeller) was determined by having each of the forty-eight teachers give self-responses on the sense of power (Moeller) scale.

4. To determine the interaction between sense of power (Peck) and dogmatism, the scores from these scales were split at the median, resulting in four cells. The same procedure was used to determine
the interaction between sense of power (Moeller) and dogmatism. A
correlational analysis with the dependent variable was made by using
the mean receptivity to change scores of the teachers in the separate
cells resulting in the two median splits.

The dependent variable, the teachers' receptivity to the trial
of innovation, was determined by having each member on a teaching
team individually rate each of his fellow team members as to how
receptive this team member is to the trial of innovation. These rat-
ings were made on a modified form of the Teacher Receptivity to
Change Scale. The change score for an individual teacher was deter-
mined by taking the mean score of his rating by fellow team members.

In the final analysis, a two way analysis of variance and
analysis of covariance was made, controlling for years of teaching
experience, age, and tenure in the school system.

Study Population

The Washington Township (Ohio) middle schools, in which the
study took place are two highly innovative open space schools. The
teaching staffs of the two schools were composed of fifty-four
members, from which forty-eight teachers were used in this study.

Forty-six of the forty-eight teachers in the study population
had planned and worked closely together in teaching teams throughout
the 1967-68 school year. The other two teachers in the study popu-
lation had begun teaching at the beginning of the second semester of
the school year.

The eight remaining classroom teachers of the Washington Town-
ship middle school staffs were not included in the study population because of the nature of their teaching duties. They did not plan or work on teaching teams, nor did they teach within sight of the other teachers. For this reason, and due to the nature of the study, these teachers were not included in the study population.

Significance of the Study

More and more educational leaders in school systems throughout the nation are attempting to develop an organizational structure which is geared toward the expectation of change under the assumption that this will produce channels into which innovations can be fed with the greatest chance of success. 37 If this assumption is correct, what type of professionals should be recruited to accomplish such an organizational goal?

More important, since a school system cannot fire its teaching staff once it decides to gear toward an expectation of change, what approach does it take with its existing staff so that it can most efficiently and effectively fulfill this new goal? Should it identify among its existing staff, certain members to act as change agents? If so, what criteria should be used to identify such members? Once they are identified, what strategy of administration (mechanism of control) will be used with them?

Is it true that those who derive power from an organization are reluctant to change the vehicle of their success? Or is it true

37 Gallaher, "Directed Change," p. 43.
that "those who are powerful can sustain the threat of examining alternatives; whereas, those whose margin of power is low will resist changing a system that has accommodated to them."  

The present study was conducted with the teaching staffs of two highly innovative schools which have the expressed goal of an expectation of change. The study was exploratory in nature; it was an initial attempt to find possible answers to the previously stated concerns by focusing on the following three questions:

1. Is there a relationship between the teacher's level of dogmatism, a personality factor, and his receptivity to change?

2. Is there a relationship between the teacher's receptivity to change and his sense of power (an intervening variable assumed to be influenced by the control mechanism of the school organization)?

3. Does an interaction exist between the teacher's sense of power and his level of dogmatism to influence his receptivity to change?

The findings from the study should also:

1. Contribute further to the research and theory concerning receptivity to work-related change, with special focus on the change processes in the public schools.

2. Contribute further to the theory and research focusing on dogmatism and behavior.

3. Contribute further to the theory and research focusing on

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38 Ibid. The underlined words are those of the writer of the present study.
alienation and behavior.

Organization of the Dissertation

In Chapter I of this dissertation a description of the problem, its importance, the conceptual framework of the study, the general design of the study, and the assumptions and limitations have been set forth. Chapter II reviews the research and literature related to a general overview of personality, organizations, and innovation; theoretical and empirical considerations of dogmatism; theoretical and empirical considerations of alienation; and empirical considerations of receptivity to work-related change. Chapter III presents a detailed description of the methodology. Chapter IV is an analysis of the data concerning the relationship between teachers' receptivity to change and a dogmatism x teachers' sense of power interaction; and the relationship of dogmatism and sense of power to teachers' receptivity to change when the former characteristics are studied in their own right. In Chapter V is found the summary, conclusions, and recommendations.
CHAPTER II

REVIEW OF RELATED RESEARCH
AND RELATED LITERATURE

The present study concerned itself, mainly, with three specific areas of interest: the theoretical and empirical considerations of alienation, the theoretical and empirical considerations of dogmatism, and the empirical considerations of work-related change. The literature dealing with these considerations is covered in later sections of this chapter. The literature describing social and organizational change, the effects of such change on individuals, and the roles that individuals play in affecting such change also has application to the present study. A general overview of this literature is presented in the next section.

Personality, Organizations, and Innovation: A General Overview

There is general agreement among the writers\(^1\) that the norms

of a social system influence the innovativeness of the individuals within the system. Linton states, "If we know what a society's culture is, including its particular system of values and attitudes, we can predict with a fairly high degree of probability whether the bulk of its members will welcome or resist a particular innovation."  

Resistance to change

The literature on social or organizational change provides many statements on presumed causes for the rejection or resistance to change by individuals. The writers have suggested a variety of factors inhibiting change, and in many cases there is extensive overlapping among the reasons given. The following is a compilation of some of the major factors inhibiting change suggested by several of these writers.  


1. Traditionalism: reluctance of people to depart from the known, or to disturb the status quo

2. Laziness, indifference, or exhaustion during initial phases of change

3. Fear and insecurity

4. Lack of involvement at lower levels, or change superimposed from above

5. Lack of knowledge and skills to implement the change

6. Personality factors, such as the authoritarian personality type

7. Vagueness as to the nature of the change

8. Presence of opposing forces felt by the individual

9. Lack of a state of dissatisfaction with the status quo

10. Reluctance to admit weaknesses

11. Previous unsuccessful attempts to change

Although the above list would have application to the resistance to change in most organizations, there appear to be additional factors inhibiting change in school systems which are somewhat unique to education. Concern with pupil control may be a focal point for

resistance to liberalizing changes in schools. Myers and Torrance found that teachers who were resistant to change tended to have a preoccupation with information-giving functions, and a preoccupation with discipline. In many cases, the school is quite vulnerable to resistant pressures in the community constituting a real inhibiting factor.

Pressures for change

Barnett discusses various drives causing a desire for change in the individual. He states, "Contrary to popular belief, change for the sake of change is a relatively infrequent motivation for innovation." He further explains that a number of wants call for satisfactions that require change, but the primary desire is to not alter existing conditions. In discussing creative wants, Barnett includes the creative urge in scientific discovery which is especially prevalent in pure research. Under the heading of relief and avoidance

4 Willower, "Barriers to Change," p. 262.
8 Ibid., p. 152.
9 Ibid.
wants, Barnett states that "the desire for relief from boredom and monotony has culminated in many innovations." He also suggests that innovative relief responses may derive from excessive physical or mental demands upon the human organism. These relief and avoidance wants may be driving forces for change in the school situation. The boredom felt by some teachers, especially secondary teachers, of presenting the same lessons to several different classes during the day may become an incentive for change. Also, the mental fatigue resulting from conducting dialogue sessions continually for five or six hours each day may be a driving force for change. Innovative responses to fulfill these wants may be further enhanced by two, somewhat unique, characteristics of the educational organization. First, the ambiguity of goal statements may provide school systems with fairly wide latitude to exercise professional judgements while maintaining the legitimacy of their operations in the eyes of their public constituents. Second, due to the relative isolation and autonomy of the classroom teacher, he may be provided the opportunity to initiate various responses to fulfill these wants.


11 Ibid., p. 158.


13 Bridges, "Teacher Receptivity to Change."
Pressures to conform

There appears to be general consensus among the writers on organizational behavior that the organizational logic of bureaucracies is essentially conservative, favoring consistency, conformity, and tradition.\textsuperscript{14} The bureaucratic model is a social invention which promotes efficiency and rationality, but thwarts innovative ideas.\textsuperscript{15}

According to Merton, "If the bureaucracy is to operate successfully, it must attain a high degree of reliability of behavior, an unusual degree of conformity with prescribed patterns of action."\textsuperscript{16}

According to Abbott, the American schools have been particu-
larly receptive to the bureaucratic ideology.\textsuperscript{17} For the most part, the causes for its bureaucratization are the same as for other organizations; these include, among others, efficiency and the routinized movement of products (i.e., students) from one unit to the next. In commenting on this latter point, Bidwell states,

It was argued above that school systems are "required" to produce uniform outcomes of a given level of quality, and that this is a powerful restraint toward bureaucratization. The source of this constraint is external and arises from the fact that school systems not only are client-serving, but also are agents of public welfare. They are, in fact, an arm of the state government and as such must be responsible to the apparatus of government and to a public constituency. Thus, they must respond to public definitions of the nature of adequate service and service outcomes while they attempt to maintain sufficient latitude for professional staff judgements concerning what procedures, and what outcomes, best serve their public trust. The constraining force of public constituencies is enhanced by the responsibility of school systems to use efficiently the public funds from which they are supported. Consequently, one would expect that school administrators and their subordinates must balance three criteria in determining lines of action: professional norms and standards, public wishes, and fiscal efficiency. The latter two are likely to be inextricably linked.\textsuperscript{18}

Organizational control

It is a common assumption that tight control measures on individuals in organizations generates rigidity, passivity, conformity, resistance to change and stifles creativity on the part of the individual subjected to the control measures.\textsuperscript{19} To correct this organiza-

\textsuperscript{17}Abbott, "Hierarchical Impediments," p. 44.

\textsuperscript{18}Bidwell, "The School," p. 977.

sational dysfunction, the recent writers on organizational behavior advocate providing the employee more power over his own work environment, whereby he is given responsibility, authority and increased control over the decision-making that affects his immediate work environment. The basis for this advocacy is the hypothesis that people will support what they help to create. Furthermore, a body of research to support this hypothesis is developing.20

Recently, power equalization efforts have been made in some organizations by building T-groups into the firm, "encouraging direct, intimate, and power-free intercommunication across several organizational levels, ordinarily from first-line foremen upward."21 Leavitt argues that "power-equalization models, ....try to use group pressures to increase commitment and involvement, while avoiding the stultifying impact of tight pressures to conform to 'irrelevant' standards."22 He further contends that such approaches have opened up communication channels, but organizational modifications must be taken to make


22 Ibid., p. 1164.
power-equalization effective. Blau and Scott also argue that these recent approaches tend to degenerate into a device for the manipulation of employees. They refer to such situations as a kind of pseudo-democracy, "for democratic decision-making by the workers would require that the workers have the power to reverse management and decide not to make the suggested changes." They further assert, "...this practice would constitute democracy only if the workers had the right to make the most basic decisions about operations, not if they merely were permitted to decide how to implement decisions previously made by management."

In educational organizations, conflict involving control arises from two different aspects. First, since it is a service organization, it faces the problem of becoming the captive of the client system. Second, there is a pervasive conflict in school organizations between the professional status of teachers and their hierarchical subordination. Concerning the control structure in the school, Waller contends that the authority of school administrators over teachers is

23 Ibid., p. 1166.
26 Ibid.
27 Blau and Scott, Formal Organizations, pp. 51-54.
28 Bidwell, "The School," p. 1004; For an enlightening discussion on the professional role of the teacher in the bureaucratic structure, see Corwin, Sociology of Education.
primarily domimative, in response to the need to contain student-staff
conflict and to mediate local community demands and the broader, more
cosmopolitan norms of the teacher group. Becker reports data which
suggest that administrators and teachers each control sanctions that
permit control over the other's behavior. Lippitt and his col­
leagues would tend to agree with Becker's findings. In discussing
the principal's role in change, they state,

Many teachers report that the principal's support for inno­
vation is not an important factor in their willingness and at­
tempts to innovate and diffuse. In fact, teachers who felt the
principal had little influence on their teaching style were more
likely to innovate. However, informal suggestions and research
findings suggest that principal support for innovation is crucial.
First of all, it is crucial in influencing a particular teacher
for him to see merit and rewards arising from his innovation at­
tempts. Secondly, the principal can set a tone for professional
educational discussion as part of staff meetings and daily con­
tacts with teachers. Teachers who perceive a principal as sup­
porting innovation do in fact innovate more often. Further, it is
clear that in those school buildings where the principal is sensi­
tive to and accurate about the nuances of peer relationships among
teachers, more sharing is done and diffusion occurs. It may be
that principal support and standard setting is very different from
direct principal influence on teaching style. Each teacher guards
his own autonomy and professional independence, and although open
to influence, may bristle and resist direct and forceful principal
attempts to change his own style.

29 W. Waller, The Sociology of Teaching (New York: Wiley,

30 Howard S. Becker, "The Teacher in the Authority System of the
Public Schools," in Complex Organizations, ed. by Etzioni, pp. 243-251.

31 Ronald Lippitt and Colleagues, "The Teacher as Innovator,
Seeker, and Sharer of New Practices," in Perspectives, ed. by Miller,
pp. 316-320.

32 Ibid., p. 318.
The majority of studies concerned with the diffusion of educational innovations have been done at Columbia University's Teachers College under the sponsorship of one researcher, Paul Mort. The data were most often gathered by mailed questionnaires from school superintendents or principals. The unit of analysis was the school system in almost all these investigations. In making a general conclusion from Mort's studies, Carlson states, "...school systems that are first to adopt educational innovations spend the most money per child, and those last to adopt educational innovations spend the least amount per child." Carlson also contends that recent studies have shown that the amount of money spent per child had no predictive power in relation to the rate of adoption of the innovations under study.

A common contention in education concerning the initiation of innovations is that it is the administrator who must introduce new types of programs. Recently, some of the writers have been chal-

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34 Ibid., p. 40.


36 Ibid., p. 8.

lenging this notion.\textsuperscript{38} In discussing the adoption of innovations, Roger asserts, "The characteristics of the innovation, as perceived by the individuals in a social system, affect its rate of adoption."\textsuperscript{39} He found that the following characteristics of innovations appear to affect the rate of adoption:

1. Relative advantage - the degree to which an innovation is superior to ideas it supercedes.

2. Compatibility - degree of consistency with existing values and past experiences.

3. Complexity - degree to which it is relatively difficult to understand and use.

4. Divisibility - degree to which an innovation may be tried on a limited basis.

5. Communicability - degree to which the results of an innovation are visible and can be diffused to others.\textsuperscript{40}


\textsuperscript{40} \textit{Ibid.}, pp. 124-133.
In discussing educational innovations, Miles states, "A kind of axiom seems visible in almost any of the studies reported in this book: educational innovations are almost never installed on their merits." But, he further states, "Yet, it does seem likely that some properties of the innovation itself are likely to affect its adoption and continued use." Below is a summary of the properties which, according to Miles, affects the rate of adoption of educational innovations.

1. Cost: this includes the cost in money, energy or time incurred during preliminary procurement operations, as well as, at the point of purchase and during use.

2. Technological factors: these include such factors as reliance on associated materials, feasibility, availability when use is desired, and convenience of use.

3. Associated materials: included here are such properties as the ease of alternating the materials to fit classroom situations, ease of reproducing and distributing the materials, and the effect on the retention of integrity when used by a variety of teachers.

4. Implementation supports: the difficulty of use or implementation of the innovation.

5. Innovation/system incongruence: this includes properties of the innovation as they affect perception of threats to existing

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41 Miles, "Some Generalizations," p. 635.

42 Ibid.
practice, relative ease of institutionalization, and alternations of teacher interaction patterns.  

Dogmatism

In the present study, the teacher's level of dogmatism was determined by the use of the Rokeach Dogmatism Scale, Form E. The primary purpose of this scale is to measure individual differences in openness or closedness of belief systems, but by virtue of the way open and closed are defined, this scale also purports to measure general authoritarianism.  

The results of studies conducted by Rokeach and his associates strongly support the view that the scale represents more general measures of authoritarianism than others currently in use.  

The conceptual and theoretical considerations made in the development of the dogmatism scale are discussed in the next section.

Conceptual and theoretical considerations

In studying the organization of belief systems, Rokeach and his associates found it necessary to concern themselves with the structure rather than the content of beliefs. Furthermore, they set as a basic requirement "that the concepts to be employed in the description of belief systems must not be tied to any one particular belief system;  

43 Ibíd., pp. 635-639. 
44 Rokeach, Open and Closed Mind, p. 96. 
45 Ibíd., p. 396. 
46 Ibíd., p. 6.
they must be constructed to apply equally to all belief systems."  

Their assumption was that if they knew something about the way a person believes, it may be possible to predict how he will go about solving problems that have nothing to do with his ideology. They reasoned that "it is not so much what you believe that counts, but how you believe."  

Rokeach and his associates further reasoned that the disbelief system is not merely the opposite of the belief system. Their explanation for this is as follows:

... The belief system is conceived to represent all the sets, expectancies, or hypotheses, conscious and unconscious, that a person at a given time accepts as true of the world he lives in. The disbelief system is composed of a series of subsystems rather than merely a single one, and contains all the disbeliefs, sets, expectancies, conscious and unconscious, that, to one degree or another, a person at a given time rejects as false. Thus, our conception of the disbelief system is that it is far more than the mere opposite of the belief system.

According to these authors, the logical-psychological concept of system makes possible certain predictions about behavior. Concerning this relationship, they state,  

In logical systems the parts are interrelated or in communication with each other according to the rules of logic. In psychological systems the parts may be interrelated without necessarily being logically interrelated. In fact, what may be of interest to the psychologist is that the parts are isolated or segregated from

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47 Ibid.
48 Ibid., p. 7.
49 Ibid., p. 6.
50 Ibid., p. 33.
each other. It is precisely this isolation or segregation of parts which describes their relationship and makes possible certain predictions about behavior.\(^{51}\)

They viewed all systems as having three major dimensions: a belief-disbelief dimension, a central-peripheral dimension, and a time-perspective dimension. They considered how these various dimensions and their attributes may be tied together theoretically to produce a mind which, in its totality, can be fruitfully described as varying in the degree to which it is an open or closed mind.\(^{52}\) The following is a summary of these theoretical considerations:

1. Belief-disbelief dimension:

   **Isolation within and between belief and disbelief systems:** Isolation refers to the degree of segregation or lack of intercommunication between neighboring regions or subregions. It is assumed that the more closed the system the greater the isolation between and within the belief and disbelief systems.

   **Relative degrees of differentiation of the belief and the disbelief systems:** The belief system is assumed to be generally more differentiated than the disbelief system. It is further assumed that with an increase on closedness there will be less differentiation of disbelief subsystems with respect to each other; that is, different disbelief systems will be perceived as "the same."

