ABSTRACT

THE RELATIONSHIP OF TEACHER BELIEF SYSTEMS
TO TEACHER AND PUPIL FACTORS RELATED
TO SCHOOL GOALS CATHEXIS

By

James Anderson

Purpose of the Study

The general purpose of this study was to investigate whether teacher classroom behavior, as mediated by teacher open-closed mindedness, was related to pupil beliefs concerning the purpose of formal education. The rationale for the study included the possibility that pupils may, as a result of teachers' classroom behavior, learn to strive for goals other than those generally established by duly constituted bodies such as boards of education.

It was hypothesized that pupils in association with closed teachers would favor submissive school behaviors and would express poor adjustment to school; pupils in association with open teachers would favor assertive school behaviors and would express good adjustment to school.

It was further hypothesized that closed teachers would favor submissive school behaviors; open teachers would favor assertive school behaviors; and, that teachers would become more closed as the length of teaching experience increased.

Methodology

The Inventory of Beliefs and the Order of Importance Scale and a demographic data questionnaire were administered to all fifth and sixth grade teachers in two school systems in May. On the basis of scores on The Inventory of Beliefs an open and closed group of teachers were identified. The pupils of the teachers in these two groups were then given the Order of Importance Scale (three forms), and two incomplete sentence tests of school adjustment. I.Q. scores for these pupils were obtained from school records.

Pearson Product-Moment correlations were computed for all data. Data for open and closed teachers were then dichotomized, and correlations for all data pertaining to the dichotomized groups were computed. Classroom means of pupil data were used in correlations involving teacher data.

Findings

Tests of the hypotheses revealed:

1. Closed teachers chose submissive goals; open teachers chose assertive goals.
2. There was a tendency for pupils under closed teachers to choose more submissive school goals than pupils under open teachers.
3. Pupils under open teachers did not show better adjustment to school than pupils under closed teachers.
4. Longer teaching experience and closed mindedness in teachers were associated.

Teachers' choices of school goals were divided quite evenly according to open-closed mindedness, the mean assertive-submissive score for open teachers was -4.34, and for closed teachers was 3.30. A comparison of the mean assertive-submissive scores of their pupils showed a strong attachment to submissive school goals. The mean assertive-submissive score for all pupils was 7.80.

The data revealed several other interesting relationships not foreseen in the hypotheses. Correlations for closed teachers only showed increased age and experience to be associated with lower submissiveness scores. Neither age nor experience showed any correlation with assertiveness-submissiveness in open teachers.

An examination of correlations involving pupil I.Q. showed a tendency for higher I.Q. to be associated with teacher and/or pupil high ranking of statement, "Be a

good dependable worker." Lower correlations were found linking pupil I.Q. and, closed teacher age and experience, sex of teachers in the combined group and pupil choice of school goals.

Correlation patterns within the open and closed groups were frequently quite different. In several cases significant correlations were observed within the closed group when no correlation existed within the open group.

In most cases the correlations observed in this study, though statistically significant, were small. Therefore the practical significance of each of the findings should be individually evaluated by the reader.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

Investigations of belief, and the connection between belief and action, gained impetus after World War II. Since then the scope and application of the study of beliefs has spread to the communication arts, the social sciences and to education. The focus of the study of beliefs has shifted from what people believe to how beliefs are acquired and changed. Since education is largely a process of communicating, it is only natural that educators should be particularly interested in beliefs and belief systems.

At this time in the history of our culture, when national purposes and widely accepted standards are being challenged, it is of critical importance that educators understand the interrelationships between goals-beliefs-actions.

The Problem

The present study was undertaken to investigate several of the relationships inherent in the day-to-day

elementary school teaching situation which may be influenced by the belief system of the teacher. The intent was to gain information that could be helpful in understanding the role of teacher belief systems in teaching and in learning outcomes. Learning outcomes included in the present study were limited to those pertaining to fifth and sixth grade pupils' ideas about the purposes of school. Teaching factors considered were, (1) the length of teaching experience and, (2) the teachers' ideas about the goals of teaching.

Four basic questions were posed to guide the study:

1. Does teacher open-closed mindedness have a relationship to teachers' school goal choices?
2. Does teacher open-closed mindedness have a relationship to pupils' school goal choices?
3. Does teacher open-closed mindedness have a relationship to pupils' attitude toward school?
4. Does teacher open-closed mindedness have a relationship to length of teaching service?

Rationale for the Study

Basic to the public educational system in this country is the assumption that the public, through boards of education, sets guidelines for what shall be taught. The feeling seems to be prevalent that once guidelines, goals, or statements of objectives have been established that these then control the educational offerings of the

school system. Such statements of objectives are typically used as justification for offering specific courses, selecting specific texts and organizing instruction in specific ways. In spite of all of these pre-planned arrangements, it may be possible that children learn something different than intended.

If children learn from teachers, is it not possible that they learn some of the teachers' values as well as the intended communication? This problem, inherent in the act of teaching, is compounded by the possibility that the intended communication, and what the child learns as a result of the operation of the teacher's values, may actually be in conflict. Personality differences as related to differences in belief systems as described by Stern et al.,[1] and Rokeach,[2] show the potential for presenting quite different values to children, particularly pertaining to the relationship to authority. Among characteristics of Stereopathic (closed) people Stern et al., list, "Perception of authority figures as omnipotent, threatening, and impregnable, Submission to authority, Overwhelming unconscious hostility." The Non-Stereopathic (open)

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[1]George G. Stern, Morris I. Stein, and Benjamin S. Bloom, Methods in Personality Assessment (Glencoe, Illinois: The Free Press, 1956).