2. Central-peripheral dimension:

   **Specific content of primitive beliefs:** It is assumed

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\(^{51}\) Ibid.

\(^{52}\) Ibid., p. 53.
that the more closed the system, the more will the content of the primitive beliefs be the effect that we live alone, isolated and helpless in a friendless world; that we live in a world wherein the future is uncertain; that the self is fundamentally unworthy and inadequate to cope alone with this friendless world; and that the way to overcome such feelings is by a self-aggrandizing and self-righteous identification with a cause, a concern with power and status, and by compulsive self-proselytization about the justness of such a cause.

**Formal content of the intermediate belief region:** In the intermediate region we have represented beliefs about the nature of positive and negative authority, ranging from rational at one extreme to arbitrary at the other, and beliefs about people, having to do with the extent to which people are accepted and rejected according to the positive and negative authorities they line up with. The more closed the belief-disbelief systems, the more will authority be seen as absolute and the more will people be accepted and rejected because they agree or disagree with one's belief-disbelief system.

**Interrelations among primitive, intermediate, and peripheral beliefs:** The more closed the system, the more will a change in a particular peripheral belief be determined by a prior change in the intermediate (authority) region. Further, the primitive and intermediate regions are assumed to control not only what will be represented in the peripheral region but also what will not be represented, that is, narrowed out.
3. The time-perspective dimension:

It is assumed that the more closed the belief-disbelief system, the more will its organization be future- or past-oriented, and the more will the present be rejected as important in its own right. Expressions of such a time perspective are to be found in one's attitude toward the past, present, and future, in the extent to which one feels able to appraise accurately or to understand the future and in one's attitude toward the use of force as a way of revising the present.53

**Dogmatism and behavior**

Rokeach and Kemp54 conducted research to test the hypothesis that those with relatively closed systems should manifest more anxiety than those with relatively open systems. From these studies, they concluded that dogmatism and anxiety are factorially similar.55 These findings are supported by two other studies by Rokeach and Fruchter, and by Fruchter, Rokeach, and Novak.56 "In both of these studies,

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dogmatism and anxiety are clearly shown to emerge together as part of a single psychological factor. This factor also includes self-rejection and paranoid tendencies.  

Somewhat contradictory results were obtained by Pannes in a study involving junior-senior high school students. Pannes found that a high degree of dogmatism correlated significantly with a high level of self-acceptance, meaning that the less favorable the self image, the more open the mind.

Levy and Rokeach found that open-minded subjects appear to be "more open to experience;" and in another series of studies, the open-minded subjects were found to be more ingenious and creative in finding solutions to the problems. Rokeach, McGovney and Denny concluded another series of investigations by stating:

Dogmatic or closed thinking, and its operational measurement

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59Ibid.


by means of the Dogmatism Scale, can now with some empirical back­
ing be said to refer to the resistance to change of total belief 
system. This is evidenced by the greater difficulty shown by the 
closed subjects in synthesizing or integrating beliefs into a new 
system which contradicts their every day system. It is also evi­
denced by the finding that closed and open subjects do not differ 
from each other with respect to analysis, or the breaking down of 
individual beliefs.63

Concerning the phenomena of change and non-change, Kemp states 
the following warning:

We must avoid associating the open mind with change and the 
closed mind with non-change. A more defensible view is that per­
sons with relatively closed systems may sometimes manifest change 
and sometimes fixedness for basically the same reasons. These 
reasons have been variously described as conformity, other-direc­
tedness, identification with authority, ego defense, compartmen­
alization, isolation, opportunism, and expediency. Conversely, 
change and non-change in open systems may result equally from a 
correct appraisal of reality, from intellectual conviction rather 
than dogmatic conviction, and from independence rather than sub­
servience to conformity pressures.64

Kemp made this conclusion after considering the following 
ideas:

.....both change and its absence may result from the same underly­
ing motive. Two persons may both change a given attitude, but, for 
opposing reasons: in the one it may represent a "party-line" 
change in conformity to authority; in the other it may represent a 
more "genuine" change based on a deeper appreciation, or under­
standing, or maturity. Conversely, two persons may both refuse to 
change a given attitude: in one it may represent rigidity, and in 
the other, firmness or stability.65

In discussing the party-line thinker, Rokeach, et al. state,

"A party-line thinker is a person who not only resists change but can

63Ibid., p. 193.

64C. Gratton Kemp, "Changes in Values in Relation to Open­
Closed Systems," in Rokeach, Open and Closed Mind, p. 337.

65Ibid., pp. 336-337.
also change too easily. What he does depends on what his authorities do, and his changes and refusals to change conform with authority.™

The issues of attitudes, attitude change, and behavioral change is still unresolved. In a recent book, Rokeach™ calls for a re-thinking of these issues. He states,

The view developed here on the relations existing among attitude, attitude change, and behavioral change is incomplete, however. It has neglected other kinds of change that must sooner or later be considered if there is to be a truly systematic consideration of antecedents and consequences of attitude and behavioral change, namely, the problem of changes in values, in ideology, in total belief systems, in therapy, and in personality. It seems to me that contemporary theory and research on opinion change, dealing as they typically do with changes in single and isolated expressions of opinion, and selecting as they typically do opinions that are, as Hovland points out, "relatively uninvolving" and thus easily capable of manipulation within the context of a relatively brief experimental session, have somehow lost touch with broader issues.™

The relation of dogmatism to receptivity to work-related change is discussed in a later section of this chapter.

Powerlessness

While the social structure may affect the teacher in a number of ways, the issue in this study was restricted to sense of power. Sense of power, defined as the expectancy or probability held by the individual that his own behavior can determine the occurrence


68 Ibid., p. 155.
of the outcomes, or reinforcements, he seeks, is a positive counterpart of the concept of "powerlessness" defined by Seeman. Seeman viewed the concept of powerlessness as one of the aspects of alienation in mass society theory. The conceptual and theoretical considerations of powerlessness and alienation are discussed in the next section.

**Conceptual and theoretical considerations**

Seeman points out that the concept of powerlessness is the notion of alienation as it originated in the Marxian view of the worker's condition in capitalist society. Seeman states, "...one might say that his (Marx) interest in the powerlessness of the worker flowed from his interest in the consequences of such alienation in the workplace - for example, the alienation of man from man, and the degradation of men into commodities." Weber extends the concept to the professional worker of modern times, as is pointed out in the following statement:

"Marx's emphasis upon the wage worker as being 'separated' from the means of production becomes, in Weber's perspective, merely one special case of a universal trend. The modern soldier is equally 'separated' from the means of violence; the scientist from the

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means of enquiry, and the civil servant from the means of administration.\textsuperscript{73}

In Seeman's version of alienation, the individual's expectancy for control of events is clearly distinguished from (a) the objective situation of powerlessness as some observer sees it, (b) the observer's judgement of that situation against some ethical standard, and (c) the individual's sense of a discrepancy between his expectations for control and his desire for control.\textsuperscript{74}

In an effort to integrate the social psychology of learning theory and of mass society, Seeman develops the following "theoretical frame:"

The central theme in mass theory is that the destruction of the old community has separated the individual from binding social ties, and that the consequences of such separation can be both personally devastating and destructive of democratic values. But a theme is not yet a theory, and we need to specify how the mass society viewpoint provides the ingredients of a useful theory. In brief, it becomes a theory by combining (1) an historically oriented account of contemporary social structure, (2) assertions about the psychological effects of that structure, and (3) predictions about the resulting individual behavior. Alienation is the crucial intervening variable; it is produced by the social structure and, in turn, produces distinctive behavior.\textsuperscript{75}

According to Seeman, the two aspects which are most crucial to this "theoretical frame" are as follows:

First, the model embodies a structure-alienation-behavior sequence, and requires that two main questions be tested: whether the structural conditions have the alienative effects, and whether alienation has the specified consequences. Second, given the emphasis upon personal alienation as an intervening variable, some

\textsuperscript{74}Seeman, "Meaning of Alienation," p. 784.

\textsuperscript{75}Melvin Seeman, "Alienation, Membership, and Political Knowledge: A Comparative Study," \emph{Public Opinion Quarterly}, XXX (Fall, 1966), pp. 353-354.
version of psychological theory is necessarily implicated in the propositions of mass society theory.\(^\text{76}\)

Through a discussion of control-relevant learning, Seeman integrates mass society theory and social learning theory. He concludes by stating:

It is commonplace for mass theorists similarly to argue that the bureaucratized and isolated individual in contemporary society becomes convinced of his own powerlessness and, as a result, turns his attention away from control-relevant learning; he becomes apathetic and uninformed in political affairs and generally inattentive to knowledge that bears importantly upon his performance. Thus, mass society theory and social learning theory agree in proposing that those who differ in powerlessness should also differ in their learning; for both theories, this proposition occupies a central position in its argument. The logic that ties powerlessness to low knowledge acquisition is one that, as a fundamental generalization in both theories, ought to apply cross-culturally and to a wide range of behavior-relevant information.\(^\text{77}\)

A series of investigations, aimed at examining the alienation problem within their theoretical context, have been conducted.\(^\text{78}\)

The findings from these investigations tend to confirm Seeman's thesis that an individual's generalized expectancy for control of his outcomes (for example, his sense of powerlessness) governs his attention

\(^{76}\)Ibid., p. 354.

\(^{77}\)Ibid., pp. 355-356.

Alienation (Powerlessness) and Behavior

The following studies tend to confirm the proposition that alienation, in the powerlessness sense, serves as the hypothetical intervening variable between the individual's social circumstances and his behavior.

In a study of the membership of an agricultural cooperation organization, Clark found that knowledge about the organization was


81 Clark, "Measuring Alienation."
only slightly related to alienation. Seeman and Evans\(^8^2\) conducted a study comparing hospital patients who differ in their degree of alienation, but who were matched for socio-economic backgrounds and for health and hospital histories. The investigators found that the more alienated patients score lower on an objective test of knowledge about tuberculosis. Furthermore, these differences in objective knowledge were reflected in both the staff's description and in the patient's attitudes of the information process.\(^8^3\)

In a study in a reformatory setting, Seeman found that the learning of information relevant to correctional matters is shown to be dependent upon the inmate's degree of powerlessness.\(^8^4\) Examination of the inmates' backgrounds showed that the results could not be contributed to differences in intelligence or criminal history.\(^8^5\) Also, the superior learning of the unalienated prisoners was shown to be associated with achievement oriented behavior within the prison and on the outside.\(^8^6\) Seeman, using a randomly selected sample of male work force in Sweden, showed that these workers who were high in powerlessness scored significantly lower on the objective test of political know-

\(^{82}\)Seeman and Evans, "Alienation and Learning."

\(^{83}\)Ibid., p. 772.

\(^{84}\)Seeman, "Learning in a Reformatory."

\(^{85}\)Ibid., p. 270.

\(^{86}\)Ibid., p. 270.
He used appropriate controls for education, income, and social class. In another Swedish study by Seeman, two knowledge tests were constructed (concerning nuclear and cultural affairs); and it was shown that high powerlessness goes with poor nuclear knowledge, while alienated and unalienated students do not differ in cultural information.

Alienation and change

As with the issue of dogmatism and change, the question of whether alienation is a driving force for change or a cause for resistance to change is somewhat complicated.

Merton and Schein\textsuperscript{89} believe that the alienated individual is more susceptible to change than the non-alienated individual. According to Merton, the alienated individual responds to the environment through innovation and rebellion; although, in some cases they respond through retreatism.\textsuperscript{90}

Barnett develops the following rationale for the relationship between dependency on authority and innovative behavior:

There is a positive correlation between individualism and innovative behavior.

\textsuperscript{87}Seeman, "Political Knowledge."

\textsuperscript{88}Seeman, "Alienation and Knowledge."


\textsuperscript{90}Merton, "Social Theory."
tive potential. The greater the freedom of the individual to explore his world of experience and to organize its elements in accordance with his private interpretation of his sense impressions, the greater the likelihood of new ideas coming into being. Contrariwise, the more the reliance upon authoritative dictates, the less the frequency of new conceptualizations. When individuals are taught to revere and fear authority as the ultimate source of the good, the true, and the proper, they cannot be expected to have variant notions. When they are indoctrinated with the virtue of dependency, the ideas of curiosity, personal inquiry, and evaluation are denigrated; and whole blocks and societies of individuals become nucleated into single ranges of possibilities.  

Referring to a closely related concept of alienation, that of insecurity, Blau, Scott and Gallaher take the position that the more secure the individual is in the organization the less resistant he will be to change, and that insecurity breeds rigidity. In describing the "laggards" who are the last to adopt an innovation, Rogers states, "Alienation from a too-fast moving world is apparent in much of the laggard's outlook." Rogers is also careful to point out that the "innovators," although venturesome, are not usually in positions of power in the community.  

94 Ibid., p. 169.
Miles and Presthus\textsuperscript{95} point out that one of the characteristics of the innovative person is that he is alienated. In describing the "ambivalent," Presthus suggests that such a person is fearful of authority and "with the expectation of his critical function as the agent of change, the ambivalent type is uniquely unsuited to the bureaucratic situation."\textsuperscript{96}

Lippitt, Watson and Westley express similar beliefs on this issue.\textsuperscript{97} In a list of four most frequently noted sources of resistance to the idea of help for change, they include "a fear of losing some current satisfaction (for example, power, dependency, and so forth)."\textsuperscript{98}

In contrast to the line of thought mentioned just previously, Katz, Kahn, Barnett, Corwin and Argyris\textsuperscript{99} make the point that the


\textsuperscript{96}Presthus, Organizational Society, pp. 285-286.


\textsuperscript{98}Ibid., p. 181.

individual who has little control over his working environment exhibits passivity and conformity. Katz and Kahn predict that such a lack of individual control has adverse effect on "innovative and other behavior beyond the call of duty." ¹⁰⁰ In describing alienation from the organization, Shepard states,

Alienation from the organization and its goals is more likely to be expressed in apathy, passivity, and obedience than in aggressive action, however, since the individual's method of getting more from it is through exhibiting cooperative behavior. Alienation expressed as aggression occurs only if the individual believes he can win this way. Hence, it is largely restricted to union-management relations in which the parties are more or less equally matched in power. ¹⁰¹

The fact that the issue of alienation and change is still unresolved is illustrated by statements such as the following: "...those in positions of prestige and power are usually less likely to risk sweeping schemes for change and innovation, although experience and prestige are often instrumental in instituting successful change." ¹⁰²

There appears to be little empirical research on the issue of alienation and change. In one study, designed to determine the conditions under which four variables (change-type, obeisance to status superiors, powerlessness, and salience) in two institutional settings were likely to make a person attempt to change his organization, it was


found that the only significant first order interaction was between powerlessness and change-type.\textsuperscript{103} The subjects were all foreign nationals who had spent some time in the United States observing how the same job they were engaged in at home was done here. As predicted in the study, the low powerlessness subjects were more likely to change things than high powerlessness subjects.\textsuperscript{104}

In a second study involving a sample of 237 teachers in three school systems in Michigan, Barakat found that non-alienated and mildly alienated teachers tended to act upon the system by innovation and adaptation of significant teaching practices; moderately alienated teachers tended to comply with the system by adoption (i.e., borrowing teaching practices and using them without making any changes in them); and highly alienated teachers tended to retreat from the system by non-adoption, not serving on committees, and deciding to quit.\textsuperscript{105} However, a substantial number of highly alienated teachers were found to be innovators.\textsuperscript{106}

**Receptivity to Change**

One of the most consistent conclusions in the literature concerning the worker and work-related change is the fact that there is a

\textsuperscript{103}Norman B. Cleary, "Cross-Cultural Communication, Powerlessness, Salience and Obeisance of Professional Change Agents," in Dissertation Abstracts, XXVII (1967), 3118-A.

\textsuperscript{104}Ibid.


\textsuperscript{106}Ibid.
great lack of systematic research on this subject.\textsuperscript{107}

Discussing the question of attitudes of employees toward change, Trumbo states,

\ldots\ no research known to this writer has systematically investigated the attitudes of employees toward change as a general work-related phenomenon. Neither correlates of individual change attitudes nor situational factors associated with differences among attitudes in work groups have been identified.\textsuperscript{108}

Miller focuses on this lack of research in education in his statement, "The work of Lippitt and associates is one of the few serious and sustained research efforts on the change role of classroom teachers. This important area for study remains largely untapped by researchers in the dynamics of change.\textsuperscript{109}

Bridges and Reynolds and Miller\textsuperscript{110} appear to agree on the notion that the literature has not given a balanced picture of the importance of classroom teachers as compared with administrators in the change

\begin{footnotes}

\textsuperscript{108}Trumbo, "Work-Related Change," p. 338.

\textsuperscript{109}Miller, "Observations and Suggestions," p. 360.