[2]Milton Rokeach, The Open and Closed Mind (New York: Basic Books, Inc., 1960).

person, on the other hand has realistic, "Perceptions of authority figures . . . ," "Agression expressed freely and directly in attempt to maintain inviolacy, autonomy and independence. Generally characterized by maintenence of good contract and rapport with others."[3]

Rokeach suggests that open and closed systems differ in the role played by emotion, appeals to authority, etc. such that the difference can be exemplified by " . . . the extent to which the person can receive, evaluate, and act on relevant information received from the outside on its own intrinsic merits, unencumbered by irrelevant factors in the situation arising from within the person or from the outside."[4]

Defining characteristics of open and closed people then, include such action stances as: modes of dealing with new information, utilization of perceptions, quality and quantity of contract with one's environment including other people, and position on a dependent-independent continuum.

The above characteristics have some elements in common with statements of educational goals. Following are

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[3]Stern, Stein, and Bloom, Methods in Personality Assessment, pp. 190-193.

[4]Rokeach, The Open and Closed Mind, p. 57.

statements from the two school systems included in the present study.

1. To develop sustained interest in systematic learning and to activate objective thinking.

2. . . . to develop the mental abilities of each student to the highest level possible.

3. . . . to develop individual abilities and interests to further achievement.

4. To give particular emphasis to the teaching of basic skills and subject matter in the fields of English, other languages, mathematics, science, and the social studies.

5. To convey an understanding of our cultural heritage and to develop vigorous awareness of democratic citizenship in a free society wherein the goals, the attainments and the accountability of the individual person are essential to community progress.

6. To assist in cultivating an appreciation for our unique systems of representative, constitutional government, and of private enterprise economy, and of the importance of maintaining these institutions for future generations.

7. To reinforce the home, the church and the community in their responsibility for the shaping of personality, the moulding of character, and the development of social habits.

8. . . . a basic training in skill subjects, such as reading, mathematics, written and oral language; content subjects, such as history, social studies and science . . .

Are open and closed teachers equally effective in achieving the above objectives? Would open teachers be most effective at teaching the first three and closed teachers be best at teaching the last five? Recognizing the personality factors of open and closed persons, it

would seem likely that some teachers could not promote the above goals equally, regardless of possible conscious efforts to do so.

Two classifications of school goals were utilized in the present study. "Assertive" goals, illustrated by the first three goals in the above list and, "submissive" goals, illustrated by the last five, were considered to be approximately the school goal equivalents of open and closed personalities. If this be so, is it then possible that open teachers will favor assertive goals and closed teachers favor submissive goals? Will they "teach" their pupils to value the same goals, and by inference then contribute to openness or closedness of children's personalities? These questions were investigated in the present study.

Some studies of teacher effectiveness (Ackerman,[5] Musella,[6] Patterson[7]) have shown a decline in pupil

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[5]Walter I. Ackerman, "Teacher Competence and Pupil Change," Harvard Educational Review, Vol. 24, No. 4 (Fall, 1954), pp. 272-289.

[6]Donald F. Musella, "Open and Closed-Mindedness as Related to the Rating of Teachers by Administrators: Implications of Administrative Theory Based on Superordinate-Subordinate Role Relations" (unpublished Doctoral Dissertation, State University of New York at Albany, 1965).

[7]Warren E. Patterson, "Age, Teacher's Role and the Institutional Setting" in Contemporary Research on Teacher Effectiveness, ed. by Bruce J. Biddle, William J. Ellena (New York: Holt, Rinehart and Winston, 1964), pp. 264-315.

achievement and a change in attitude toward pupils and teaching in general as the teacher becomes older. Older teachers also tend to be closed (Kirk[8]), but it is not clear as to what role teaching experience plays in this process. Do young teachers cope with anxieties usually associated with early stages of teaching by a shift in their belief system? If so the shift would be apparent in experienced teachers, and may give some clue as to the changed attitudes reported in the literature. This question too was investigated in the present study.

Definitions

The following definitions are offered to permit consistent interpretation of the meaning of terms used in the present study.

Open Teachers.--Teachers whose scores on the Inventory of Beliefs placed them in the Non-Stereopathic category. Open teachers have high scores on the Inventory of Beliefs.

Closed Teachers.--Teachers whose scores on the Inventory of Beliefs placed them in the Stereopathic

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[8]Treva B. Kirk, "Behaviors of Teachers New to a Building in Relation to the Climate of the School and the Dognatism of the Teacher" (unpublished Doctoral Dissertation, Michigan State University, 1965).

category. Closed teachers have low scores on the Inventory of Beliefs.

Attitude Toward School. --Pupils' attitudes toward school in general as measured on two incomplete sentence tests and being roughly on a continuum from strongly disliking school (rating of 6), to strongly liking school (rating of 0).

Assertive.--Based on elements of Maslow's[9] growth formula. The assertive child will be expected to display relatively more cathexis toward experiences of self expression, of inquisitiveness, of pleasure or delight, and of mastery in general and will evidence self-trust and self esteem.

Assertiveness in pupils and teachers is indicated by high rank order choices of assertive school goals as measured by the Order of Importance Survey.

Submissive.--Based on elements of Maslow's[10] growth formula. The submissive child will be expected to display relatively more cathexis toward obedience to authority, accepting answers offered by authority figures, pleasing authority figures, mastery of specifics of school work,

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[9]Abraham H. Maslow, Toward a Psychology of Being (Princeton, N. J.: D. VanNostrand Co., Inc., 1962), pp. 55-56.

[10]Ibid., pp. 55-56.

and will evidence trust in authority. Submissiveness in pupils and teachers is indicated by high rank order choices of submissive school goals, as measured by the Order of Importance Survey.

Open Group.--All pupils taught by open teachers.

Closed Group.--All pupils taught by closed teachers.

Combined Group.--All pupils in sample including open and closed groups.

Class.--The group of pupils taught by one teacher.

IB.--The Inventory of Beliefs, Form T used to measure the openness-closedness of teachers' belief systems.

OIS.--The Order of Importance Survey used to measure school goal choices. The four forms used were OIS-T used to measure the teachers' school goal choices, OIS-YS used to measure the pupils' school goal choices, OIS-YT used to measure pupils' perceptions of their teachers' school goal choices and, OIS-YP used to measure pupils' perceptions of their parents' school goal choices.

A-S Index.--A score indicating preference for assertive or submissive school goals. A-S Index scores were calculated from OIS ranks by the formula:

$$\Sigma \text{ assertive ranks} - \Sigma \text{ submissive ranks} = \text{A-S Index}.$$

Assumptions

The following assumptions were made as basic to the design of this study.

The assignment of pupils to school rooms in the sample was made randomly as to factors which would influence the results of this study.

Interaction between the teacher factors and pupil factors in this study were operative within one school year.

Fifth and sixth grade pupils can place items in rank order and do so with reference to the point of view requested in the instructions of the Order of Importance Survey.

Interaction between teacher factors and pupil factors in this study were dependent in some degree on length of mutual contact time.

Hypotheses

The main hypotheses of this study were stated as follows:

Hypothesis A.--There is a significant relationship between teachers' IB scores and teachers' A-S Index scores.

Hypothesis B.--There is a significant relationship between teachers' IB scores and pupils' A-S Index scores.

Hypothesis C.--There is a significant relationship between teachers' IB scores and pupils' scores on two incomplete sentence tests of school adjustment.

Hypothesis D.--There is a significant relationship between teachers' IB scores and length of teaching experience.

In addition it was expected that information could be obtained that would help to answer several questions beyond the scope of the main hypotheses. These questions were:

1. Are the relationships among the variables in this study the same within the group of closed teachers as within the group of open teachers?
2. Is pupil I.Q. related to the other variables in this study?
3. Is sex of teacher related to the other variables in this study?

Review of the Literature

The following review of the literature on educational objectives focuses on: (1) general educational goals, (2) school practices as intermediate goals, (3) studies of teacher beliefs, and (4) effects of teacher and pupil experience.

General Education Goals

Lists of school goals usually contain some objectives designed to cast the learner in a stance of

self involvement in the learning process. This type of goal, called "assertive" in the present study may be partially exemplified by reference to a list of school objectives developed in New York in 1928[11] which included such goals as to discover and develop one's own desirable individual aptitudes and to cultivate the habit of critical thinking. A later list[12] included areas of individual social and emotional development, social relations, the social world, and communication, among those to be developed in elementary school.

Preston[13] included curiosity about and interest in subject matter, and critical reaction toward human behavior, in dealing with objectives for the social studies.

Stratemeyer[14] avoided a conflict in goals by focusing on "persistent life situations," and saw subject

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[11]University of the State of New York, Twenty Fifth Annual Report of the Education Department (Albany: The University of the State of New York, 1929), p. 13.

[12]Nolan C. Kearney, Elementary School Objectives, Report Prepared for the Mid-Century Committee on Outcomes In Elementary Education (New York: Russel Sage Foundation, 1953), pp. 59-113.

[13]Ralph Preston, "The Social Studies: Nature, Purpose, and Signs of Change" in Readings on Elementary Social Studies, ed. by John R. Lee and Jonathon McLandon (Boston: Allyn and Bacon, Inc., 1965), pp. 19-26.

[14]Florence B. Stratemeyer, Hamden L. Forkner, Margaret G. McKim, and A. Harry Passow, Developing a Curriculum for Modern Living (New York: Teachers' College Press, 1957).

matter and skills as contributory to solution of social problems rather than as goals in themselves. Three kinds of "persistent life situations" were identified: (1) growth in health, intellectual power, moral choice, esthetic expression, and appreciation, (2) growth in social (person to person) relationships, group membership, intergroup membership, and (3) growth in ability to deal with environmental factors and forces.

While assertive goals were common in lists of educational objectives, most dealt with conformity to standards already established by the society, and required a more convergent learning stance. These were the goals called "submissive" in the present study.

Typical of such goal statements was Ryans' to the effect that one ultimate goal of teaching is to provide the individual taught with a behavior base that will help to maximize " . . . his social productivity, that is, contributions of goods, services, and attitudes of value to society."[15]

In addition to the objectives already mentioned, the University of the State of New York report[16] included

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[15]David G. Ryans, "Teacher Behavior can be Evaluated" in The Evaluation of Teaching (Washington, D.C.: Pi Lambda Theta, 1967), p. 44.

[16]University of the State of New York, Twenty Fifth Annual Report.

as objectives of education such ideas as the practice of desirable social relationships, worthwhile activities and to gain command of common knowledge and skills. The Kearney[17] list included ethical behavior, standards, values.

The Educational Policies Commission included broad objectives of economic efficiency and civic responsibility in its 1938 report.[18]

School Practices as Intermediate Goals

Lieberman notes the necessity of recognizing intermediate goals as " . . . professional translation of broad purposes into a coherent educational program."

> For example, one of the objectives of education may be to develop the ability to communicate effectively. However, the first-grade teacher can contribute to this purpose only by setting certain specific goals, such as vocabulary of so many words or an ability to write the letters of the alphabet, for her students.[19]

Intermediate goals may be said to be what regulates the daily on-going activity in a classroom. These may

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[17]Kearney, Elementary School Objectives, pp. 68-73.

[18]Educational Policies Commission, The Purposes of Education in American Democracy (Washington, D.C.: National Education Association, 1938).

[19]Myron Lieberman, The Future of Public Education (Chicago: The University of Chicago Press, 1963), p. 20.

prove to be more related to educational outcomes than general goals. As Biddle[20] points out, investigations of the relationship between formal curriculum, teaching, and long term consequences (statements of school goals) have yielded scant results.

Harnly[21] developed a scale for measuring the "liberalism-conservatism" of high school seniors with reference to educational objectives. From a sample (N = 1572) of Nebraska seniors he found nearly half who saw education as a process of "mastering textbook facts."