\textsuperscript{110}Bridges and Reynolds, "Teacher Receptivity to Change," p. 1; Miller, "Needed Research," p. 73.
\end{footnotes}
process. Bridges and Reynolds give the following explanation for this imbalance:

One of the major factors responsible for the focus on the superintendent is the belief that he is the key figure in the innovation process at the local level. This belief is certainly grounded in the formal organizational reality, for the superintendent sits at the apex of the hierarchical structure. He, by virtue of his position, has the authority to make decisions on the organization and allocation of resources and personnel; these decisions are presumed to be critical to the successful introduction of innovations of major scope.111

They go further to explain the dangers of such a strong emphasis on the administrator as the key person to study in educational change. They state,

However, another feature of the organizational reality in educational organizations is the heavy reliance on the opinions of users for determining the success of an innovation. Decisions to terminate or to continue an innovation often are based on the enthusiasm and comments of teachers. Still a third aspect of the organizational reality is the relative role invisibility of teachers. The structural looseness of the educational organization and the teacher's isolation from the view of peers and superordinates as she performs in the classroom grants her a degree of autonomy not envisioned by the planners of the formal organization. These latter two organizational realities suggest that the teacher is in a key position to exert the major amount of influence on the fate of the innovation.112

There appears to be some difficulty in studying change in the organizational setting; in discussing this problem, Cartwright asserts that it is difficult to identify evidence of personality change in the organizational setting. This difficulty arises from the fact that

112 Ibid.
to organizational variables, are difficult to interpret because the underlying causal network cannot be ascertained.113

The present study is a correlational study as described above by Cartwright, so the problem exists in ascertaining the underlying causal network. The present study also relies heavily on individual behavior and attitudes as perceived by the participants. There are obvious weaknesses to such an approach, but this weakness does not appear to be unique to this study. Concerning this problem, Argyris states,

The first objective of this book is to present the preliminary findings of studies made of how varying degrees of interpersonal competence among top managers influences their, and the organization's innovativeness, willingness to take risks, and problem-solving effectiveness—as perceived by the participants. It is only because I found ways to discover them that I limit myself to perceptions. I have been unsuccessful in finding relatively objective measures of innovation, extent of risk taking, and problem-solving effectiveness.114

Related research

Trumbo conducted a study to determine the correlates of employee attitudes toward change as a general job-related phenomenon.115 Questionnaire and personnel file data were obtained for 232 non-supervisory and forty-six supervisory personnel of a medium sized midwestern insurance company involved in office automation. Attitudes toward


change were measured with a nine-item Change Scale included in the questionnaires. The findings of the study indicated that (1) females were less favorable to change than the males; (2) favorable change attitudes are positively related to the capacity to adjust to changes; (3) Change Scale scores within groups were relatively more homogeneous than among groups; (4) group cohesiveness was negatively related to Group Change scores; (5) supervisors' attitudes toward change were positively related to Group Change scores, while supervisors' scores on a measure of authoritarianism were negatively related to Group Change scores and (6) among employees who perceived increases during the preceding year in variety skill and responsibility demands, and chances for promotion, approval of these increases was associated with higher Change Scale scores than indifference or disapproval.\(^1\)

In a second study conducted by Hardin, questionnaire data was collected on 199 office employees' general readiness for change, satisfaction with existing amounts of fourteen job aspects, and desire for job-aspect change.\(^2\) These data were used in testing the hypothesis that a person's desire for specific change is governed not only by the discrepancy between the attractiveness to him of existing and potential job characteristics, but also by his assessment of the very process of

\(^{1}\)Ibid., p. 344.

\(^{2}\)Einar Hardin, "Job Satisfaction and the Desire for Change," Journal of Applied Psychology, LI (1967), 20-27. The sample of employees for Hardin's study was taken from the same general sample used in Trumbo's study; see Trumbo, "Attitudes Toward Work-Related Change."
The hypothesis was upheld by results of multiple-regression analyses of aggregate scores and of data for several individual job aspects. The regressions of desire for change upon job satisfaction were negative and highly significant for all of the fourteen job aspects. In contrast, only eight of the regressions upon readiness for change were highly significant individually. Nevertheless, the signs of the regressions were non-negative in all fourteen cases.

Jamias and Troldahl conducted a study to determine the differences in willingness to adopt new agriculture practices recommended by agricultural extension agents as a function of personality and social system. The frequency of adoption of recommended agricultural practices—the dependent variable—was measured by a series of questions, each designed to determine which of the several alternative procedures the dairy farmer followed in the day-to-day management of his farm. Personality differences in receptivity to new information were measured by the Dogmatism Scale, and social system differences in receptivity

119 Ibid.
120 Ibid., p. 25.
were identifying two types of rural townships in Michigan; one type identified as high and the other as low in their "value for innovativeness."

Statistical analyses showed a highly significant interaction between receptivity in the personality system and receptivity in the social system. It was concluded that highly dogmatic persons living in social systems having a high value for innovativeness more frequently adopt recommendations of agricultural extension agents than highly dogmatic persons living in social systems having a low value for innovativeness. Conversely, low dogmatic subjects, regardless of the social system in which they live, have a relatively high adoption rate for new practices recommended by agricultural experts.122

A study on teacher receptivity to change was conducted by Bridges and Reynolds.123 In this study, the investigators examined the effect of the teachers' belief system on receptivity to the trial of innovation. Their major hypothesis was "elementary teachers with open belief systems will be more receptive to the trial of innovation than elementary teachers with closed belief systems."124 Questionnaires were administered to 307 elementary teachers drawn from fifteen urban, suburban, and rural school systems located in Illinois, Missouri, Kentucky, and Tennessee. Usable replies were obtained from 85 per cent

122 Rokeach, Beliefs, Attitudes and Values, pp. 145-146.
123 Bridges and Reynolds, "Teacher Receptivity to Change."
124 Ibid., p. 1.
of the total, providing a sample of 262 elementary teachers. The teacher questionnaire consisted of three sections; the teacher receptivity to change scale, the Dogmatism Scale, and a biographical information form.

The investigators concluded, "With a somewhat large, heterogeneous sample, dogmatism was systematically related to teacher receptivity to change in a variety of community and organizational settings."125 The teachers who had closed belief systems were less receptive to trying new educational practices than teachers who had open belief systems. But, the investigators also concluded, "The practical, as opposed to the statistical, significance of these findings is quite limited, however, since so much of the variance in receptivity to change remains unexplained."126 One of the major unexpected findings was the more experienced teachers in the study were not significantly less receptive to change than less experienced teachers.

Summary

In the analysis of the literature and research concerning the concept of the DOGMATISM-BEHAVIOR sequence there appears to be contradictory assumptions as to whether high dogmatism encourages change or is an inhibiting factor to change. Arguments supporting both assumptions have been reported in the literature. A similar contradiction

125 Ibid., p. 2.

126 Ibid., p. 3.
concerns the STRUCTURE-ALIENATION-BEHAVIOR sequence. Writers have rationalized that those who are powerful (non-alienated) in an organization can sustain the threat of examining alternatives. At the same time, sound rationalizations have been developed to suggest that those who derive power from an organization are reluctant to change the vehicle of their success. The review of the research does not provide empirical data to come to any conclusions on these assumptions concerning change. When the change in question becomes work-related change, the "research is practically silent."

The field of social and organizational change is some distance away from the development of a theory of change. Consequently, most research efforts dealing with change in the organizational setting must be exploratory in nature.
CHAPTER III

METHODOLOGY OF THE STUDY

In the previous chapter, an examination was made of the conceptual and theoretical considerations of dogmatism and sense of power, along with an examination of the empirical research dealing with work-related change, dogmatism and sense of power. It is the purpose of this chapter to report the research design used to test the hypotheses stated in the first chapter, and to explicate the methods employed.

Procedures Used

In order to test the hypotheses, a correlational study was conducted with forty-eight staff members from two highly innovative middle schools. Two separate interactions were studied; they were (1) sense of power (Peck) x dogmatism and (2) sense of power (Moeller) x dogmatism. The data to determine these interactions were obtained by having the forty-eight teachers complete questionnaires.¹

To determine the interaction between sense of power (Peck) and dogmatism, the scores from the Dogmatism Scale and the sense of power

¹The set of questionnaires consisted of four sections: (a) the teacher receptivity to the trial of innovation scale, (b) the Rokeach Dogmatism Scale, Form E, (c) the teacher sense of power (Peck) scale and (d) sense of power (Moeller) scale. Biographical information for the respondents such as sex, age, experience as a teacher, and length of tenure in the school system was taken from the personnel files in the central office of the district.
(Peck) scale were split at the median, resulting in four cells. The result of the two median splits is illustrated in Figure 3.

![Figure 3](image)

<table>
<thead>
<tr>
<th>Low Dogmatism</th>
<th>High Dogmatism</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Sense of Power</td>
<td>Cell 1</td>
</tr>
<tr>
<td>Low Sense of Power</td>
<td>Cell 3</td>
</tr>
</tbody>
</table>

Fig. 3 — Cells resulting from the two median splits involving dogmatism and sense of power.

The same procedure was used with the sense of power (Moeller) scale to determine an interaction between sense of power (Moeller) and dogmatism. The correlational analysis with the dependent variable was made by using the mean receptivity to change scores of the teachers in the separate cells resulting from the two median splits.

The dependent variable, the teachers' receptivity to the trial of innovation, was determined by having each member on a teaching team individually rate each of his fellow team members as to how receptive the team member is to the trial of innovation. These ratings were made on a modified form of the Teacher Receptivity to Change Scale.²

²Bridges and Reynolds, "Teacher Receptivity to Change."
The change score for an individual teacher was determined by taking the mean scores of his rating by his team members.

In the final analysis, a two way analysis of variance and analysis of covariance was made, controlling for years of teaching experience, age, and tenure in the school system.

Study Population

The study population consisted of the teaching staffs from two highly innovative schools located in one school district. These schools are the Hithergreen Middle School and the Tower Heights Middle school located in the Washington Township School District (Centerville, Ohio).

The Washington Township School District encompasses an all-white, upper middle-class suburban area located near Dayton, Ohio. It is a Local School District under the supervision of the Montgomery County Board of Education. At the time of the study, the Washington Township School District served approximately 6,100 students in five elementary schools, two middle schools, and one high school.

The floor plans of the two middle schools are illustrated in Figure 4 and Figure 5. An illustration and brief description of these facilities are important for the following reasons:

1. The innovative design of both buildings is indicative of the commitment of the school district to educational innovation.

2. The flexibility of the facilities is indicative of the desire of the school to continue to adapt to future changes in
Fig. 4 -- Diagram of the floor plan of the Hithergreen Middle-School.
Fig. 5 — Diagram of the floor plan of the Tower Heights Middle School.
3. The open-space, allowing teachers to observe each other, was essential in the design of the study.

Both of the middle schools are open-space or "loft-type" buildings. Each building has four learning centers. A learning center is approximately 5,500 square feet or roughly the size of seven traditional classrooms, with no interior walls. Although movable furniture to function as sight barriers is available, the teachers preferred to teach in the open-space with no visual separations from other teachers.

Both buildings are carpeted, air-conditioned and windowless. At Hithergreen Middle School, the teaching teams plan in one large open-space area, the size of approximately five traditional classrooms. At Tower Heights Middle School there are two separate planning areas on opposite ends of the building. Half of the teaching teams plan in one area and half of the teams plan in the opposite area.

In either building, the teachers had the opportunity to plan together as a team for approximately one hour to one and one-half hours each day. Due to the open-space arrangements in the planning areas there was great opportunity for communication among the various teaching teams.

The Washington Township Schools changed from a previous junior

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3 This factor is further illustrated in the following statement taken from the Visitors Guide to the Middle Schools of Washington Township, "The Middle School facilities have been designed specifically for the changes which the unknown educational future will bring. The buildings will help to create an atmosphere which encourages teachers to be flexible and to adapt and make use of worthwhile education innovation."
high school plan encompassing grades seven, eight, and nine, to the present middle school approach which includes grades six, seven, and eight. When this was done, the most significant organizational change in the middle schools was the introduction of team teaching throughout the buildings. In addition to the significant changes in facilities and organization of the middle schools, there were a variety of program changes introduced at the time the middle schools opened. The major emphasis of the program changes was on the individualization of instruction.

The staffing of the middle schools was taken care of by announcing that middle school staff member applications were being accepted on a voluntary basis from any existing Washington Township faculty member who was interested in applying. Virtually all of the faculty members were able to make their own decision as to whether or not they would become involved in the educational innovations which were being initiated in the middle schools. Approximately two-thirds of the middle school faculty were obtained from the district on this voluntary basis, and the remaining one-third of the middle school staff were teachers new to the system.

Even though the middle schools were organized in September of 1966, the majority of the students were not housed in open-space facilities for two-thirds of the 1966-67 school year. Approximately 425 seventh and eighth grade students entered Hithergreen in November, 1966, but the 225 Hithergreen sixth graders were not moved into the open-space facilities until February 1, 1967. The 650 Tower Heights students were not moved into their new building until March, 1967. As a
result, a relatively small percentage of the teachers were able to become acquainted with the new open-space facilities during the 1966-1967 school year. At the end of the 1966-67 school year, fourteen of the fifty staff members left the middle school for one reason or another. Both building principals, who had started with the middle school staffs at the beginning of the 1966-67 school year, stayed through the 1967-68 school year.

During the summer of 1967 and throughout the 1967-68 school year, the first full year of operation, the middle school staffs had access to $100,000.00 from a Title III Grant of the Elementary and Secondary Education Act (E.S.E.A.). This federal project, entitled "Project Lighthouse: Two Exemplary Middle Schools," provided funds for the following: a month-long summer workshop for the middle school teachers, teacher visitation to other school districts throughout the nation,4 outside consultants during the summer workshop and throughout the school year,5 released time for the teachers, and instructional materials and supplies.

Since the two middle schools were designated as E.S.E.A. Title III exemplary schools, there were many persons from outside the school district who were interested in visiting the schools. During the 1967-68 school year, the teachers in the middle schools were observed by more than 1,800 outside visitors.

4 During the 1967-68 school year, the teachers visited schools in fifteen states from New York to California.

5 From May 1, 1967 to the time of the study (June, 1968), the teachers used the services of forty-one outside consultants.
Information concerning the staffing pattern and student population in the two middle schools at the time of the study are summarized in Table 1. The staff, as reported in Table 1, is composed of classroom teachers (including those in mathematics, science, social science, language arts, unified arts, music, physical education, foreign language, and typing), principals, guidance counselors, librarians, and teacher aides. Secretarial, maintenance, cafeteria, transportation, and custodial personnel are not included in these figures. The part-time classroom teachers included one foreign language and two music teachers.

Selection of the teachers for the study

The selection of the teachers from the middle school staffs for the study was based on the following criteria: (1) the teacher must be on a teaching team which plans together daily, and (2) the teacher must teach within sight of the other team members.

Of the fifty-four teachers in the middle schools, forty-eight teachers met these criteria. The forty-eight teachers represented twelve teaching teams, including twenty-four teachers from each building. Various characteristics of the teaching teams selected for the study are summarized in Table 2. The members of the middle school staffs who did not meet the criteria for selection were as follows: the two physical education teachers, three foreign language teachers,

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6One hundred per cent of the middle school teaching staff who met the criteria for selection participated in the study.
<table>
<thead>
<tr>
<th>School</th>
<th>Students</th>
<th>Full-time Classroom Teachers</th>
<th>Administrators</th>
<th>Guidance Counselors</th>
<th>Part-time Classroom Teachers</th>
<th>Librarians</th>
<th>Teacher Aides</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tower Heights Middle School</td>
<td>670</td>
<td>27</td>
<td>1(^c)</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Hithergreen Middle School</td>
<td>650</td>
<td>27</td>
<td>1(^c)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>

\(^a\)This information was taken from Form 5-A Spring, State Department of Education located in the office of the Director of Special Services.

\(^b\)This information includes all of the certified teaching personnel in the building.

\(^c\)The administrator is the building principal.
### Table 2

**Summary of Information Concerning the Sex, Age, Teaching Experience and Experience in Washington Township of the Members of the Teaching Teams Selected for the Study**

<table>
<thead>
<tr>
<th>Teaching Team</th>
<th>Grade Levels Taught</th>
<th>Number of Teachers</th>
<th>Sex</th>
<th>Age</th>
<th>Teaching Experience</th>
<th>Experience in Washington Twp.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>M</td>
<td>F</td>
<td>20-29</td>
<td>30-39</td>
</tr>
<tr>
<td>Hlthergreen Middle School</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>7,8</td>
<td></td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>English</td>
<td>7,8</td>
<td></td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Social Science</td>
<td>7,8</td>
<td></td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics</td>
<td>7,8</td>
<td></td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unified Arts</td>
<td>6,7,8</td>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Math-Science</td>
<td>6</td>
<td></td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>English-Soc Sc</td>
<td>6</td>
<td></td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Tower Heights Middle School</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>6,7,8</td>
<td></td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>English</td>
<td>6,7,8</td>
<td></td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Social Science</td>
<td>6,7,8</td>
<td></td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Mathematics</td>
<td>6,7,8</td>
<td></td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unified Arts</td>
<td>6,7,8</td>
<td></td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td></td>
<td>35</td>
<td>7</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

This information was taken from the personnel files in the office of the Director of Personnel of the Washington Township School District.

The 1967-68 school year is included; a partial year is counted as a full year.
three music teachers, two typing teachers, and one sixth grade teacher who was being used as an administrative assistant to the principal rather than as a teaching team member.7

The mean age for the forty-eight teachers was 34.37 years with a standard deviation of 12.03 years. The mean number of years of teaching experience was 5.79 years (S.D. = 5.81 years), and the mean tenure in the Washington Township School District was 3.27 years (S.D. = 3.63 years).

Methods of Gathering Data

The investigation was a correlational study with the independent variable being an interaction between a teacher's sense of power and his level of dogmatism. The dependent variable was the teacher's receptivity to the trial of innovation. Since the ex post facto design was used in this study, the existence of a relationship between the variables did not necessarily demonstrate causality.

To test the hypotheses, a set of questionnaires was administered to the forty-eight middle school teachers selected for the study from the Washington Township School District. The investigator administered the questionnaires to the teachers in person. The teachers filled out the questionnaire during the teams' planning periods.8 Each

7These teachers did not plan in teams, nor did they teach within sight of other teachers.

8Two separate planning periods for each teaching team were required to complete the set of questionnaires.
set of questionnaires consisted of the following sections:

(a) the teacher receptivity to the trial of innovation scale

(b) the Rokeach Dogmatism Scale, Form E

(c) the teacher sense of power scales

A summary of the questionnaires which were completed by the forty-eight teachers is given in Table 3. As the teachers completed the questionnaires and turned them in to the investigator, the questionnaires were examined for incompletely items. If such items were found, the teacher was asked to make the completions. Consequently, all of the questionnaires filled out by the teachers were usable. In two cases, one of the team members refused to fill out the questionnaires rating the other team members on the receptivity to the trial of innovation scale. In one of these cases, the size of the team was five members, which meant that each member was rated by at least three other team members. It was felt that the data from the other four team members were sufficient.

In the second case, the size of the team was three members; in this situation, the building principal was asked to fill out the ques-

9 Bridges and Reynolds, "Teacher Receptivity to Change."

10 Rokeach, The Open and Closed Mind.

11 Two sense of power scales were used; one was developed during this study, and the second was developed by Gerald H. Moeller. A description of Moeller's scale is found in Moeller, "Teachers' Sense of Power," pp. 59-74.