Items used in the scale expressed intermediate goals rather than broad educational purposes. "Conservative" students identified with such statements as:

> Education practice should change slowly.
>
> School work should be fitted to the class average rather than to the needs and abilities of individual pupils.
>
> Disciplinary values are very important, that is, the college preparatory course is best and the most difficult subjects usually are most valuable.
>
> More attention should be given to formal drill.
>
> Learning how to compete successfully is more important than learning how to live co-operatively.

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[20]Bruce J. Biddle and William J. Ellena, Contemporary Research on Teacher Effectiveness (New York: Holt, Rinehart and Winston, 1964), pp. 1-5.

[21]Paul W. Harnly, "Attitudes of High-School Seniors Toward Education," The School Review, Vol. 47 (Sept., 1939), pp. 501-509.

"Liberal" seniors identified more with:

> Controversial issues should be taught; that is pupils should learn to seek explanations, causes, and consequences of social and economic questions, should learn to be open-minded about public questions, and should discuss the merits of both sides of social-economic questions.
>
> The school should help pupils find out what they can do best.
>
> Interest rather than compulsion should be the dominating urge to learn.
>
> There should be much opportunity for original creative work.[22]

Unfortunately no data is given about the teachers of these students. The attitudes subscribed to by "liberal" or "conservative" students cannot be equated with teacher factors.

The Harnly study seems to show that at least some students put a rather narrow interpretation on the purposes of school. When the same scale was given to highly esteemed educators (members of a Curriculum Society, N = 130) only 2 per cent agreed with the "conservative" statements as compared with 41 per cent of the seniors. Obviously the intent of curriculum workers was not being communicated to students, or at least students were not accepting that intent as their own.

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[22] Ibid., pp. 507-508.

But what role does the teacher play in influencing the goals of the students? If the teacher places great emphasis on intermediate goals, will the student accept these as the "real" purpose of education? Goodlad warned against this possibility.

> Elementary schools embrace a narrow range of pupil behavior, just as they tend to provide learning activities designed for only limited aspects of the goals they seek to attain. Too often, schools reward only that which is most easily measured. And what is easily measured may be inconsequential in the conduct of human affairs.[23]

Goodlad also had a warning about the consequences of restrictive school practices as they may affect the personality of the child.

> The intimate setting of the classroom provides the daily cues which tell the child whether he is valued for what he is and can become or for appearing to be what he is not. The narrower the range of approved behavior, the greater the pressure to deceive the teacher and, in time, one's self.[24]

Perhaps the most obvious avenue open to scholars interested in effects of school practices is through a study of the effects of various kinds of teaching behavior, often referred to as "teaching methods."

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[23]John I. Goodlad, Some Propositions in Search of Schools (Washington, D.C.: Department of Elementary School Principals, 1962), p. 32.

[24]Ibid., p. 24.

Wallen and Travers[25] described efforts to study teacher behavior and found it convenient to divide such studies according to their derivations. Thus they described patterns of teaching behavior in six different classifications:

1. Patterns derived from teaching traditions. (Illustration: A teacher teaches as he was taught.)

2. Patterns derived from social learnings in the teacher's background. (Illustration: A teacher reinforces the behavior of pupils so as to develop a middle class ideology.)

3. Patterns derived from philosophical traditions. (Illustration: A teacher teaches in accordance with the Froebel or Rosseau tradition.)

4. Patterns generated by the teacher's own needs. (Illustration: A teacher adopts a lecture method because he needs to be self-assertive.)

5. Patterns generated by conditions existing in the school and community. (Illustration: A teacher conducts his classroom in such a way as to produce formal and highly disciplined behavior because this represents the pattern required by the principal.)

6. Patterns derived from scientific research on learning.

Wallen and Travers list additional reasons for the ineffectiveness of research on teaching based on teaching methods. Among these are the unscientific origin

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[25]Norman E. Wallen and Robert M. W. Travers, "Analysis and Investigation of Teaching Methods," Handbook of Research on Teaching, ed. by N. L. Gage (Chicago: Rand, McNally and Co., 1963), pp. 448-505.

of teaching methods, the lack of scientific sophistication of concepts studied, the intuitive nature of variables studied, and the difficulty of defining teaching methods.

Recently researchers have focused their attention on the study of characteristics of various kinds of teachers. As one result of a continuing study of perceptions of practitioners in the "helping professions," including teachers, Combs[26] proposed a "belief" factor which he saw as distinguishing between "good" and "bad" teachers. The "good" teacher holds certain beliefs about the materials (children, books, teaching aids, curriculum, etc.) with which she works that causes her to make the decisions that distinguish her from the "bad" teacher. The "bad" teacher holds beliefs which, in turn, cause her to act like a "bad" teacher. The same teachers could not be distinguished by the teaching methods they used. Ratings of supervisors, parents and students were used as the criterion of "good" and "bad" in this study.

Ryans[27] conducted an extensive study of the characteristics of teachers utilizing an observation

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[26]Arthur W. Combs, The Professional Education of Teachers (Boston: Allyn and Bacon, Inc., 1965), pp. 6-23.

[27]David G. Ryans, Characteristics of Teachers: Their Description, Comparison, and Appraisal, A Research Study (Washington, D.C.: American Council on Education, 1960).

technique. The data thus gathered were examined for systemization and organization into hierarchies of increasing generality.

Three major patterns of teacher classroom behavior were identified.

> Pattern X--warm, understanding, friendly versus aloof, egocentric, restricted teacher behavior.
>
> Pattern Y--responsible, businesslike, systematic versus evading, unplanned, slipshod teacher behavior.
>
> Pattern Z--stimulating, imaginative versus dull, routine teacher behavior.

Seven additional teacher characteristics were found which dealt with teacher attitudes and understandings: (1) opinions about pupils, (2) opinions about democratic classroom procedures, (3) opinions about administrators and other personnel, (4) "traditional" or "permissive" viewpoints, (5) verbal understanding, (6) emotional adjustment, and (7) validity of response versus invalidity of response.