12 For the number of questionnaires completed by each teacher, refer to Table 3 on page 75.
## TABLE 3

**SUMMARY OF TEACHER QUESTIONNAIRES USED**

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Type of Response</th>
<th>Number each teacher had to complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Receptivity to Change Scale(^{a})</td>
<td>Teacher responds as to the way each of his team members would react to certain situations</td>
<td>One for each member on the teacher's team(^{b})</td>
</tr>
<tr>
<td>Rokeach Dogmatism Scale, Form (E^{c})</td>
<td>Teacher responds as to his beliefs on certain items</td>
<td>One</td>
</tr>
<tr>
<td>Teacher Sense of Power (Moeller) Scale(^{d})</td>
<td>Teacher responds as to how his own behavior influences certain outcomes in relation to system-wide decision-making</td>
<td>One</td>
</tr>
<tr>
<td>Teacher Sense of Power (Peck) Scale(^{e})</td>
<td>Teacher responds as to how his own behavior influences certain outcomes in his association with the building principal</td>
<td>One</td>
</tr>
</tbody>
</table>

\(^{a}\)The Teacher Receptivity to Change Scale used in the study was a modified form of the scale developed by Edwin M. Bridges and Larry Reynolds. See Bridges and Reynolds, "Teacher Receptivity to Change."

\(^{b}\)The number of scales that the teacher had to complete depended on the number of members on his team.

\(^{c}\)Rokeach, *Open and Closed Mind.*


\(^{e}\)The teacher sense of power (Peck) scale was developed by the investigator during the present study.
tionnaires rating the two team members whom the teacher had refused to rate. By doing this, each member on the team was rated by at least two other persons.

Small slips of paper were stapled to the questionnaires, on which the teachers were asked to place their names. On the Teacher Receptivity to Change Scale, used to rate other team members, two slips of paper were stapled to the questionnaire. The investigator placed the name of the team member who was to be rated on one slip of paper before it was given to the rater. The rater placed his name on the other slip of paper.

The questionnaires were placed in an envelope and the envelope was sealed in the presence of the teacher. The sealed envelope was given to a graduate student from the University of Dayton. The graduate student replaced the teachers' names with numbers and placed the numbers on the questionnaires. He then removed the slips of paper from the questionnaires and sent the questionnaires back to the investigator.13

The three demographic variables presumed to be related to receptivity to change - experience, age, and length of tenure in the school system plus other personal and historical data such as sex, and subject matter taught, were obtained for each teacher from the personnel files in the office of the Director of Personnel of Washington Township School District.

13 The teachers were informed of this procedure before they filled out the questionnaires.
The Measure of Teachers' Sense of Power

In Chapters I and II, the concept of powerlessness and its behavioral significance was discussed. Powerlessness was defined by Seeman as "the expectancy or probability held by the individual that his own behavior cannot determine the occurrence of the outcome, or reinforcement, he seeks."  

In the context of the present study, two references were made to the teacher's sense of power. In the first case, the teacher's sense of power referred to the extent to which the teacher believes he is able to influence the course of events, on a school system-wide basis, which hold significance for him. To measure the teachers' sense of power in this reference, Moeller's sense of power scale was administered to the forty-eight teachers.  

In the second case, the teachers' sense of power referred to the extent to which the teacher believes he is able to influence the course of events within the school building in which he is employed. To measure the teacher's sense of power in this reference, a sense of power scale, which was developed during the investigation, was used.  

Moeller's sense of power scale

Moeller conceived sense of power as a continuum. As he states,  

14 Supra, pp. 13-16, and pp. 43-53.  
16 For a complete description of Moeller's sense of power scale see Moeller, "Teachers' Sense of Power," pp. 59-74.
"At one end are teachers who feel unlimited in the degree to which they can affect school system policy, and at the other end are those who feel totally powerless to influence its direction in any way."17

Moeller prepared a set of Likert-form questionnaire items which were tested on a pilot group of 100 hundred classroom teachers, and subjected to a Guttman scale analysis. Six items with marginal distributions, well distributed over a range between 0.2 and 0.8, and with low error counts, were selected for the final measure.18

The six items constituting the sense of power scale are listed below in order of their difficulty from "easiest" to "hardest."

In the school system where I work, a teacher like myself . . .

a. Believes he has some control over what textbooks will be used in the classrooms.

b. Never has a chance to work on school committees which make important decisions for the school system.

c. Feels he has little to say about important system-wide policies relating to teaching.

d. Feels he does not know what is going on in the upper levels of administration.

e. Usually can find ways to get system-wide policies changed if he feels strongly enough about them.

f. Considers that he has little to say over what teachers will work with him on his job.

Teachers responded to each item by choosing "strongly agree," "agree," "maybe and maybe not," "disagree," or "strongly disagree."


18 Ibid.
For the purpose of scoring, responses were dichotomized so that all respondents who "agreed" or "strongly agreed" with a statement were given a positive value (high sense of power) and those who chose one of the remaining three alternatives were given a negative value (low sense of power). (In items a and e the procedure was reversed; "agree" and "strongly agree" alternatives had the positive value.)

Moeller ran a check on the scalability of the six-item measure among 662 teachers in his main study, selecting 100 of them at random and submitting their responses to scale analysis. The six items were scaled in the same order as before and gave a coefficient of reproducibility of .93, when chance reproducibility would have given .85.

Use of Moeller's scale in the present study

The items from Moeller's scale, in the sequence previously shown, were administered to the forty-eight teachers in the study. The scales were scored in the same manner as described above. In Appendix C Table 2A is found the distribution of teachers as they responded to the sense of power items. As noted on this table, thirty-seven errors from the perfect pattern were found, resulting in a coefficient of reproducibility of 87.3 per cent.

Sense of power scale developed during the study

To measure the teacher's sense of power within the school building in which he teaches, a set of ten Likert-type questionnaire items was prepared as a trial measure of sense of power.

To generate the items for the questionnaire, two graduate students from the University of Dayton taped focused interviews with
seventeen teachers randomly selected from the elementary and middle schools in the Washington Township School District.¹⁹

The interviews were focused around the following two questions:

1. What are the factors in your own school which lead teachers to feel that they have a great deal of control in their own school situations?

2. What are the factors in your own school which lead teachers to feel that they have very little control in their own school situations?

The ten items for the questionnaire were developed from information gained from the tapes. The instructions to the respondents, the set of ten items, and the alternative responses are presented below:

In this questionnaire you will find statements pertaining to possible characteristics and attitudes which a teacher like yourself may have.

For each statement indicate the extent to which you agree or disagree with the statement. In the blanks provided insert the number of comment which best describes how you feel about the statement.

5 = Strongly Agree
4 = Agree
3 = Undecided
2 = Disagree
1 = Strongly Disagree

Please use one of the above numbers for each statement. It is important that we have a response from you for each item.

In this school, a teacher like myself ...........

1. Feels free to experiment with new teaching procedures without consulting the principal beforehand.

¹⁹The seventeen teachers represented ten per cent of the teaching staff of these schools.
2. Finds ways to get the principal to actively try to obtain the needed materials for a new teaching approach which he, the teacher, has initiated.

3. Can determine what he will teach in the classroom.

4. Feels that he does not have to follow suggestions made by the principal.

5. Finds ways to obtain materials and equipment, at the school's expense, for use in a new teaching approach, even if the principal does not favor the new approaches.

6. Feels free to experiment with new teaching procedures even if the principal does not favor the new approaches.

7. Can persuade the principal to give whole-hearted support for new ideas which he, the teacher, has initiated.

8. Can decide what teaching methods he will use in his classroom.

9. Can get the principal to listen to a request to use a new teaching procedure on a trial basis.

10. Feels free to deviate from the prescribed curriculum if he believes it is inappropriate for the kind of student he has.

In order to determine whether these items would provide a cumulative, unidimensional sense of power scale, the set was administered to teachers in four elementary schools and one junior high school in the Forest Hills Local School District. Of the 126 teachers responding, twenty-six respondents were eliminated at random (or where their responses were not complete) to provide a total of 100 responses for

Forest Hills Local School District is located in a suburban area near Cincinnati, Ohio. The student population was 6,200, housed in five elementary schools, one junior high school, and one high school. A graduate student from the University of Dayton took the questionnaires to the principals of the schools which participated in the study. The principals administered the instruments to the teachers and sent them back by mail.
scale analysis. In analyzing the data, responses were dichotomized by assigning positive values (high sense of power) to these responses. Data presented in Table 4 shows the results of this dichotomization.

**TABLE 4**

RESULTS OF THE DICHTOMIZATION OF THE RESPONSES ON SENSE OF POWER (PECK) SCALE

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Positive Value (high sense of power)</th>
<th>Negative Value (low sense of power)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 8, 9, 10</td>
<td>&quot;strongly agree&quot;</td>
<td>&quot;agree,&quot; &quot;undecided,&quot; &quot;disagree,&quot; or &quot;strongly disagree&quot;</td>
</tr>
<tr>
<td>7</td>
<td>&quot;strongly agree,&quot; or &quot;agree&quot;</td>
<td>&quot;undecided,&quot; &quot;disagree,&quot; or &quot;strongly disagree&quot;</td>
</tr>
<tr>
<td>3, 4, 6</td>
<td>&quot;strongly agree,&quot; &quot;agree&quot; or &quot;undecided&quot;</td>
<td>&quot;disagree,&quot; or &quot;strongly disagree&quot;</td>
</tr>
<tr>
<td>5</td>
<td>&quot;strongly agree,&quot; &quot;agree&quot; or &quot;undecided,&quot; or &quot;disagree&quot;</td>
<td>&quot;strongly disagree&quot;</td>
</tr>
</tbody>
</table>

The scalogram board was set up with the 100 respondents comprising the rows, and the ten items, the columns, forming a 1000 cell matrix. In the scaling process, nine items were selected for the final measure whose marginal distribution were well distributed over a range.

The 126 responses represent 81 per cent of the teaching staff in the five schools involved.
between .2 and .8, whose cutting points were separated from one another and whose error counts were low. The nine items constituting the sense of power scale are listed below; ordered from the one receiving the highest number of positive responses to the one having the fewest positive responses.

In this school, a teacher like myself . . . . . . .

Can determine what he will teach in the classroom.

Finds ways to obtain materials and equipment at the school's expense for use in a new teaching approach even if the principal does not favor the new approach.

Can persuade the principal to give whole-hearted support for new ideas which he, the teacher, has initiated.

Feels free to experiment with new teaching procedures even if the principal does not favor the new approaches.

Can decide what teaching methods he will use in his classroom.

Feels that he does not have to follow suggestions made by the principal.

Feels free to deviate from the prescribed curriculum if he believes it is inappropriate for the kind of student he has.

Feels free to experiment with new teaching procedures without consulting the principal beforehand.

Finds ways to get the principal to actively try to obtain the needed materials for a new teaching approach which he, the teacher, has initiated.

Through scaling, and the elimination of one of the items, the coefficient of reproducibility was 86.3 per cent.\textsuperscript{22} The minimal marginal reproducibility coefficient was 66.8 per cent. A cross-validation

\textsuperscript{22} The percentage of errors of reproducing scale patterns is the basic measure of error. The coefficient of reproducibility is the quantity one minus the number of errors divided by the number of item responses.
tion of the unidimensionality of the nine items was made with 100 teachers from three elementary schools and one junior high school located in the Greenhills-Forest Park City School District.23

The teachers' responses were submitted to a scale analysis, and the nine items scaled in the same order as before, providing evidence for the cross-validity measure. As noted in Appendix C, Table 22, 117 errors from the perfect score pattern were found. The coefficient of reproducibility for the quasi-scale of nine items in the verificational study was 87.0 per cent.

The quasi-scale of nine items was finally verified with the forty-eight teachers in the main study. The coefficient of reproducibility in this verificational study was 88.9 per cent. In Appendix C, Table 23 is found the distribution of the forty-eight teachers as they responded to the sense of power items.

Measuring Dogmatism

The concept of dogmatism was discussed in Chapters I and II.24 Dogmatism, as used in the present study, is "the way a person believes and the way he thinks - not only about single issues, but also about

23The Greenhills-Forest Park City School District is located in a suburban area near Cincinnati, Ohio. The student population was 6,400, housed in six elementary schools, one junior high school, and one high school. A graduate student from the University of Dayton took the questionnaires to the principals of the schools which participated in the study. The principals administered the instrument to the teachers and sent them back by mail. One hundred and four teachers responded, representing 90 per cent of the staff in the participating schools. Of the 104 responses, four were eliminated at random (or where the responses were not complete).

24Supra, pp. 4-5, and pp. 36-43.
networks of issues." The important consideration is not what the teachers believe but the way they believe.

The level of dogmatism for each of the forty-eight teachers in the main study was determined by administering the Rokeach Dogmatism Scale, Form E to each teacher. A copy of the questionnaire is included in Appendix D. "Dummy" items were added to the Rokeach Dogmatism Scale, Form E in the development of the questionnaire for the present study.

The responses and scoring key for the dogmatism scale was as follows: "agree very much" - 6 points; "agree on the whole" - 5 points; "agree a little" - 4 points; "disagree a little" - 3 points; "disagree on the whole" - 2 points; and "disagree very much" - 1 point. The teacher's level of dogmatism score was the sum of the responses of all the items minus the "dummy" items. A high score denotes a high level of dogmatism (closed belief system), and a low score denotes a low level of dogmatism (open belief system).

Measuring Teachers' Receptivity to Change

The concept of social change was discussed in Chapters I and II. In the context of the present study, the teacher's receptivity

25Rokeach, The Open and Closed Mind, p. 5.
27Rokeach, The Open and Closed Mind, p. 89.
28The "dummy" items are 1, 3, 6, 8, 10, 12, 14, 18, 20, 22, 25, 29, 31, 37, 41, 43, 47, 52, 56, and 58.
29Supra, pp. 6-7, and pp. 23-36.
to the trial of innovation was the dependent variable. Educational innovation was defined by Miles as "...an educational approach which is a deliberate, novel, specific change which is thought to be more efficacious in accomplishing the goals of the system."^30

In the present study, the teachers' receptivity to the trial of innovation was determined through the use of a scale developed by Bridges and Reynolds.31 The following paragraph describes the development and verification of this scale.

In developing the measure of a teacher's receptivity to the trial of innovation, the investigator generated ten items based on some of the properties of an innovation that Miles maintains are likely to affect its possible trial and continued use. The innovation properties selected for inclusion in the initial instrument were (1) the extent to which the innovation involved a major shift in the person's current teaching procedures, (2) the extent to which the new practice was proven or unproven, and (3) the amount of energy required by the user to implement the innovation. Each of the ten items specified a given property of an innovation for each item respondents were asked to check whether they would (a) initiate a request to use the innovation on a trial basis, (b) respond affirmatively to a request for volunteers to use it on a trial basis, (c) decide to use it on a trial basis if asked, (d) express a desire to stay with the present practice, or (e) be strongly against the use of it on a trial basis. The ten items which were developed to elicit a teacher's receptivity to change were subjected to Scale analysis using data from a trial run with 100 junior high school teachers. The resulting quasi-scale of seven items was later verified with 100 elementary teachers randomly drawn from the final sample. The coefficient of reproducibility for the quasi-scale of seven items in the verificational study was .85 while the minimal


31Bridges and Reynolds, "Teacher Receptivity to Change." A copy of the revised form of the scale is presented in Appendix D.
marginal reproducibility coefficient was .638.32

In the Bridges and Reynolds' scale, described above, the simple behavior-conditions scheme was used. The five behavioral alternatives provided for each item included the following:

a. Initiate a request for permission to use it on a trial basis.

b. Respond affirmately to a request for volunteers to use it on a trial basis.

c. Decide to use it on a trial basis if asked.

d. Express a desire to stay with the present practice.

e. Be strongly against the use of it on a trial basis.

Preceding each of these alternatives were the following statements of the conditions under which the teacher was to report what action she would likely take:

A teacher like myself ..............

1. After considering a new, promising curriculum practice which she hasn't had an opportunity to see in operation is likely to ...

2. After considering a new curriculum whose superiority over the old practices hasn't been demonstrated conclusively in trials elsewhere is likely to ...............................................

3. After considering a new approach to teaching which requires at least one full summer of formal training (at government or district expense) to use well is likely to ...............................................

4. After considering a new curriculum practice which can be used by classroom teachers without disturbing too much what they are currently doing is likely to ...............................................

5. After considering use of a new curriculum practice about which very little is known concerning the consequences of its use is likely to ...............................................

32 Ibid., p. 2.
6. After considering a curriculum change which involves planning and carrying out a major portion of one's classroom activities with other teachers is likely to . . . . . . . . . . . . . .

7. After considering a new, untested curriculum idea which involves a large amount of daily preparation if it is to have any chance of success is likely to . . . . . . . . . . . . . .

8. After considering a curriculum change to which teachers and students in a neighboring district are responding favorably to is likely to . . . . . . . . . . . . . .

9. After considering a new, promising curriculum practice which involves a major shift in her current teaching procedure is likely to . . . . . . . . . . . . . .

10. After considering a new, promising curriculum practice which involves an increase in record keeping and paperwork is likely to . . . . . . . . . . . . . .

The seven items which proved to be scalable, using the Guttman technique, are reported on Table 5. The order of the items from the one receiving the fewest positive responses to the one having the highest number of positive responses is as follows: 7, 2, 6, 9, 10, 4, and 8.33

The use of the Receptivity to Change Scale in the present study

The Bridges and Reynolds' scale was used by the teachers to rate fellow team members. In using the scale for the rating of the reactions of fellow team members, the following procedure was used. The instructions on the questionnaire was modified so that the items and responses would refer to a third person (a team member) rather

33 A description of the procedures used by Bridges in the validation of the Scale is given in Appendix E.
### TABLE 5
RESULTS OF THE DICHOTOMIZATION OF THE RESPONSES ON RECEP TIVITY TO CHANGE SCALE

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Positive Value (high receptivity)</th>
<th>Negative Value (low receptivity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2, 4, 6, 7, 9</td>
<td>&quot;Initiate a request for permission to use it on a trial basis,&quot; or &quot;Respond affirmatively to a request for volunteers to use it on a trial basis&quot;</td>
<td>&quot;Decide to use it on a trial basis if asked,&quot; &quot;Express a desire to stay with a present practice,&quot; or &quot;Be strongly against the use of it on a trial basis&quot;</td>
</tr>
<tr>
<td>8, 10</td>
<td>&quot;Initiate a request for permission to use it on a trial basis,&quot; &quot;Respond affirmatively to a request for volunteers to use it on a trial basis,&quot; or &quot;Decide to use it on a trial basis if asked&quot;</td>
<td>&quot;Express a desire to stay with a present practice,&quot; or &quot;Be strongly against the use of it on a trial basis&quot;</td>
</tr>
</tbody>
</table>

than a self-reference. The instructions in this case read as follows:

For the past school year you have had the opportunity to plan and work very closely with the other members on your teaching team. On the blue slip of paper in the upper right hand corner of this page is the name of one of your team members.

For each of the following statements indicate by means of a check (✓) the one action from among the choices a through e that a teacher like the above named person would likely take. (Use as a criteria, your experience with him/her throughout this past school year. This is in no way an evaluation of this teacher. No school personnel will see any of the names involved.

Remember to indicate but one action from the above choices (a through e) for each of the following statements:
As explained in the instructions, the respondent reacted to the items, giving his perceptions as to how his fellow team member would behave in the conditions called for on the item. The responses were made based on the behavior of the team member throughout the school year which was ending at the time of the study (the 1967-68 school year).\(^3^4\)

Each teacher on a teaching team responded on separate receptivity scales for each of his fellow team members. Data included in Figure 6 illustrates how this procedure would function on a four-member team. As illustrated in this figure, the teacher's receptivity to change score was determined by calculating the mean of the rating scores by his team members.

In analyzing the data, the responses were dichotomized in the same manner used by Bridges and Reynolds.\(^3^5\)

One hundred questionnaires were selected at random to check the scalability of the items. As noted in Appendix C Table 25, the coefficient of reproducibility was 85.2 per cent.

A Pearson Product-moment Coefficient of Correlation analysis

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\(^3^4\)Since the team members planned together daily, and taught within sight of one another, there was ample opportunity to gain adequate perception of fellow team members' behavior.

\(^3^5\)See supra, p. 89; In the scaling process, two questionnaires were removed due to invalid response patterns. But, even with the removal of these questionnaires, each teacher was rated by at least two team members.
Fig. 6. -- An illustration of how the Mean Receptivity to change scores were determined for the members of a four-member teaching team.

was made to determine inter-rater reliability. In calculating the Pearson Correlation, two raters for each member rated was selected at

random from each of the teams. The coefficient of correlation was .22, signifying very little correlation between the team members' rating of another team member.

**Teachers' personal characteristics**

Unique to each teacher were characteristics of sex, age, experience, and length of tenure in the school system. These variables were analyzed for disproportionality between teachers with high and low receptivity to change to determine whether it was an interaction of dogmatism and sense of power or other personal characteristics which influenced receptivity to change.

**Coding and transformation of data**

The data from the questionnaires were transformed to I.B.M. cards. This function had been preceded by the establishment of a numerical code which was used to transfer the raw data to tabulating sheets. The forty-eight sheets were checked twice by the investigator and once by a second person. Data on the tabulating sheets were key punched into the I.B.M. cards and verified by the Service Bureau Corporation.

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37 This procedure was suggested by Dr. Paul Kleine, Associate Professor of Education at the University of Chicago. These suggestions were made in a discussion between the investigator and Dr. Kleine in November, 1968.

38 It appears that the determination of a person's receptivity to change through observing his past behavior may be somewhat ambiguous. Even though there is discrepancy between the raters' rating of a fellow team member, the investigator felt that the mean of these scores indicates as realistic a determination of perceived receptivity to change as such an approach can make.
CHAPTER IV

PRESENTATION AND ANALYSIS OF FINDINGS

In this chapter are presented the analyses of data in testing the major and minor hypotheses. More specifically, the task was to determine whether dogmatism and teachers' sense of power is associated with teachers' receptivity to the trial of innovation (i.e., receptivity to change). The major hypotheses predicted an interaction between dogmatism and teachers' sense of power in relation to receptivity to change. The minor hypotheses postulated a linear relationship between the independent variables, dogmatism and sense of power, and the dependent measure of receptivity to change.

A preliminary correlational analysis of all the variables was undertaken. These results indicated sizeable correlations between the dependent variable and the independent variable, and also, such variables as age, total experience and tenure in the school district. The complete correlation matrix is presented in Appendix A, Table 18. The hypotheses were tested by means of the analysis of variance technique. An analysis of covariance was then conducted to determine whether the hypotheses remained supported upon removing the variance attributable to age and years of teaching experience.
General findings: description of study group

Data presented in Table 6 presents the means for all the variables in the study. As shown in the table, the mean age of the teachers in the study group was 34.38 years, with an average of 3.27 years of tenure in the school system. In general, the staff was relatively new to the system. The mean dogmatism score was 118.81 (S.D. = 15.56).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>N</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score on Dogmatism Scale</td>
<td>118.81</td>
<td>48</td>
<td>15.16</td>
</tr>
<tr>
<td>Score on Sense of Power (Peck) Scale</td>
<td>4.69</td>
<td>48</td>
<td>2.19</td>
</tr>
<tr>
<td>Score on Sense of Power (Moeller) Scale</td>
<td>4.35</td>
<td>48</td>
<td>1.45</td>
</tr>
<tr>
<td>Age of Teachers (in years)</td>
<td>34.38</td>
<td>48</td>
<td>12.03</td>
</tr>
<tr>
<td>Total Years of Teaching Experience</td>
<td>5.79</td>
<td>48</td>
<td>5.81</td>
</tr>
<tr>
<td>Years of Tenure in School System</td>
<td>3.27</td>
<td>48</td>
<td>3.64</td>
</tr>
<tr>
<td>Score on Receptivity to Change Scale</td>
<td>46.88</td>
<td>48</td>
<td>15.16</td>
</tr>
</tbody>
</table>

The present sample could be compared with other samples reported in the literature. Rokeach tested the reliability of the Dogmatism Scale, Form E with a group of students at Ohio State University and reported a mean of 141.3, with a S.D. of 28.2.¹

¹Rokeach, Open and Closed Mind, p. 90.
the median dogmatism score for the teachers was 129.5.\textsuperscript{2} It appears that the present study represents a population of teachers who would be considered markedly less dogmatic than the other studies reported here.

The mean of 4.69 (S.D. = 2.19) on the sense of power (Peck) scale compares to means of 3.85 (S.D. = 2.23) and 4.49 (S.D. = 2.58) for the two school systems which participated in the verification of the instrument.\textsuperscript{3} This indicates that, in general, the teachers in the study group have a somewhat high sense of power in their relationship to the building principal than the teachers in the two sample school districts. On the sense of power (Moeller) scale, measuring the teachers' sense of power in relation to system-wide decision-making, the teachers in the study group had a mean of 4.35 (S.D. = 1.45). Using this scale, Moeller found that the highest mean score for any one school was 3.9.\textsuperscript{4} The teachers in the study group appear also to have a higher sense of power in relation to school system-wide decision making than other schools which have been tested with the scale.

The mean score on the Teacher Receptivity to Change Scale for the study group was 46.88 (S.D. = 15.16). The investigator knows of

\begin{itemize}
  \item \textsuperscript{2}Bridges and Reynolds, "Teacher Receptivity to Change." These figures were obtained from Dr. Bridges in a telephone conversation.
  \item \textsuperscript{3}These school systems are described in an earlier chapter, see supra, pp. 81 and 84.
  \item \textsuperscript{4}Moeller, "Teachers' Sense of Power," p. 157; for the "high bureaucratic" schools, the mean was 3.37 and for the "low bureaucratic" schools, the mean was 2.56.
\end{itemize}
no other study which has used this scale in the same manner it was
used in the present study, so no comparisons can be made at this time
on how the study group ranks with other districts on receptivity to
change as perceived by others. Although it was not a part of the pre­
sent study, the teachers in the study were requested to complete self­
perceptions on the Teacher Receptivity to Change Scale. The mean for
the study group on this scale was 55.42 (S.D. = 16.24). This compares
with a mean of 38.7 (S.D. = 21.3) found by Bridges and Reynolds in
their study on teachers' receptivity to change. This indicates that,
in general, the teachers in the study group are more receptive to
change than other teachers who have responded to the scale.

In summary, although the above comparisons are quite gross and
not statistically significant, the study group appears to be somewhat
unique from teachers in other sample schools. They appear to be less
dogmatic, less alienated, and more receptive to change than the
teachers with whom the comparisons were made. These findings are
understandable in light of the social setting in which the study was
conducted. The two schools from which the study group was selected
have highly innovative designs in which innovative instructional pro­
grams were being initiated. Since the teachers had volunteered to
participate in these programs, one would expect the resulting staffs
would be somewhat unique, especially in relation to dogmatism and
receptivity to change.

5Bridges and Reynolds, "Teacher Receptivity to Change;" These
figures were obtained from Dr. Bridges in a telephone conversation.
The Relationship of Sense of Power and Dogmatism to Receptivity to Change

To test the hypotheses concerning the effect of dogmatism, sense of power, and dogmatism x sense of power interaction on teacher receptivity to change, the data were analyzed by analysis of variance. The results of the three way analysis of variance are reported in data included in Table 7.

### Table 7

**Sources of Variance in Analysis of Receptivity to Change Scores**

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score on Dogmatism Scale (A)</td>
<td>1</td>
<td>85.33</td>
<td>0.41</td>
</tr>
<tr>
<td>Score on Sense of Power (Peck) Scale (B)</td>
<td>1</td>
<td>897.61</td>
<td>4.26&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Score on Sense of Power (Moeller) Scale (C)</td>
<td>1</td>
<td>623.70</td>
<td>2.96&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>A x B</td>
<td>1</td>
<td>465.81</td>
<td>2.21</td>
</tr>
<tr>
<td>A x C</td>
<td>1</td>
<td>10.90</td>
<td>0.05</td>
</tr>
<tr>
<td>B x C</td>
<td>1</td>
<td>218.04</td>
<td>1.04</td>
</tr>
<tr>
<td>A x B x C</td>
<td>1</td>
<td>72.81</td>
<td>0.35</td>
</tr>
<tr>
<td>Error</td>
<td>41</td>
<td>208.06</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>Scores split at the median  
<sup>b</sup>P < .10  
<sup>c</sup>P < .05
These relationships were then assessed by analysis of covariance procedures, with the effect of age and years of teaching experience held constant. In the regression analysis, age was eliminated first. The data in Table 8 reports the results of the three-way analysis of covariance with one covariate (age) eliminated.

TABLE 8
SOURCES OF VARIANCE IN ANALYSIS OF RECEPTIVITY TO CHANGE SCORES WITH AGE HELD CONSTANT

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>Sourcea</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Score on Receptivity to Change Scale)</td>
<td>Score on Dogmatism Scale (A)</td>
<td>1</td>
<td>169.38</td>
<td>.96</td>
</tr>
<tr>
<td></td>
<td>Score on Sense of Power (Peck) Scale (B)</td>
<td>1</td>
<td>568.75</td>
<td>3.21b</td>
</tr>
<tr>
<td></td>
<td>Score on Sense of Power (Moeller) Scale (C)</td>
<td>1</td>
<td>648.93</td>
<td>3.66c</td>
</tr>
<tr>
<td></td>
<td>A x B</td>
<td>1</td>
<td>667.62</td>
<td>3.76d</td>
</tr>
<tr>
<td></td>
<td>A x C</td>
<td>1</td>
<td>113.68</td>
<td>.64</td>
</tr>
<tr>
<td></td>
<td>B x C</td>
<td>1</td>
<td>300.55</td>
<td>1.69</td>
</tr>
<tr>
<td></td>
<td>A x B x C</td>
<td>1</td>
<td>22.50</td>
<td>.13</td>
</tr>
<tr>
<td></td>
<td>Error</td>
<td>41</td>
<td>173.08</td>
<td></td>
</tr>
</tbody>
</table>

aScores split at the median
bP< .09
cP< .07
dP< .06

The second covariate to be eliminated in the regression analysis was years of teaching experience. The data in Table 9 reports
the results of the three-way analysis of covariance with two covariates (age and experience) eliminated.

TABLE 9
SOURCES OF VARIANCE IN ANALYSIS OF RECEPTIVITY TO CHANGE SCORES WITH AGE AND YEARS OF EXPERIENCE HELD CONSTANT

<table>
<thead>
<tr>
<th>Source*</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score on Dogmatism Scale (A)</td>
<td>1</td>
<td>167.90</td>
<td>.92</td>
</tr>
<tr>
<td>Score on Sense of Power (Peck) Scale (B)</td>
<td>1</td>
<td>577.61</td>
<td>3.18b</td>
</tr>
<tr>
<td>Score on Sense of Power (Moeller) Scale (C)</td>
<td>1</td>
<td>635.45</td>
<td>3.50c</td>
</tr>
<tr>
<td>A x B</td>
<td>1</td>
<td>685.89</td>
<td>3.78d</td>
</tr>
<tr>
<td>A x C</td>
<td>1</td>
<td>122.23</td>
<td>.67</td>
</tr>
<tr>
<td>B x C</td>
<td>1</td>
<td>309.56</td>
<td>1.71</td>
</tr>
<tr>
<td>A x B x C</td>
<td>1</td>
<td>20.90</td>
<td>.12</td>
</tr>
<tr>
<td>Error</td>
<td>41</td>
<td>174.17</td>
<td></td>
</tr>
</tbody>
</table>

*Scores split at the median

\[ p < .09 \]

\[ p < .07 \]

\[ p < .06 \]

The relationship of receptivity to change to a sense of power (Peck) x dogmatism interaction

The major hypothesis, predicting a relationship between receptivity to change and a sense of power (Peck) x dogmatism interaction, did not reach significance in the analysis of variance as evidenced by
an F ratio of 2.21, (P < .145; see Table 7). In the analysis of covariance, with the effect of age and years of experience held constant (see Table 9), the relationship more closely approached significance as evidenced by an F ratio of 3.78, (P < .059) but the level of significance was not sufficient to reject the null hypothesis.

These results suggest that there is a tendency toward a relationship between the teachers' receptivity to change and an interaction of dogmatism with the teachers' sense of power in their association with the building principal. The tendency toward an existant interaction is further illustrated in Table 10 which includes data presenting the mean scores on receptivity to change among high and low dogmatic teachers with high and low sense of power (Peck).

**TABLE 10**

**MEAN SCORES ON TEACHER RECEPTIVITY TO CHANGE SCALE AMONG HIGH DOGMATIC AND LOW DOGMATIC TEACHERS WITH HIGH AND LOW SENSE OF POWER IN THEIR RELATIONSHIP TO THE BUILDING PRINCIPAL**

<table>
<thead>
<tr>
<th>Sense of Power (Peck)</th>
<th>Low Dogmatism</th>
<th>High Dogmatism</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Change Score</td>
<td>N</td>
</tr>
<tr>
<td>High</td>
<td>58.00 a</td>
<td>10</td>
</tr>
<tr>
<td>Low</td>
<td>41.21 a</td>
<td>14</td>
</tr>
<tr>
<td>Difference</td>
<td>16.79</td>
<td></td>
</tr>
</tbody>
</table>

*aMean score on Teacher Receptivity to Change Scale*
These data reveal a tendency toward an interaction rather than an additive effect in that, for the high dogmatic teachers, the differences in receptivity to change scores between the high and low sense of power teachers were very small: the difference in means is .75. But, low dogmatism tends to distinguish more clearly the change scores of sense of power subgroups: the difference in means is 16.79. The teachers who have a high sense of power were considerably more receptive (than the low power teachers) to change for the low dogmatic teachers.

One possible interpretation of these results is that the open-minded teacher, who perceives that he has the power to implement an innovation which he initiates in the school, will be more receptive to trying innovations in the future. On the other hand, if the same teacher perceived that he did not have the power to implement changes which he initiates, he would be reluctant to trying out new ideas, even though he was "open" to the new ideas.

In the case of the close-minded teacher, it appears that his belief system is the strong influencing factor; so that his sense of power in his relationship to the building principal seems to neither diminish nor enhance his receptivity to the trial of innovation.

These results suggest that the degree of alienation (sense of powerlessness) resulting in a particular situation will activate different beliefs and attitudes in persons who vary in the structure of
their belief system.\(^{6}\)

Beyond such a general (and post-factum) interpretation, it is difficult to choose among competing interpretations of the process that may produce these differences. It may be that, since the schools in which the study took place encourage the trial of innovation, the high receptivity to change of the teachers could contribute to their high sense of power. But, if this were the case, it seems that it would also be true for the highly dogmatic teachers. As indicated in Table 10, for the highly dogmatic teachers, there was little difference in the mean receptivity to change scores between the high and low power teachers.

The relationship of receptivity to change to a sense of power (Moeller) x dogmatism interaction

The major hypothesis, predicting a relationship between receptivity to change and an interaction of dogmatism with the teachers' sense of power in school system-wide policy-making, did not reach significance in the analysis of variance as evidenced by an F ratio of 2.21, \(P<.82;\) see Table 7). Although the analysis of covariance, with the effect of age and years of teaching experience held constant, resulted in an F ratio of 122.23, \(P<.42;\) see Table 9), the null hypotheses must be accepted.

Data presented in Table 11 includes the receptivity to change

\(^{6}\) This phenomenon was also suggested by Rokeach; see Rokeach, Beliefs, Attitudes and Values, p. 146.
TABLE 11

MEAN SCORES ON TEACHER RECEPTIVITY TO CHANGE SCALE
AMONG HIGH DOGMATIC AND LOW DOGMATIC TEACHERS
WITH HIGH AND LOW SENSE OF POWER IN SYSTEM-WIDE DECISION-MAKING

<table>
<thead>
<tr>
<th>Sense of Power (Moeller)</th>
<th>Mean Change Score</th>
<th>N</th>
<th>Mean Change Score</th>
<th>N</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>54.08a</td>
<td>12</td>
<td>48.83a</td>
<td>12</td>
<td>5.25</td>
</tr>
<tr>
<td>Low</td>
<td>42.33a</td>
<td>12</td>
<td>46.16a</td>
<td>12</td>
<td>-3.83</td>
</tr>
<tr>
<td>Difference</td>
<td>11.75</td>
<td></td>
<td>2.67</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

aMean score on Teacher Receptivity to Change Scale

scores among the high and low sense of power (Moeller) teachers with high and low dogmatism. Although the data shown in Table 11 are not statistically significant (P < .42), the similarity of these results with the results reported in Table 10 should be noted. This is especially noteworthy in light of the fact that the coefficient of correlation for the Moeller and Peck sense of power scales was .177, suggesting that these scales were measuring essentially two different aspects of sense of power. The data from both tables reveal that the highest mean receptivity to change score was obtained by the teachers who were less dogmatic and less alienated. These data also suggest that the relationship of the teachers' sense of power and level of dogmatism with their receptivity to change is due to a sense of power x dogmatism interaction rather than an additive effect.