Some of the same characteristics distinguished good from poor teachers on the Minnesota Teacher Attitude Inventory.[28] Items dealing with teacher-pupil rapport showed that poor teachers were socially insecure. They

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[28]Walter W. Cook, Carroll H. Leeds and Robert Callis, "The Minnesota Teacher Attitude Inventory Manual" (New York: The Psychological Corporation, 1951), pp. 3-4.

typically sought security in the classroom by (1) general hostility toward people and especially toward children, (2) adhering rigidly to conventional standards and punishing non-conforming students, (3) submissiveness to authority, but dominating attitude toward subordinates, (4) vast knowledge of subject matter taught.

Studies of Teacher Beliefs

Studies of authoritarian personalities have been widely used to study teacher characteristics. Interest in the study of anti-Semitism arose during World War II, and scales for measuring anti-Semitic feelings were developed by Levinson and Sanford.[29] It was soon discovered that those holding anti-Semitic feelings also held hostile feelings toward other minority groups.

This discovery led to the development of the F-Scale or Fascism Scale, explained and discussed in The Authoritarian Personality.[30] The F-Scale was constructed without religious, economic, political or minority names, and so was supposed to be capable of an indirect

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[29]D. J. Levinson and R. H. Sanford, "A Scale for the Measurement of Anti-Semitism," Journal of Psychology, Vol. 17 (1944), pp. 339-370.

[30]T. W. Adorno, Else Frenkel-Brunswik, Daniel J. Levinson, and R. Neoitt Sanford, The Authoritarian Personality (New York: Harper and Brothers, 1950).

measurement of prejudice and of underlying personality tendencies sympathetic to fascism. The authors reported clusters of responses typical of subjects scoring toward the F end of the F Scale to reflect (1) reliance on middle class values, (2) excessive submission to the authority of the in-group, (3) excessive agression toward people who violate conventions, (4) opposition to ideas as impractical, (5) disposition to think in rigid categories, (6) identification with power figures, (7) generalized hostility, and (8) outward projection of unconscious emotional impulses.

Stern[31] reported several studies demonstrating that teachers' authoritarian scale scores were consistent with their classroom behavior. The correlations were moderate ($r = .58$, significant beyond .005 level, Index of Forecasting Efficiency 18 per cent reported by McGee[32]) and so suggest a practical way to measure teacher observable classroom behavior, though not without risk of making false predictions.

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[31]George G. Stern, "Measuring Noncognitive Variables in Research on Teaching," Handbook of Research on Teaching, ed. by N. L. Gage (Chicago: Rand, McNally and Co., 1963), pp. 398-447.

[32]Henry M. McGee, "Measurement of Authoritarianism and Its Relation to Teacher Classroom Behavior," Genetic Psychology Monographs, Vol. 52 (1955), pp. 89-146.

Wallen and Travers[33] saw observers of classroom authoritarian behavior as including manifest rejection, coldness and aloofness and other forms of threatening behavior when such behaviors are not necessarily subsumed under definitions of authoritarianism.

Rokeach[34] explained beliefs on three levels: (1) the central region; (2) the intermediate region; and (3) the peripheral region, the most easily changed. Rokeach has centered his efforts on authoritarianism-in-general which he believed to be independent of specific belief content, and thus not just authoritarianism typical of the political right wing. He found cause to believe that left wing and even center-of-the-road political ideas could be held by one who had otherwise authoritarian characteristics. Thus he advanced the proposition that there is a difference between the structure and the content of ideological systems. He characterized the polar positions of beliefs systems as "open" and "closed" and constructed the Dogmatism Scale as a measure of what he called the belief-disbelief systems.

The defining characteristics of open and closed systems are given, in abbreviated form here as:

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[33]Wallen and Travers, "Analysis and Investigation."

[34]Rokeach, The Open and Closed Mind.

1. Low magnitude of rejection of beliefs.	1. High magnitude of rejection of beliefs.
2. Communication within and between belief systems.	2. Isolation within and between belief systems.
3. Little differentiation between belief and disbelief systems.	3. Great differentiation between belief and disbelief systems.
4. Great differentiation within disbelief system.	4. Little differentiation within disbelief system.
5. Thinks of world as friendly.	5. Thinks of world as unfriendly.
6. Authority not absolute and people not judged by agreement with authority.	6. Authority is absolute and people judged by agreement with authority.
7. Beliefs are interrelated.	7. Beliefs are isolated.
8. Relative broad time perspective.	8. Relatively narrow, future oriented time perspective.[35]

Items for the Dogmatism Scale were chosen from constructed or overheard statements deductively associated with the characteristics believed to be associated with open and closed systems.

A somewhat similar process was used to construct The Inventory of Beliefs described by Stern et al.[36] The Inventory of Beliefs was found to identify

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[35] Ibid., pp. 55-56.

[36] Stern, Stein, and Bloom, Methods in Personality Assessment.

three clusters of personality characteristics, called by the authors the S (Stereopath), N (Non-Stereopath), R (Rational) syndromes. Tables 1.1, 1.2, and 1.3 summarize these personality characteristics.

As a result of the emergence of the R-syndrome, additional items of N-type generalizations were added to the Inventory so as to provide for a clear differentiation between N-type and R-type responses. The revision, labeled Form T, provided the researcher a tool with which to identify distributions along an open-closed or authoritarian-nonauthoritarian continuum with the R-type responses factored out.

Although it may be difficult to establish correlations between closed-mindedness and teaching patterns as reported by Downey,[37] it may be possible to relate "ways of believing" and ideologies bearing on treatment of pupils. Hoy[38] found that individuals who scored as closed minded on the Dogmatism Scale were more custodial in their pupil control ideology than open minded individuals. In this study a teacher personality construct was compared

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[37]Lorren Willard Downey, "The Relationship of Teaching Patterns to Organizational Climate and Teacher's Belief Systems" (unpublished Doctoral Dissertation, University of Arizona, 1966).