In comparing the results shown in Table 10 with those in
Table 11, it appears that the effect of the teachers' sense of power in their association to the principal may more strongly activate different beliefs and attitudes in the teachers who vary in the structure of their belief systems, than does the teachers' sense of power over school system-wide policy-making. This interpretation gains support from the results which show that the linear relationship of the teachers' sense of power (Moeller) to teachers' receptivity to change is statistically similar to the relationship between the teachers' sense of power (Peck) and their receptivity to change. When dogmatism is added as a second independent variable the statistical similarity of the two sense of power measures disappears (see Table 9). These results are more fully discussed in a later section.

If the above interpretation is valid, it may better explain Lippit's et al. findings. They found that the teachers who felt that the principal had little influence on their teaching style were more likely to innovate, but these investigators concluded that the principal's support for innovation is crucial. A partial explanation for this could be that the influence of the principal on teachers' trial of innovations is determined to some extent by the degree to which this influence activates different beliefs and attitudes in teachers

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7See infra, pp. 110-111.


9Ibid.
who vary in the structure of their belief systems. In lieu of the post factum nature of the study and the relatively small differences in the mean receptivity to change scores among the various sense of power and dogmatism groups, the investigator does not feel that a more specific interpretation of the results can be made.

The relationship of receptivity to change to dogmatism

The first minor hypothesis, predicting a negative relationship between receptivity to change and dogmatism did not reach significance in the analysis of variance as evidenced by an F ratio of .41, \( P < .53; \) see Table 7). The analysis of covariance, with the effect of age and years of teaching experience held constant, resulted in an F ratio of .92, \( P < .34; \) see Table 9). In light of these results, the null hypothesis is accepted. The mean scores on teachers' receptivity to change for high and low dogmatism teachers are presented in data reported in Table 12.

**TABLE 12**

**MEAN SCORES ON TEACHER RECEPTIVITY TO CHANGE SCALE BETWEEN HIGH AND LOW DOGMATIC TEACHERS**

<table>
<thead>
<tr>
<th>Low Dogmatism</th>
<th>High Dogmatism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Change Score N</td>
<td>Mean Change Score N Difference</td>
</tr>
<tr>
<td>48.21(^{a}) 24</td>
<td>45.54(^{a}) 24 2.67</td>
</tr>
</tbody>
</table>

\(^{a}\) Mean score on Teacher Receptivity to Change Scale
The data reported in Table 12 appears to be in contradiction with the results reported by Bridges and Reynolds in a study involving a large heterogeneous sample of teachers from a wide range of school districts.\textsuperscript{10} In this study, the investigators found a significant negative relationship between teachers' receptivity to change and dogmatism. A possible explanation for this apparent contradiction might be found in the results obtained by Jamias and Troldahl in their study concerning the frequency of adoption of recommended agricultural practices.\textsuperscript{11} In their study, Jamias and Troldahl found very little difference in the mean adoption rate by high and low dogmatic groups living in social systems having a high "value for innovativeness." But, in social systems having a low "value for innovativeness," the low dogmatic groups more frequently adopt recommendations of agriculture extension agents, than do the highly dogmatic groups. They interpret these findings by suggesting that behavioral changes in highly dogmatic persons are the result of compliance or identification with social norms. A similar interpretation could be made for the results reported in Table 12. The lack of a statistically significant negative relationship between teachers' receptivity to change and dogmatism may be due to the high "value for innovativeness" held by the social system in which the present study was conducted. Again,

\textsuperscript{10} Bridges and Reynolds, "Teacher Receptivity to Change;" see \textit{supra}, pp. 59-60.

\textsuperscript{11} Jamias and Troldahl, "General Innovativeness;" see \textit{supra}, pp. 58-59.
Rokeach explains this phenomenon by suggesting that the norms of the social system activates different beliefs and attitudes in persons who vary in the structure of their belief systems.\textsuperscript{12} If the present study were repeated in a school system which had a low "value for innovativeness," it is very possible that the results would show a significant negative relationship between teachers' receptivity to change and dogmatism.

The relationship of receptivity to change to sense of power (Peck)

The second minor hypothesis, predicting a positive relationship between receptivity to change and teachers' sense of power in their association with the building principal was significant in the analysis of variance, as evidenced by an F ratio of 4.26, (P < .045; see Table 7, page 97). The analysis of covariance with age and years of experience held constant, resulted in an F ratio of 3.18, (P < .083; see Table 9, page 99). This did not reduce the level of significance sufficiently to discard the significant positive relationship; therefore, the null hypothesis corresponding to the second minor hypothesis was rejected. The mean receptivity to change scores between teachers with high and low sense of power in their association with the building principal are reported in data included in Table 13.

\textsuperscript{12}Rokeach, Beliefs, Attitudes and Values, p. 146.
TABLE 13

MEAN SCORES ON TEACHER RECEPTIVITY TO CHANGE SCALE
BETWEEN HIGH AND LOW SENSE OF POWER (PECK)
TEACHERS

<table>
<thead>
<tr>
<th>Low Sense of Power</th>
<th>High Sense of Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Change Score</td>
<td>Mean Change Score</td>
</tr>
<tr>
<td>42.83&lt;sup&gt;a&lt;/sup&gt;</td>
<td>50.92&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>N 24</td>
<td>N 24</td>
</tr>
<tr>
<td>Difference</td>
<td>-8.09</td>
</tr>
</tbody>
</table>

<sup>a</sup>Mean score on Teacher Receptivity to Change Scale

Although the receptivity to change scores for the high and low sense of power teachers vary significantly (P<.05), the actual difference in mean scores appears to be quite small. As is shown in Table 13, the mean receptivity to change score for the high sense of power teachers was 50.92, compared to a mean of 42.83 for the low sense of power teachers. These data are more fully discussed below.

The relationship of receptivity to change to sense of power (Moeller)

The third minor hypothesis, predicting a positive relationship between receptivity to change and the teachers' sense of power over school system-wide policy-making does not reach significance in the analysis of variance, as evidenced by an F ratio of 2.96 (P<.093; see Table 7, page 97).

When the data are subjected to an analysis of covariance with age and years of experience held constant, it resulted in an F ratio of 3.50, (P<.069; see Table 9, page 99). Although this figure
approaches significance, it is not sufficient to reject the null hypothesis corresponding to the third minor hypothesis. The mean receptivity to change scores between teachers with high and low sense of power over school system-wide policy-making are reported in data included in Table 14.

**TABLE 14**

**MEAN SCORES ON TEACHER RECEPTIVITY TO CHANGE SCALE BETWEEN HIGH AND LOW SENSE OF POWER (MOELLER) TEACHERS**

<table>
<thead>
<tr>
<th>Low Sense of Power</th>
<th>High Sense of Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Change Score</td>
<td>Mean Change Score</td>
</tr>
<tr>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Difference</td>
<td>Difference</td>
</tr>
</tbody>
</table>

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>42.29\textsuperscript{a}</td>
<td>51.45\textsuperscript{a}</td>
<td>-9.16</td>
</tr>
<tr>
<td>24</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>

\textsuperscript{a}Mean score on Teacher Receptivity to Change Scale

The data reported in Table 14 are similar to the results reported in Table 13, again revealing that the teachers' sense of power (Peck) and sense of power (Moeller) have similar positive relationships to teachers' receptivity to change. Since the two sense of power scales appear to be measuring essentially different aspects of alienation, indicated by a coefficient of correlation of .177, one would predict that when the scores on the two scales were combined, the results would reveal an additive effect in their relationship to the teachers' receptivity to change scores. The tendency toward this additive is supported by the data reported in Table 15, in which are included, the mean scores on the Teacher Receptivity to Change Scale
among high and low sense of power (Peck) teachers with high and low sense of power (Moeller) teachers.

### TABLE 15

<table>
<thead>
<tr>
<th>Sense of Power (Moeller)</th>
<th>Mean Change Score</th>
<th>N</th>
<th>Mean Change Score</th>
<th>N</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>47.77&lt;sup&gt;a&lt;/sup&gt;</td>
<td>9</td>
<td>52.80&lt;sup&gt;a&lt;/sup&gt;</td>
<td>15</td>
<td>-5.03</td>
</tr>
<tr>
<td>High</td>
<td>39.00&lt;sup&gt;a&lt;/sup&gt;</td>
<td>15</td>
<td>49.22&lt;sup&gt;a&lt;/sup&gt;</td>
<td>9</td>
<td>-10.22</td>
</tr>
</tbody>
</table>

<sup>a</sup>Mean score on Teacher Receptivity to Change Scale.

The data in Table 15 reveal a tendency toward an additive effect rather than an interaction, in that the mean receptivity to change score is the lowest (39.00) for the teachers with low scores on both sense of power scales, and the mean receptivity to change score is the highest (52.80) for the teachers with high scores on both sense of power scales.

A summary of the relationship of receptivity to change to teachers' sense of power

The results from the use of both sense of power scales, taken separately and/or together appear to reinforce the findings made by Barakat in a study involving teachers in three school systems in
In this study, Barakat found that non-alienated and mildly alienated teachers tended to act upon the system by innovation and adoption of significant teaching practices; highly alienated teachers tended to retreat from the system by non-adoption or deciding to quit.

Although the findings of the present study indicated a tendency toward a negative relationship between teacher alienation and their receptivity to change, the differences in the mean receptivity to change scale score between the high and low sense of power teachers were not large. A possible explanation for these small differences is that teacher alienation may have to be quite extreme before there is an appreciable negative relationship between alienation and receptivity to change.

The norms of the social system may also be an influencing factor in the relationship of teacher alienation and receptivity to change. It is possible that in a school or school system, which has a low "value for innovativeness," the results may prove to be different. In such a social system, it may be the high sense of power teachers who are the least receptive to the trial of innovation.

Related results

The correlational analysis revealed a relatively high negative coefficient of correlation (-.356) between age and teachers' recepti-

13Barakat, "Alienation from the School System;" see supra, p. 53.
vity to change scores. There is some evidence from a study by Ryans that older teachers are more conservative in their concepts of teaching.\(^{14}\) In another study, Lippitt et al. found that, in general, older teachers tend to be potential adopters more than do younger teachers; but younger teachers seem to be more innovative.\(^{15}\) Bridges and Reynolds were somewhat surprised to find no significant relationship between age and receptivity to change scores for the teachers in their study.\(^{16}\)

In the present study, age was the first covariate to be eliminated in the analysis of covariance. The step-wise regression to analyze the contribution of the age variable revealed that age contributed significantly, as evidenced by an F ratio of 8.49, (\(P < .006\)).

For a clearer look at the relationship of age to receptivity to change, the mean scores on receptivity to change among various age categories of teachers are included in the data reported in Table 16.

As shown in Table 16 there appears to have been a general trend toward a decrease in the mean receptivity to change scores as the teachers' ages increased. An exception in this trend was for the teachers in the 31-40 age category. The teachers in this category had the highest mean receptivity to change score (59.63).


\(^{15}\)Lippitt, et al., "The Teacher as Innovator," p. 323.

\(^{16}\)Bridges and Reynolds, "Teacher Receptivity to Change."
**TABLE 16**

**MEAN SCORES ON TEACHER RECEPTIVITY TO CHANGE SCALE
AMONG VARIOUS AGE CATEGORIES OF TEACHERS**

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Mean Change Scorea</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-25</td>
<td>49.31</td>
<td>13</td>
</tr>
<tr>
<td>26-30</td>
<td>47.93</td>
<td>14</td>
</tr>
<tr>
<td>31-40</td>
<td>59.63</td>
<td>8</td>
</tr>
<tr>
<td>41-50</td>
<td>38.71</td>
<td>7</td>
</tr>
<tr>
<td>50-over</td>
<td>31.67</td>
<td>6</td>
</tr>
</tbody>
</table>

aMean score on Teacher Receptivity to Change Scale.

This was 10.32 points above the mean change score for the teachers in the youngest age category and 27.96 points above the mean change score for the teachers in the oldest age category.

In the correlational analysis, it was found that two other variables revealed rather high negative coefficient of correlations with the dependent variable - the teachers' receptivity to the trial of innovation. These variables were years of teaching experience ($r = .318$) and tenure in the school system ($r = .318$). Years of teaching experience was the second covariate to be eliminated (after age was eliminated) in the analysis of covariance. Due to the high positive correlation between age and years of teaching experience ($r = .761$), most of the contribution of years of experience had already been eliminated in the step-wise regression through the elimination of the age variable first. This is evidenced by an $F$ ratio of .10, ($p < .75$) for the years of experience covariate. For a
clearer understanding of the relationship of years of experience to receptivity to change, data including the mean scores on receptivity to change among teachers with various years of teaching experience are reported in Table 17.

**TABLE 17**

**MEAN SCORES ON TEACHER RECEPTIVITY TO CHANGE SCALE AMONG TEACHERS WITH VARIOUS YEARS OF TEACHING EXPERIENCE**

<table>
<thead>
<tr>
<th>Teaching Experience (years)</th>
<th>Mean Change Score</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>45.56</td>
<td>9</td>
</tr>
<tr>
<td>2-3</td>
<td>55.13</td>
<td>15</td>
</tr>
<tr>
<td>4-9</td>
<td>44.94</td>
<td>16</td>
</tr>
<tr>
<td>10-over</td>
<td>36.75</td>
<td>8</td>
</tr>
</tbody>
</table>

*Mean score on Teacher Receptivity to Change Scale*

As indicated in Table 17, the teachers with two to three years of teaching experience appeared to be more receptive to change (with a mean change score of 55.13) than the teachers in the other categories representing years of teaching experience. The teachers with ten or more years of teaching experience were the least receptive to change.

In observing the data in Tables 16 and 17, it should be noted that it was neither the youngest nor the first year teachers who were the most receptive to the trial of innovation. This could be explained, in part, by the findings of Blau who contends that the less secure an agent's knowledge of existing procedures the greater is his
resistance to changes in them.\textsuperscript{17}

It may take a teacher a year or so in a school to know the procedures well enough to gain the security to initiate changes. Again, the norms of the social system may be an influencing factor upon these results; therefore, the results could prove to be quite different in a school or school system with a low "value for innovativeness."

\textsuperscript{17}Blau, \textit{Dynamics of Bureaucracy}, p. 199.
The purpose of this study has been to investigate certain social-psychological factors which are associated with teachers' receptivity to the trial of innovation. The variables studied were taken from the concepts developed by Milton Rokeach (i.e., the DOGMA-TISM-BEHAVIOR sequence), and Melvin Seeman (i.e., the STRUCTURE-ALIENATION-BEHAVIOR sequence). The focus of the present study was generated through an integration of these concepts. The BEHAVIOR under study was the teachers' receptivity to change, the ALIENATION component was in the form of the teachers' sense of power (powerlessness), and the STRUCTURE component was two highly innovative middle schools in one school district.

The Problem

The problem as defined in this study was to discover whether there is a relationship between a single factor, the receptivity of the Washington Township middle school teachers to the trial of innovation and an interaction of two factors, the teachers' sense of power and their level of dogmatism.
The Method

A correlational study was conducted with forty-eight teachers from two highly innovative middle schools. An interaction between the teachers' sense of power and their level of dogmatism constituted the independent variable. The measurement of the teachers' level of dogmatism was based on scores made on Rokeach's Dogmatism Scale, Form E. In order to measure the teachers' sense of power over school system-wide policy making, the teachers filled out Moeller's sense of power scale.

The measurement of teachers' sense of power in their association with the building principal was based upon an operational definition of powerlessness which, in this context, is the sensed inability of individual teachers to control outcomes in the social environment of their school building. Items eliciting this attitude were subjected to scale analysis using data from two trial runs with 100 teachers from two other school systems and the respondents in the final sample. The resulting scale was found to order teachers on a unidimensional continuum, interpreted to represent the degree of power they felt they had in their schools. This sense of power scale was referred to as the sense of power (Peck) scale to distinguish it from the sense of power (Moeller) scale. To determine the sense of power (Peck) x dogmatism interaction, the scores from these scales were split at the median. This resulted in four cells. The same procedure was used to determine the sense of power (Moeller) x dogmatism interaction.
The dependent variable, the teachers' receptivity to the trial of innovation, was determined by having each member on a teaching team individually rate each of his fellow team members as to how receptive the team member is to the trial of innovation. These ratings were made on a modified form of Bridges and Reynolds' Teacher Receptivity to Change Scale. The change score for an individual teacher was determined by taking the mean scores of his rating by his fellow team members.

The correlational analysis with the dependent variable was made by using the mean receptivity to change scores for the teachers in each of the four separate cells resulting from the two median splits of the scores made on the dogmatism scale and the sense of power scales.

In the final analysis, a three way analysis of variance and an analysis of covariance, controlling for years of teaching experience, age, and tenure in the school system was made.

The Major Hypotheses and Summarized Results of the Tests

1. Teachers' receptivity to change in relation to a dogmatism x sense of power (Peck) interaction. - The first major hypothesis, predicting that the teachers' sense of power in their association with the building principal will have more effect on their receptivity to change for teachers with a low level of dogmatism than for teachers with a high level of dogmatism had to be denied. The results showed that, for the low dogmatic teachers, the teachers who had a high
sense of power (Peck) were more receptive to change than were the low
sense of power (Peck) teachers. But, when the data was subjected to
an analysis of covariance, with age and years of experience held con­
stant, it resulted in a $P < .059$. Although the hypothesis cannot be
accepted at the .05 level of significance, the results indicated that
there was a tendency toward the existence of a dogmatism teachers' 
sense of power (Peck) interaction in relationship to the teachers' 
receptivity to the trial of innovation.

2. Teachers' receptivity to change in relation to a dogmatism
$\times$ sense of power (Moeller) interaction. - The second major hypothesis,
predicting that the teachers' sense of power over school system-wide
policy-making will have more effect on their receptivity to change
for teachers with a low level of dogmatism than for teachers with a
high level of dogmatism had to be denied. The results showed that,
for low dogmatic teachers, the teachers who had a high sense of power
(Moeller) were not significantly more receptive to change than were
the low sense of power (Moeller) teachers. This was evidenced by a
$P < .82$ in the analysis of variance.

The Minor Hypotheses and Summarized
Results of the Tests

1. Teachers' receptivity to change in relation to dogmatism.-
The first minor hypothesis, predicting that the middle school teachers
with a low level of dogmatism will be more receptive to the trial of
innovation than the teachers with a high level of dogmatism, was
denied. Although the mean receptivity to change score for the low
dogmatic teachers was higher than for the high dogmatic teachers, the
difference was not statistically significant (P < .528) in the analysis of variance.

2. Teachers' receptivity to change in relation to their sense of power (Peck). - The second minor hypothesis, predicting that the middle school teachers with a high sense of power in their association with the building principal will be more receptive to the trial of innovation than the low power teachers, was accepted. The mean receptivity to change scores for the high sense of power (Peck) teachers was significantly higher (P < .045; analysis of variance) than the mean receptivity to change scores for the low sense of power (Peck) teachers.

3. Teachers' receptivity to change in relation to their sense of power (Moeller). - The third minor hypothesis, predicting that the middle school teachers with a high sense of power over school system-wide policy-making would be more receptive to the trial of innovation than the low power teachers, was denied. Although the mean receptivity to change score for the high sense of power (Moeller) teachers was higher than for the low sense of power (Moeller) teachers, the difference was not statistically significant (P < .093) in the analysis of variance.

Related Findings

The correlational analysis resulted in relatively high negative coefficient of correlations between teacher receptivity to change scores and the factors of age, years of teaching experience, and
tenure in the school system. Upon closer inspection of the age and years of experience variables, the following findings were made:

1. The teachers in the age category of 31 through 40 years had the highest mean receptivity to change score. The teachers in the age category of 50 and over years had the lowest mean receptivity to change score.

2. The teachers in the category of two to three years of teaching experience had the highest mean receptivity to change score. The teachers in the category of ten and over years of teaching experience had the lowest mean receptivity to change score.

Summary and Conclusions

The conclusions reached in this study are made with the knowledge that the sample was not of sufficient size to form a basis for wide generalizations. But, in light of the fact that the present study was based on the conceptual, theoretical and empirical work conducted by Rokeach and Seeman, and their associates, the findings of the study appear to have greater significance to social psychological theory than might be expected from a study involving this size of a study population.

The study was an initial attempt to find if an integration could be made of Rokeach's concept (i.e., the DOGMATISM-BEHAVIOR sequence) with Seeman's concept (i.e., the STRUCTURE-ALIENATION-BEHAVIOR sequence). The findings of the study suggest that such an integration may have value as a basis for further social psychological research concerned with social change. If the behavior under study
is teachers' receptivity to the trial of innovation, and the alienation component is in the form of teachers' sense of power (powerlessness) in their association with the building principal, there appears to be a tendency toward and interaction between the two conceptual sequences, developed separately by Rokeach and Seeman. The teachers' sense of power, in their association with the principal, appears to activate different beliefs and attitudes in teachers who vary in the structure of their belief systems. This was evidenced by the fact that low dogmatism tended to distinguish more clearly the change scores of sense of power subgroups: for the low dogmatic teachers, the teachers who had a high sense of power (Peck) were more receptive to change than were the low sense of power (Peck) teachers.

The results further suggest that change can be produced in the behavior of different individuals through knowledge of personality organization. A factor such as a high degree of teacher alienation appears to have a greater effect on the teachers' change behavior for open-minded teachers than it does for close-minded teachers.

When focusing upon a linear relationship between teacher alienation and receptivity to change, the findings suggest that factors in a school and/or school system which enhance teacher alienation will, consequently, tend to lower the teachers' receptivity to the trial of innovation. A strong possibility exists that this phenomenon may be somewhat restricted to schools and/or school systems which have a high "value for innovativeness."

In considering a linear relationship between teachers' recep-
tivity to change and dogmatism, the data suggest that in a school which has a high "value for innovativeness," the level of dogmatism of the teachers has little effect on their receptivity to change. The absence of a significant negative correlation between dogmatism and teachers' receptivity to change in the present study may be due to the fact that no attempt was made during the study to test the reliability of the Rokeach Dogmatism Scale with the sample population. The investigator is somewhat reluctant to accept this explanation; however, when the Rokeach Dogmatism Scale was used in a study involving a large heterogeneous group of teachers from a wide variety of schools, Bridges and Reynolds found a significant negative relationship between dogmatism and teachers' receptivity to change.\(^1\) This indicated that when the Dogmatism Scale is used with teachers, the findings are consistent with those of several experiments reported by Rokeach in which open and closed-minded subjects responded differently to novel situations manipulated by the experimenter.

The contradiction in the results obtained in the study by Bridges and Reynolds and those of the present study might be explained, in part, by considering the differences in the norms of the social systems in which the two studies were conducted. The schools from which Bridges and Reynolds obtained their data probably represented many points along a continuum of social systems exhibiting high and

\(^1\)Bridges and Reynolds, "Teacher Receptivity to Change."
low "value for innovativeness." The data for the present study were drawn from two schools which would represent the "high" end of this continuum. The difference in the findings could then be explained by the phenomenon that the norms of the social system activates different beliefs and attitudes in persons who vary in the structure of their belief systems. This assumption is supported by the results of the study by Jamias and Troldahl. Again, there is a strong probability that the results would prove to be quite different in a school system which had a low "value for innovativeness."

The results of the present study further support the idea, expressed by several investigators, that in conducting studies concerned with the determination of receptivity in the personality system there is a need for identifying intervening variables in the social system, and relating these variables to the variables in the personality system. Concerning this matter, Rokeach states,

Some social psychologists are fond of saying that social behavior is determined not only by "attitudes" but also by the "situation," or by the interaction between "attitude" and "situation." This formulation is conceptually unsatisfactory because "attitude," a psychological variable, and "situation," an objective (sociological) variable, are not from the same universe of discourse. It is meaningless to speak of two concepts that represent different universes of discourse as "interacting" with one another.

A somewhat more satisfactory formulation is the proposition that behavior is a result of the interaction between "attitude" and "definition of the situation". The two concepts are, at least, both psychological in nature. This formulation can be improved upon, however, if the two concepts are more directly

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2 Jamias and Troldahl, "General Innovativeness," see supra, pp. 58-59.
coordinated with one another. If we assume that "definition of the situation" is at least roughly equivalent to "attitude-toward-situation," then the relation between attitudes and behavior can be formulated as follows: behavior is a function of the interaction between two attitudes - attitude-toward-object and attitude-toward-situation.  

The lack of identifying intervening variables, and relating them to personality factors may be one of the reasons for the apparent contradictions in the results obtained in the studies concerned with social change.

The practical, as opposed to the statistical, significance of the findings of the present study is quite limited, however, since so much of the variance in receptivity to change remains unexplained. The exploratory nature of the study, due to the lack of empirical research and theory surrounding work-related change, imposes further limitations on the practicality of the findings.

Also, the fact that there was no attempt in the study to investigate the STRUCTURE-ALIENATION component of Seeman's sequential model imposes still a third limitation on the practical applications of the findings. The factors in the school and/or school system which may have caused one teacher to have a high sense of power and another one to have a low sense of power were not identified. So, for the administrator who is concerned with producing a school environment geared toward an expectation of change, the most relevant point suggested from the findings of the present study is that in such an

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3 Rokeach, Beliefs, Attitudes and Values, p. 127.
environment, the teachers' sense of power is a significant factor in relation to their willingness to try out new ideas.

Until a body of further research on work-related change is developed, such studies as the present one will remain to have limited value for the practitioner in education. The significance of the present study appears to lie in its possible contribution to further social psychological research in the areas of dogmatism and behavior, alienation and behavior, and receptivity to work-related change. It is with these conclusions and summary statements in mind, that the investigator makes the following recommendations.

Recommendations

The recommendations based upon the findings and conclusions of this study will be presented in three sections, namely, (1) those that are pertinent to further research, (2) those that are pertinent to educational administration and (3) those that are pertinent to the field of change processes in the public schools.

Recommendations for further research

1. A similar study should be conducted in other schools, comparing the results from schools with a high "value for innovativeness" with the results from schools with a low "value for innovativeness." In these studies, the Teacher Receptivity to Change Scale may have to be used as a self-perception analysis, or in a modified form to be used by administrator-teacher rating teams. In such a
study, the following considerations should be made:

a. As part of the study, an attempt should be made to test the validity of the sense of power (Moeller) scale and the sense of power (Peck) scale. An appropriate procedure for doing this could be a similar procedure as used by Bridges in testing the validity of the Teacher Receptivity to Change Scale. A summary of Bridges' validation procedures is given in Appendix E.

b. A test for the reliability of the Rokeach Dogmatism Scale, Form E should be made with the sample population. Since the scale may be too long to test the stability of measurement through a test-retest technique, the use of an internal consistency technique would probably be better. The investigator may want to use the shortened, modified form of the Dogmatism Scale developed by Troldahl and Powell. If this form is used, the test-retest technique may prove to be more feasible.

c. If the dependent variable, teachers' receptivity to change, is to be determined through the use of administrator-teacher rating teams a concerted effort should be made to obtain sufficiently high interrater correlations on the change scales. This may prove to be a difficult task, due to the apparent fact that a person's receptivity to change is somewhat ambiguous, and such ratings may be influenced by other personality factors. Although the investigator of the present study is not quite convinced on the use of the Teacher

Receptivity to Change Scale as a self-perception analysis in such a study, Bridges provides evidence that the use of the scale in this manner is valid.\(^5\) If self-perception ratings are not used, attempts should be made to find other, more objective measures of receptivity to change through the use of observer ratings.

d. A sufficiently large sample population should be used so that the investigator can exclude the teachers in the middle range of the distribution of scores on the dogmatism scale and the sense of power scales. Again, this may prove to be difficult to accomplish, but the design of the study should be developed with this goal in mind.

e. Criteria should be developed for the purpose of identifying those schools which have a high "value for innovativeness," and those that have a low "value for innovativeness." In identifying such schools, the investigator could use similar procedures as those used by Moeller in his identification of high and low bureaucratic school systems.\(^6\)

2. A similar study should be conducted with principals and other administrators comparing the results from school systems with a high "value for innovativeness" with the results from school systems with a low "value for innovativeness." Similar considerations as those given for Recommendation \#1 should be made in this study.

\(^5\)For a summary of these findings, see Appendix E.

\(^6\)Moeller, "Teachers' Sense of Power."
3. Studies on receptivity to work-related change should be designed, based on an integration of Rokeach's and Seeman's concepts, in which a different form of alienation is identified as the intervening variable (e.g., meaningless, normlessness, social isolation, and self-estrangement). In developing the instrument to measure the intervening variable - one specific form of alienation - the scalogram technique proposed by Guttman would be appropriate because of its focus on determining the unidimensionality of the items. The investigator feels that the items for the scale should be drawn from the social system in which the study is to take place so that the instrument has greater relevance to the social situation in which the sample population is drawn. This can be done by selecting the items for the instrument from taped interviews with persons in this social system. The items should then be subjected to a scale analysis by having persons outside this social system respond to these items.

4. Studies similar to the present study should be designed which are based on an integration of Rokeach's and Seeman's concepts in which different aspects of teacher behavior are studied as the dependent variable. The use of one of the classroom interaction analysis scales might be appropriate to measure the teachers' behavior in such a study.

5. Studies should be designed, based on an integration of

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7Louis Guttman, "A Basis for Scaling Quantitative Data," American Sociological Review IX, No. 2 (1944), 139-150.
Rokeach's and Seeman's concepts, in which different aspects of student behavior are studied as the dependent variables. Possible student behavior which could be studied might be receptivity to learning, learning of control-relevant information, and various forms of student aggression. The alienation component could be in the form of sense of powerlessness, or sense of meaninglessness.

6. Studies similar to the present study should be designed in which the Dogmatism Scale is replaced by scales which measure other personality factors (e.g., self-concept, introversion versus extroversion, and differing value systems).

7. Studies should be designed to investigate the STRUCTURE-ALIENATION component of Seeman's model within the public school setting. It is apparent to the investigator that before much practical application from the above-mentioned studies can be realized for the practitioner in education, the effects of the social system which influence student or teacher alienation must be identified.

**Recommendations for educational administration**

As mentioned previously, the findings of the present study are very limited in providing practical directions for the practitioner in education. The one recommendation that could be made to the administrator who wants to develop an organizational environment geared toward an expectation of change, is that he should take into consideration the teachers' sense of power over the development of

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8 Supra, pp. 125-126.
policies which affect the total school system and their sense of power over decisions made within the school in which they teach. There appears to be a significant positive relationship between the teachers' sense of power and their willingness to try out new ideas.

The scales used during the present study may be of some value for the administrator. The sense of power (Moeller) scale and the sense of power (Peck) scale could be used as diagnostic measures in their school systems. The results from the data they collect could be discussed in administrative meetings and in staff meetings, from which action alternatives could be developed to correct possible weaknesses in the system. The scales are sufficiently short, so that further periodic diagnoses could be made to determine the effects of the various actions which are tried. An even better approach could be the development of scales which have greater relevancy to their own social system (see Recommendation #3).

There may be some value in using the Teacher Receptivity to Change Scale in a similar manner. Again, the scale is sufficiently short so that periodic diagnoses are feasible. In the use of such a self-appraisal technique, Miller assumes that a personal commitment to flexibility, open-mindedness, and curiosity is an essential precondition for effective change.9 He also suggests that in addition to a self-appraisal function, some school systems might want to use

9Miller, Perspectives, pp. 380-381.
such scales to help check perceptions of one group with those of another.\textsuperscript{10} The use of the Teacher Receptivity to Change Scale or similar types of diagnostic instruments could prove to be quite effective in helping to produce an organizational environment which is geared to an "expectation of change."

\textbf{Recommendations for the field of change processes in the public schools}

1. Since the public schools are essentially social psychological systems, it is a mistake to make generalized conclusions concerning the phenomenology of educational change from studies which are strictly psychological in nature, or from studies which are limited to sociological aspects. In the attempt to develop theories for educational change, a body of empirical research should be developed, based on an integration of sound psychological concepts with sound sociological concepts. The testing of interactions between personality types and intervening variables, identified from various educational social structures, should be the focus of many of these empirical studies.

2. The time has arrived in the field of change processes in the public schools, whereby less energy should be focused on "philosophizing" about educational change, and more energy and creativity should be spent in empirically testing the many, and often opposing assumptions which have been made. The personnel in this field should

\textsuperscript{10}Ibid.
begin disciplining themselves in order to produce a better balance be-
tween "armchair" conceptualizing and the gathering of empirical data
from which more meaningful conceptualizations can be made.
APPENDIX A

CORRELATIONAL MATRIX OF ALL VARIABLES FROM THE STUDY
### TABLE 18

CORRELATION OF ALL VARIABLES FROM THE STUDY  
(SIMPLE MATRIX WITH FOUR REGRESSION ANALYSES)

<table>
<thead>
<tr>
<th>Correlation Coefficients</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dogmatism</td>
<td>Power Peck</td>
<td>Power Moeller</td>
<td>Age</td>
<td>Total Exper</td>
<td>Tenure</td>
<td>Sex</td>
<td>Recept to Change</td>
</tr>
<tr>
<td>1. Dogmatism</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Power Peck</td>
<td>-0.076</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Power Moeller</td>
<td>-0.160</td>
<td>0.177</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4. Age</td>
<td>0.216</td>
<td>-0.161</td>
<td>-0.072</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Total Exper</td>
<td>0.131</td>
<td>-0.273</td>
<td>0.047</td>
<td>0.751</td>
<td>1.000</td>
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<td>0.703</td>
<td>0.778</td>
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<td>7. Sex</td>
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<td>-0.039</td>
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<td>0.127</td>
<td>0.188</td>
<td>0.177</td>
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<td>8. Recept to Change</td>
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<td>0.342</td>
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<td>0.318</td>
<td>0.300</td>
<td>0.069</td>
<td>1.000</td>
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</tbody>
</table>

Sample Size = 48  
Null Error = 0.146
APPENDIX B

TABULATIONS OF DATA
TABLE 19
RESPONSES TO THE TEACHERS' SENSE OF POWER (PECK) QUESTIONNAIRE ITEMS

In this questionnaire you will find statements pertaining to possible characteristics and attitudes which a teacher like yourself may have. For each statement indicate the extent to which you agree or disagree with the statement. In the blanks provided insert the number of the comment which best describes how you feel about the statement. Please use one of the above numbers for each statement. It is important that we have a response from you for each item.

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Undecided</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

In this school a teacher like myself.

1. Feels free to experiment with new teaching procedures without consulting the principal beforehand. . . . . . .
   9  24  3  12

2. Finds ways to get the principal to actively try to obtain the needed materials for a new teaching approach which he, the teacher, has initiated. . . . . . .
   9  30  5  2  2

3. Can determine what he will teach in the classroom. . . . . . .
   13  29  6

4. Feels he does not have to follow suggestions made by the principal. . . . . . .
   1  15  9  18  5
TABLE 19-Continued

In this questionnaire you will find statements pertaining to possible characteristics and attitudes which a teacher like yourself may have. For each statement indicate the extent to which you agree or disagree with the statement. In the blanks provided insert the number of the column which best describes how you feel about the statement. Please use one of the above numbers for each statement. It is important that we have a response from you for each item.

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Un-decided</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

5. Finds ways to obtain materials and equipment, at the school's expense, for use in a new teaching approach, even if the principal does not favor the new approach.

6. Feels free to experiment with new teaching procedures even if the principal does not favor the new approaches.

7. Can persuade the principal to give whole-hearted support for new ideas which he, the teacher, has initiated.

8. Can decide what teaching methods he will use in his classroom.

10. Feels free to deviate from the prescribed curriculum if he believes it is inappropriate for the kind of students he has.
TABLE 20

RESPONSES TO THE TEACHERS' SENSE OF POWER
(MOELLER) QUESTIONNAIRE ITEMS

In this questionnaire you will find statements pertaining to possible characteristics and attitudes which a teacher like yourself may have. For each statement indicate the extent to which you agree or disagree with the statement. In the blanks provided insert the number of the comment which best describes how you feel about the statement. Please use one of the above numbers for each statement. It is important that we have a response from you for each item.

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Maybe and maybe not</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

In the school system where I work, a teacher like myself...

a. Believes he has some control over what textbooks will be used in the classrooms. . . . . 17 20 8 2 1

b. Feels he does not know what is going on in the upper levels of administration. . . . . 2 16 21 8 1

c. Never has a chance to work on school committees which make important decisions for the school system. . . 1 9 32 6

d. Considers that he has little to say over what teachers will work with him on his job. . 1 17 10 15 5
In this questionnaire you will find statements pertaining to possible characteristics and attitudes which a teacher like yourself may have. For each statement indicate the extent to which you agree or disagree with the statement. In the blanks provided insert the number of the comment which best describes how you feel about the statement. Please use one of the above numbers for each statement. It is important that we have a response from you for each item.