[38]Wayne Kolter Hoy, "Dogmatism and the Pupil Control Ideology of Public School Professional Staff Members" (unpublished Doctoral Dissertation, The Pennsylvania State University, 1965).

TABLE 1.1

THE S SYNDROME[39]

1. Reaction to Others
   Depersonalization of relationships. Perception of authority figures as omnipotent, threatening, and impregnable.

2. Coping Mechanisms
   Submission to authority. Overwhelming unconscious hostility, displaced externally. Aggression expressed extrapunitively in attempted dominance and control.

3. Impulse Acceptance
   Inhibition and denial of id impulses. Depersonalizes sexuality.

4. Impulse Control
   Strong punitive superego structure, not necessarily internalized. Anxiety and guilt associated with unconscious hostility. Control of unacceptable impulses in order to avoid criticism or disapproval of parent or parent-surrogate is incomplete, resulting in impulse-ridden physical outbursts. Such explosions are non-cathartic, only increasing anxiety and guilt.

5. Energy Level
   Ineffectual liberation of effective tension and continual free-floating anxiety drains off energy otherwise available for goal-directed activity. Compensated for by autistic thinking in goal-behavior and fantasied achievement.

6. Autonomous-Homonomous Balance
   Predominantly exocathective-extraceptive: manipulating things and people as external objects through practical, concrete physical action. Conformity and adaptation to reality as given for more-or-less immediately tangible ends, emphasizing money and property. Counter-cathective rejection of sensuality, introspection, intraception, and verbal-emotional-artistic expressiveness. Egocentric (infantile) perception: animism, anthropomorphism, mysticism, superstition.

TABLE 1.1--Continued

7. Self-maintenance
   Repression, inhibition, projection, paranoia, escapism, masochism, sadism. Denial of negative aspects of self. Concern with physical symptoms, appearance.

8. Organization and Integration
   Sphincter morality, emphasizing obedience, order, punctuality. Despite stress on arrangement and detail, activities tend to be diffused and conflicted due to uncontrolled anxiety. Rigid set and outlook; inaccessible to new experience. Resistance to departure from tradition. Rigid and compulsive.

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[39]Stern, Stein, and Bloom, Methods in Personality Assessment, p. 190.

TABLE 1.2

THE N SYNDROME[40]

1. Reactions to Others
   Highly personalized relationships. Perception of authority figures realistically, frequently as overprotective or over possessive.
2. Coping Mechanisms
   Identification with cathected objects. Conscious rebellion and overt rejection of negative or ambivalent cathexes. Aggression expressed freely and directly in attempt to maintain inviolacy, autonomy, and independence. Generally characterized by maintenance of good contact and rapport with others.
3. Impulse Acceptance
   Acceptant of id impulses. Capable of direct sentient and sexual representations, as well as their sublimations.
4. Impulse Control
   Balanced ego-id-superego demands. Anxiety associated with conscious hostility more focussed, more readily verbalized and dissipated. Internalized superego. Conflict conscious and verbalized. Capable of responsibility and emotional maturity.
5. Energy Level
   Capable of sustained effort for remote goals.
6. Autonomous-Homonomous Balance
   Predominantly other-directed, placing great emphasis on interpersonal relationships. Identification with "underdog," and capacity for dramatic, idealistic social action. Sensuous, introspective, intraceptive. Verbal-emotional-artistic sublimations.
7. Self-Maintenance
   Counteraction. Exhibitionism and self-dramatization. Capacity for realistic self-appraisal, introspection.
8. Organization and Integration
   Behavior plastic and labile. Capacity for spontaneity, impulsiveness. Mobile and intense emotional responsiveness. Flexible, adaptable to changing circumstances.

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[40] Ibid., p. 193.

TABLE 1.3

THE R SYNDROME[41]

1. Reactions to Others
   Little emotional involvement in personal relationships. Perception of authority figures as distant, vulnerable and fallible.
2. Coping Mechanisms
   Passivity, autonomous detachment. Hostility expressed verbally, incyncism and criticism.
3. Impulse Acceptance
   Passive resignation to id impulses, frequently sublimated following conscious inhibition.
4. Impulse Control
   Weak ego-id resolution. Highly intellectualized control. Diffuse anxiety.
5. Energy Level
   Moderate to strong, directed chiefly toward abstract pursuits, sometimes impractical in content.
6. Autonomous-Homonomous Balance
   Predominantly inner-directed, placing major stress on endocathective processes. This may be oriented extraceptively, taking the form of speculative abstraction and discussion about external objects, events and systems, emphasizing data collection, experimentation, and inductive reasoning. Alternatively the orientation may be in terms of an intraceptive preoccupation with private experience; psychological, spiritual, esthetic, or metaphysical truth; introspective and deductive reasoning. The major emphasis in either event is on disinterested intellectualization: analysis, abstraction, and synthesis for the sake of conceptualization rather than action.
7. Self-Maintenance
   Avoids situations which might result in frustration or failure, or submits with resignation and passivity. Blows to self-esteem parried with rationalization of futility of opposition. Open conflict concerning adequacy.
8. Organization and Integration
   Behavior alternately purposeful and integrated, uncoordinated and diffuse. Restrained emotional responsiveness, affect frequently flattened.

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[41] Ibid., p. 198.

with an attitude scale to give information that could be useful in predicting or inferring behavior.

In a report on differences between "high" and "low" assessed teachers, Ryans[42] included characteristics somewhat similar to those attributed to open and closed persons. "Highly assessed" teachers showed favorable opinions of pupils and democratic classroom climate, were child centered, held favorable opinions of staff members, were emotionally stable and well adjusted, believed that few pupils were behavior problems, believed that few people were motivated by jealousy and feelings toward others, and believed that most teachers were willing to assume their full share of extra duties. "Lowly assessed" teachers, on the other hand, were found to be self-centered, anxious, restricted, held unfavorable opinions of pupils, of democratic classroom atmosphere, unfavorable opinions of staff members and tended toward less emotional stability and adjustment.

Effects of Teacher and Pupil Experience

The literature contains several studies attesting to the correlation of teaching experience and pupil

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[42]David G. Ryans, "Research on Teacher Behavior in the Context of the Teacher Characteristics Study," Contemporary Research on Teacher Effectiveness, ed. by Bruce J. Biddle, and William J. Ellena (New York: Holt, Rinehart and Winston, 1964), pp. 67-101.

academic achievement. Ackerman[43] summarized three of these studies, and although there is some conflicting evidence, concludes that there is cause to question the popular assumption that the teacher with the greatest amount of experience is the one most likely to be competent. In one case the optimum experience level for teachers when measured by pupil scores on chemistry tests was one to eleven years and in another no particular advantage was shown by pupils of teachers with varying experience after the first year.

In a study dealing with the rating of teachers by administrators, Musella[44] reports that those principals scoring in the upper (closed minded) 23 per cent of the Dogmatism Scale were both older and had more teaching or administration experience than the corresponding open minded group.

In his famed study on the characteristics of teachers, Ryans[45] found forty-five of the sixty sets of differences between means to be significant in relation

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[43]Walter I. Ackerman, "Teacher Competence and Pupil Change," Harvard Educational Review, Vol. 24, No. 4 (Fall, 1954), pp. 272-289.

[44]Donald F. Musella, "Open and Closed-Mindedness as Related to the Rating of Teachers by Administrators: Implications for Administrative Theory Based on Superordinate-Subordinate Role Relationships" (unpublished Doctoral Dissertation, State University of New York at Albany, 1965).

[45]Ryans, Characteristics of Teachers.

to teacher age. Oldest teachers were found to be systematic, have businesslike classroom behavior, be learning-centered and have traditional educational viewpoints.

Porter,[46] asked student teachers to give their personal response, and to suggest remedial measures to such pupil problems as lack of attention to studies, daydreaming and talking back. He found that insight into those problems was significantly related to teacher age.

In a three year longitudinal study of teacher scores on the Minnesota Teacher Attitude Inventory Rabinowitz and Rosenbaum[47] found concern for pupil freedom decreased with experience. Concern for establishing a stable orderly classroom in which academic standards were emphasized became more important for teachers over time.

Is it possible that as one experiences the general demands of contemporary society that the same lessons may be "learned" to a greater or lesser extent simply as a correlate of age? Do the demands of teaching accelerate the process? Some support for this view comes from Hoy[48]

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[46]Robert M. Porter, "Student Attitudes Toward Child Behavior Problems," Journal of Educational Research, Vol. 52 (May, 1959), pp. 349-352.

[47]W. Rabinowitz and I. Rosenbaum, "Teaching Experience and Teachers Attitudes," Elementary School Journal, 1960, pp. 313-319.

[48]Hoy, Dogmatism and the Pupil Control Ideology.

who found that pupil control was significantly more important to teachers than it was to principals. The suggested explanation was that teachers were more consistently under the stress of situations that could be solved by controlling techniques than were principals, and therefore because of socio-psychological pressures took on a controlling role.

Studies aimed at measuring the school's effect on pupil nonacademic factors have shown significant behavioral change within one school year, a stated assumption of the present study. Sears[49] related creativity in children with teachers who took a personal interest in their students. In the same study she found high self-concept boys in rooms of teachers who had orderly, highly structured programs but were sympathetically aware of the effects of anxiety on students. Lewin et al.[50] organized clubs for ten-year-old boys and found significant correlates of experimental autocratic leadership to be hostility and aggression in one group and apathy in four groups. In a study relating

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[49]Pauline S. Sears, The Effect of Classroom Conditions on the Strength of Achievement Motive and Work Output on Elementary School Children (Stanford, California: Stanford University Cooperative Research Project No. 873, 1963).

[50]Kurt Lewin, Ronald Lippitt, and Ralph K. White, "Patterns of Aggressive Behavior in Experimentally Created Social Climates," Journal of Social Psychology, Vol. 10 (1939), pp. 271-299.

certain teacher behaviors to pupil self-concept, Spaulding[51] found positive self-concepts with integrative and supportive teachers and negative self-concepts with dominative and threatening teachers.

Summary

The problem investigated in the present study was defined as involving the relationship of teacher belief systems to several factors believed to influence teaching-learning outcomes, specifically: (1) teachers' school goal choices, (2) pupils' school goal choices, (3) pupils' attitude toward school, (4) length of teachers' experience.

The rationale for examining school goal choices included a possible link in both teachers and pupils between assertiveness-submissiveness and open-closed mindedness. The possibility was raised that open-closed mindedness of teachers might operate as a determinant of their ability to teach toward achievement of assertive-submissive goals set by boards of education.

Definitions of terms used in the present study were given and assumptions stated. Four main hypotheses

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[51]Robert L. Spaulding, "Achievement, Creativity, and Self-Concept Correlates of Teacher-Pupil Transactions in Elementary Schools," Readings in Child Behavior and Development, ed. by Cecilia B. Stendler (New York: Harcourt, Brace and World, 1964), pp. 313-318.

were stated to be answered in the study. Three additional questions were also posed.

The literature related to the study, including several national studies of educational objectives, was reviewed. School practices were seen to be the regulation of day-to-day activities in a school or classroom. Studies of school practices have focused on teacher behavior, teaching method, teacher characteristics, teacher personality, and other attributes. Most have found teacher effectiveness to be a product of situation, teacher factors, and pupil factors.

Studies of teacher beliefs showed characteristics of open and closed teachers to be similar to characteristics of successful and unsuccessful teachers in studies of teacher characteristics. Literature on belief systems was reviewed for application to teaching situations, especially in relation to age and teaching experience and pupil effect. Several studies illustrating measurable change in pupils within one school year were cited to support an assumption of the present study.