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Maybe and maybe not</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

In the school system where I work, a teacher like myself.

e. Usually can find ways to get system-wide policies changed if he feels strongly enough about them. 1 11 25 10 1

f. Feels he has little to say about important system-wide policies relating to teaching. 2 5 16 23 2
TABLE 21
RESPONSES TO TEACHERS' RECEPTIVITY
TO CHANGE QUESTIONNAIRE ITEMS

For each of the following statements indicate by means of a check (✓) the one action from among the choices a through e that a teacher like the above named person would likely take.

<table>
<thead>
<tr>
<th>Initiate a request to use on a trial basis</th>
<th>Respond affirmatively to a request for volunteers if asked</th>
<th>Express a desire to stay with present practice</th>
<th>Be strongly against trial of the practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
<td>d</td>
</tr>
</tbody>
</table>

A teacher like...

1. After considering a new, promising curriculum practice which he/she hasn't had an opportunity to see in operation is likely to...

   40  55  35  14  4

2. After considering a new curriculum idea whose superiority over the old practices has not been demonstrated conclusively in trials elsewhere is likely to...

   20  41  50  33  4
TABLE 21-Continued

For each of the following statements indicate by means of a check (✓) the one action from among the choices a through e that a teacher like the above named person would likely take.

<table>
<thead>
<tr>
<th>Initiate</th>
<th>Respond</th>
</tr>
</thead>
<tbody>
<tr>
<td>a request</td>
<td>affirmatively</td>
</tr>
<tr>
<td>to use on a trial</td>
<td>Use</td>
</tr>
<tr>
<td>basis</td>
<td>request for if volunteers asked</td>
</tr>
<tr>
<td></td>
<td>practice</td>
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<td></td>
<td>practice</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>b</td>
</tr>
<tr>
<td>c</td>
<td>d</td>
</tr>
<tr>
<td>e</td>
<td></td>
</tr>
</tbody>
</table>

3. After considering a new approach to teaching which requires at least one full summer of formal training (at government expense) to use well, is likely to...

4. After considering a new curriculum which can be used by classroom teachers without disturbing too much what they are currently doing is likely to...

5. After considering use of a new curriculum practice about which very little is known concerning the consequences of its use is likely to...

<table>
<thead>
<tr>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>65</td>
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<td>13</td>
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<td>70</td>
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<td>18</td>
</tr>
<tr>
<td>22</td>
<td>66</td>
<td>37</td>
</tr>
<tr>
<td>5</td>
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</tr>
</tbody>
</table>
TABLE 21—Continued

For each of the following statements indicate by means of a check (✓) the one action from among the choices a through e that a teacher like the above named person would likely take.

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initiate a request to use on a trial basis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Respond affirmatively to a request for use if volunteers asked practice</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Express a desire to stay with present practice</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Be strongly against trial of the volunteers asked practice</strong></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

6. After considering a curriculum change which involves planning and carrying out a major portion of one's classroom activities with other teachers is likely to...

   38  77  26  5  2

7. After considering a new, untested curriculum idea which involves a large amount of daily preparation if it is to have any chance of success is likely to...

   18  39  52  33  6

8. After considering a curriculum change to which teachers and students in a neighboring district are responding favorably to is likely to...

   59  61  27  1  0
TABLE 21—Continued

For each of the following statements indicate by means of a check (✓) the one action from among the choices a through e that a teacher like the above named person would likely take.

<table>
<thead>
<tr>
<th>Initiate a request to use on a trial basis</th>
<th>Respond affirmatively to a request for volunteers Use if asked</th>
<th>Express a desire to stay with present practice</th>
<th>Be strongly against trial of practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
<td>d</td>
</tr>
</tbody>
</table>

9. After considering a new, promising curriculum practice which involves a major shift in her current teaching procedures is likely to... 23 53 46 22 4

10. After considering a new, promising curriculum practice which involves an increase in record keeping and paper work is likely to... 18 45 53 16 16
APPENDIX C

SCALES AND SCALING DATA
TABLE 22
QUASI-SCALE FROM THE SENSE OF POWER (PECK) DATA
(SCALING SAMPLE N=100)

A nine-item unidimensional Guttman-type subject scale. A high score means a high sense of power.

<table>
<thead>
<tr>
<th>Item numbers in response pattern</th>
<th>Scale type</th>
<th>Frequency</th>
<th>Error</th>
</tr>
</thead>
<tbody>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>3 5 7 6 8 4 10 1 2</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>9</td>
<td>1</td>
<td>1</td>
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<th>Item numbers in response pattern</th>
<th>Scale type</th>
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<td>Item numbers in response pattern</td>
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<td>Positive Responses</td>
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TABLE 23-Continued

QUASI-SCALE FROM THE SENSE OF POWER (PECK) DATA
(STUDY GROUP N = 48)

<table>
<thead>
<tr>
<th>Item number in response patterns</th>
<th>3</th>
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48  48

Coefficient of reproducibility 88.9%
**TABLE 24**

**QUASI-SCALE FROM THE SENSE OF POWER (MOELLER) DATA**

*(STUDY GROUP N = 48)*

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*Coefficient of reproducibility 87.2%*
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**Quasi-Scale from the Receptivity to Change Data**

\((N = 100)\)

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TABLE 25-Continued

QUASI-SCALE FROM THE RECEPTIVITY TO CHANGE DATA
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Coefficient of reproducibility 85.2%

100  84
APPENDIX D

TEACHER REACTION QUESTIONNAIRES AND CODE
TEACHER REACTION QUESTIONNAIRE

Instructions:

In this questionnaire you will find statements pertaining to possible characteristics and attitudes which a teacher like yourself may have.

For each statement indicate the extent to which you agree or disagree with the statement. In the blanks provided insert the number of the comment which best describes how you feel about the statement.

5 = Strongly agree
4 = Agree
3 = Undecided
2 = Disagree
1 = Strongly disagree

Please use one of the above numbers for each statement. It is important that we have a response from you for each item.

[Sense of power (Peck) scale]
SCORING KEY:
5 = Strongly agree
4 = Agree
3 = Undecided
2 = Disagree
1 = Strongly disagree

In this school, a teacher like myself...

1. Feels free to experiment with new teaching procedures without consulting the principal beforehand.

2. Finds ways to get the principal to actively try to obtain the needed materials for a new teaching approach which he, the teacher, has initiated.

3. Can determine what he will teach in the classroom.

4. Feels that he does not have to follow suggestions made by the principal.

5. Finds ways to obtain materials and equipment, at the school's expense, for use in a new teaching approach, even if the principal does not favor the new approach.

6. Feels free to experiment with new teaching procedures even if the principal does not favor the new approaches.

7. Can persuade the principal to give whole-hearted support for new ideas which he, the teacher, has initiated.

8. Can decide what teaching methods he will use in his classroom.

9. Can get the principal to listen to a request to use a new teaching procedure on a trial basis.

10. Feels free to deviate from the prescribed curriculum if he believes it is inappropriate for the kind of student he has.
TEACHER REACTION QUESTIONNAIRE

Instructions:

In this questionnaire you will find statements pertaining to possible characteristics and attitudes which a teacher like yourself may have.

For each statement indicate the extent to which you agree or disagree with the statement. In the blanks provided insert the number of comment which best describes how you feel about the statement.

5 = Strongly agree
4 = Agree
3 = Undecided
2 = Disagree
1 = Strongly disagree

Please use one of the above numbers for each statement. It is important that we have a response from you for each item.
SCORING KEY:

5 = Strongly Agree
4 = Agree
3 = Maybe and Maybe Not
2 = Disagree
1 = Strongly Disagree

In the school system where I work, a teacher like myself . . . . .

_____ a. Believes he has some control over what textbooks will be used in the classrooms.

_____ b. Feels he does not know what is going on in the upper levels of administration.

_____ c. Never has a chance to work on school committees which make important decisions for the school system.

_____ d. Considers that he has little to say over what teachers will work with him on his job.

_____ e. Usually can find ways to get system-wide policies changed if he feels strongly enough about them.

_____ f. Feels he has little to say about important system-wide policies relating to teaching.
TEACHER REACTION QUESTIONNAIRE

Instructions:

For the past school year you have had the opportunity to plan and work very closely with the other members on your teaching team. On the blue slip of paper in the upper right hand corner of this page is the name of one of your team members.

For each of the following statements indicate by means of a check (✓) the one action from among the choices a through e that a teacher like the above named person would likely take. (Use as a criteria, your experience with him/her throughout this past school year. This is in no way an evaluation of this teacher. No school personnel will see any of the names involved.)

a. Initiate a request for permission to use it on a trial basis.

b. Respond affirmatively to a request for volunteers to use it on a trial basis.

c. Decide to use it on a trial basis if asked.

d. Express a desire to stay with the present practice.

e. Be strongly against the use of it on a trial basis.

Remember to indicate but on action from the above choices (a through e) for each of the following statements.

(Teacher Receptivity to Change Scale)
Initiate a request to use on a trial basis | Respond affirmatively to request for volunteers | Use if asked | Express desire to stay with present practice | Be strongly against trial of the practice
---|---|---|---|---
a. | b. | c. | d. | e.

A teacher like

1. After considering a new, promising curriculum practice which he/she hasn't had an opportunity to see in operation is likely to ............

2. After considering a new curriculum idea whose superiority over the old practices hasn't been demonstrated conclusively in trials elsewhere is likely to ............

3. After considering a new approach to teaching which requires at least one full summer of formal training (at government or district expense) to use well is likely to ............

4. After considering a new curriculum practice which can be used by classroom teachers without disturbing too much what they are currently doing is likely to ............

5. After considering use of a new curriculum practice about which very little is known concerning the consequences of its use is likely to ............
<table>
<thead>
<tr>
<th></th>
<th>Initiate a request to use on a trial basis</th>
<th>Respond affirmatively to request for volunteers</th>
<th>Use if asked</th>
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<tr>
<td>e.</td>
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6. After considering a curriculum change which involves planning and carrying out a major portion of one's classroom activities with other teachers is likely to . . . . . . . . . . . . .

7. After considering a new, untested curriculum idea which involves a large amount of daily preparation if it is to have any chance of success is likely to . . . . . . . . . . . . .

8. After considering a curriculum change to which teachers and students in a neighboring district are responding favorably is likely to . . . . . . . . . . . . .

9. After considering a new, promising curriculum practice which involves a major shift in her current teaching procedures is likely to . . . . . . . . . . . . .

10. After considering a new, promising curriculum practice which involves an increase in record keeping and paper work is likely to . . . . . . . . . . . . .
Instructions:

For each statement indicate the extent to which you agree or disagree with the statement. In the blanks provided insert the number of the comment which best describes how you feel about the statement.

6 = Agree Very Much
5 = Agree on the Whole
4 = Agree a Little
3 = Disagree a Little
2 = Disagree on the Whole
1 = Disagree Very Much

Please use one of the above numbers for each statement. It is important that we have a response from you for each item.

(The Rokeach Dogmatism Scale; Form E)
1. The many different kinds of children in school these days force teachers to make a lot of rules and regulations so that things will run smoothly.

2. 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.

3. Unions are all right for skilled and non-skilled workers but not for teachers.

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

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

6. More playgrounds and fewer strict fathers would eliminate juvenile delinquency.

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

8. Modern paintings look like something dreamed up in a horrible nightmare.

9. There are two kinds of people in this world: those who are for the truth and those who are against it.

10. Merit pay for teachers should be adopted universally with appropriate safeguards to insure fair treatment.

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

12. Young people today are in general more immoral and irresponsible than young people of previous generations.

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

14. The current trend is toward better administrator-teacher relationships.
**SCORING KEY:**  
6 = Agree Very Much  
5 = Agree on the Whole  
4 = Agree a Little  
3 = Disagree a Little  
2 = Disagree on the Whole  
1 = Disagree Very Much

15. 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 trained.

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

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

18. As young people grow up, they ought to get over their radical ideas.

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

20. Discipline in most public schools is not as strict as it should be.

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

22. If teachers are to raise their economic and social status, they must have a strong organization to represent them.

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

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

25. Teachers should not strike under any circumstances.

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

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

28. It is only natural for a person to be rather fearful of the future.

29. Teachers' unions may well be "the" organization to represent teachers.

30. There are a number of people I have come to hate because of the things they stand for.
| 31. The use of sanctions by teachers is preferable to strikes.   |
| 32. Unfortunately, a good many people with whom I have discussed important social and moral problems don't really understand what's going on. |
| 33. Most people just don't give a "damn" for others.           |
| 34. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood. |
| 35. If given a chance I would do something of great benefit to the world. |
| 36. Of all the different philosophies which exist in this world there is probably only one which is correct. |
| 37. Collective bargaining will weaken teacher-administrator relationships. |
| 38. 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. |
| 39. I'd like it if I could find someone who would tell me how to solve my personal problems. |
| 40. The worst crime a person could commit is to attack publicly the people who believe in the same thing he does. |
| 41. I would urge capable young people to enter the teaching profession. |
| 42. A group which tolerates too much difference of opinion among its own members cannot exist for long. |
| 43. The NEA and the American Federation of Teachers differ a great deal in the means they use to gain their ends. |
| 44. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side. |
| 45. The present is all too often full of unhappiness. It is only the future that counts. |
46. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.

47. The NEA and the American Federation of Teachers differ little in the ends they seek.

48. A man who does not believe in some great cause has not really lived.

49. It is often desirable to reserve judgment about what's going on until one has had a chance to hear the opinion of those one respects.

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

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

52. Our rising divorce rate is a sign that we should return to the values which our grandparents held.

53. In time 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.

54. Man on his own is a helpless and miserable creature.

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

56. Female teachers should be paid less than male teachers.

57. My blood boils whenever a person stubbornly refuses to admit he's wrong.

58. Administrators should have tenure in their positions the same as teachers.

59. The United States and Russia have just about nothing in common.
60. In a heated discussion I generally become so absorbed in what I am going to say that I forget to listen to what the others are saying.
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<tr>
<td>18, 19</td>
<td>Total experience in teaching 01-40 years</td>
</tr>
<tr>
<td>20, 21</td>
<td>Total tenure in Washington Township School District 01-40 years</td>
</tr>
<tr>
<td>22</td>
<td>Levels taught in the past 0 - none 1 - primary 2 - intermediate 3 - junior high or middle school 4 - senior high school</td>
</tr>
<tr>
<td>23</td>
<td>Subject matter taught in the middle school 1 - English 2 - Social science 3 - Science 4 - Mathematics 5 - Unified arts 6 - Science and mathematics 7 - English and social science</td>
</tr>
<tr>
<td>24</td>
<td>Sex 1 - male 2 - female</td>
</tr>
<tr>
<td>Column</td>
<td>Description and Code</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>25, 26</td>
<td>Teachers' Receptivity to Change Scale Score (mean of ratings by fellow team members) 00-70</td>
</tr>
<tr>
<td>27, 28</td>
<td>Teachers' Receptivity to Change Scale Score (self-rating) 00-70</td>
</tr>
<tr>
<td>29</td>
<td>School building in which teacher taught 1 - Hithergreen Middle School 2 - Tower Heights Middle School</td>
</tr>
<tr>
<td>30, 31</td>
<td>Team on which teacher taught 01 - Science (Hithergreen) 02 - English (Hithergreen) 03 - English-social science (Hithergreen) 04 - Science-mathematics (Hithergreen) 05 - Mathematics (Hithergreen) 06 - Unified arts (Hithergreen) 07 - Social science (Hithergreen) 08 - English (Tower Heights) 09 - Unified arts (Tower Heights) 10 - Science (Tower Heights) 11 - Social science (Tower Heights) 12 - Mathematics (Tower Heights)</td>
</tr>
</tbody>
</table>
APPENDIX E

VALIDATION OF THE TEACHER RECEPTIVITY TO CHANGE SCALE
A DESCRIPTION OF THE PROCEDURES USED IN
VALIDATION OF THE TEACHER RECEPTIVITY
TO CHANGE SCALE

Edwin Bridges undertook two studies to provide evidence on the validity of the Teacher Receptivity to Change Scale as a measure of teacher willingness to try new curriculum ideas and practices. For the first study, ten elementary schools were selected at random from the population of elementary schools (N=456) in suburban Chicago having ten or more teachers in the building. In each of these schools, the principals were instructed to assume that a new, untested curriculum practice was being considered in their school. They then were asked to nominate three teachers on the school staff who were most likely to either initiate a request for volunteers to use it on a trial basis or to respond affirmatively to a request to use the practice on a trial basis. The principals were then asked to nominate three teachers who were least likely either to initiate a request or to volunteer to use the practice on a trial basis. Twenty-nine teachers were named to the "most likely" category (Highs) and twenty-seven were nominated in the "least likely" category (Lows).

The teachers were mailed the Teacher Receptivity to Change Scale with an accompanying letter and a memo signed by the principal. Fifty-one usable returns (91 percent) were received. The mean score of the Highs (N=27) was 5.5 while the Lows (N=24) had a mean score of 2.8. The differences were significant at the .001 level (F=23.65; 1, 49 df).
In the second validation study, seven different elementary schools were randomly selected from the same population that furnished the sample for the first study. Principals of these seven schools were asked to identify the teacher on their staff who had the widest range of contacts with teachers in their building. A nomination form was mailed to each of the seven teacher informants. The instructions on this form were identical to the ones which the principals received in the first study at the time they nominated Highs and Lows. Thirty-seven nominations were obtained, 21 Highs and 16 Lows. Each nominee was sent a copy of the Teacher Receptivity to Change Scale and a letter. Thirty-three usable responses (89.2 percent) were received. The Highs (N=20) had a mean score of 5.3 while the Lows (N=12) had a mean score of 3.4. These differences were significant at the .01 level (F=8.65; 1, 31 df).

An analysis was made of the overlap at the upper and lower ends of the scale between the Highs and the Lows. For this analysis, the scores of the Highs nominated by the principals were combined with those nominated by the colleagues. The low group was formed by combining the scores of the Lows nominated by either the principals or the colleagues. The mean of the four state sample was 3.97. This mean was used as the pivotal point for the top and bottom ends of the scale.

Of the scores in the upper range of the scale, 75.4 percent were obtained by the Highs. However, at the lower end of the scale, 14.8 percent of the scores were made by Highs. The Lows constituted 12.5 percent of the scores, one standard deviation or more above the mean, while 77.8 percent of the scores located at least one standard deviation below the mean of the four state sample were obtained by the
Lows. The model score for the Highs was 7.0, the maximum score on the Teacher Receptivity to Change Scale, while the model score for Lows was 2.0.
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Unpublished Material