CHAPTER II

DESIGN AND PROCEDURES

Since this was not designed as an experimental study the data were gathered after the relationships under investigation had presumably been established in the sample for some time. It was necessary to gather data from teachers and their pupils, and then subject the data to systematic analysis. The sample of teachers and pupils used in the present study, the instruments, and the statistical and data gathering procedures are the subject of this chapter.

The Sample

The sample for the present study was drawn from two public school systems in Michigan. The larger school system included an industrial city of 92,000 population and the nearby rural population. The smaller school system included a city of 33,000 population and the nearby rural population. The main source of employment in the smaller city was a chemical plant. The national administrative offices and research center for the chemical company were

in this city also, and a large number of professionals lived in the school district.

Several criteria guided selection of the research sample: (1) pupils should be old enough to respond adequately to the measuring instruments, (2) pupils and teachers should have been associated for at least eight months of the school year during which the data were gathered, (3) each class should be taught by the same teacher at least 80 per cent of the time.

Fifth and sixth grades were selected as those most closely meeting the first three criteria above. From a total of 199 fifth and sixth grade classes in the two school systems, 123 met all of the above criteria. This number was further reduced to 118 by excluding classes which did not provide usable pupil protocols. After establishing the open-closed dichotomy, the final research sample consisted of 1198 pupils and fifty-one teachers. Thirty classes were fifth grade, eighteen sixth, and three combined both fifth and sixth grades. Fourteen teachers were men, thirty-seven women. Among the pupils in the sample 606 were boys, 592 were girls. Mean percentile rank of I.Q. scores was 50.85.

Data Gathering Instruments

Several instruments were used to gather data for the present study. One test was a published, widely

accepted instrument for measuring rigidity of thinking. Three tests were adaptations of instruments reported in the literature and designed to measure some aspect of teacher or pupil attitudes.

Open and closed teachers were identified in the present study by their scores on The Inventory of Beliefs, a test originally devised to measure stereotypic thinking and developed in conjunction with activities of the Attitudes Sub-Committee of the Cooperative Study of Evaluation in General Education of the American Council on Education.

In constructing The Inventory of Beliefs, its editors solicited items from faculty members of colleges and universities offering general education courses. These contributions, numbering some three thousand, were in the nature of clichés, pseudo-rational statements, and inappropriate generalizations. Final test items were chosen by whether they were judged to be acceptable to the hypothesized authoritarian model. A conceptual framework was utilized for the purpose of describing important aspects of the model, and items for The Inventory of Beliefs were chosen in such a way that all levels, contents and dimensions of that framework were adequately sampled by the Inventory.

Form T of the Inventory of Beliefs (IB) distinguishes between people who are characterized by

personality patterns referred to by Stern et al.[1] as the Stereotype or S Syndrome and the Non-Stereotype or N Syndrome. Characteristics of personalities fitting the two syndromes have been listed in Table 1.1 and Table 1.2.

Validation of the IB instrument was based on empirical measures of college freshmen. Differences between N and S type students were in the predicted direction and were significant at or beyond the 5 per cent level for (1) adjustment to college, (2) seeking recourse to therapy, (3) withdrawal from college and, (4) vocational choice. Cross validation was obtained from blind analysis of TAT and interview data. Agreement of two independent judges using TAT and interview data with IB scores, as reported by Stern et al., was 67 per cent and 70 per cent.

Correlation between the Dogmatism Scale and IB was reported to be .63 by Lehmann and Dressel, who suggested that the correlation shows that, " . . . both instruments are measuring essentially similar traits but that some measured by one are not measured by the other."[2]

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[1]Stern, Stine, and Bloom, Methods in Personality Assessment.

[2]Irwin J. Lehmann and Paul L. Dressel, Changes in Critical Thinking Ability, Attitudes, and Values Associated With College Attendance (East Lansing, Michigan: Michigan State University, Cooperative Research Project No. 1646, 1963), p. 28.

Stern et al. reported the median reliability coefficient for over forty IB reliability studies to be +.86 using Kuder-Richardson, test-retest, split half, and parallel forms procedures.

Form T of the Inventory of Beliefs contains 100 statements ranging over a wide variety of topics. The subject is asked to read each statement then indicate quickly his agreement or disagreement with the statement according to a four point scale. The four points on the scale are each described by a statement as to the direction and extent of the respondent's agreement, and range from "I strongly agree . . . " to "I strongly disagree . . . "

The Order of Importance Scale (OIS) is an adaptation of a scale developed by Hurley and Randolph.[3] Face validity is assumed in the use of this scale. No data is available concerning the reliability of the OIS.

The scale consists of ten phrases; "Do many things you want to do," "Be willing to say what you think," and "Be able to figure things out" represent assertive items. Three other items, "Be respectful toward adults," "Be a good dependable worker," and "Be obedient to the teacher," represent submissive items.

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[3]John R. Hurley and Christie C. Randolph, "Preferred Qualities in Eight-Year-Olds: The Attribute Preference Inventory" (unpublished manuscript, Michigan State University, 1969).

Responses on the OIS are made by placing a numeral in front of each phrase indicating rank order accorded to that phrase within the context of the other nine. The scale yields a summary score called the Assertive-Submissive (A-S) Index. The A-S Index is calculated by subtracting the sum of the three submissive ranks from the sum of the three assertive ranks. Assertiveness is indicated by lower or negative scores, submissiveness by higher or positive scores.

Four forms of the OIS were used in the present study. All forms contain identical items, however the point of view of the respondent is different. Form OIS-T is for teachers, and asks the teacher to respond, "according to what you expect from your students." Form OIS-YS asks the pupil to rank the items according to what, "you yourself count most important." Form OIS-YT asks the pupil to rank the items according to "what you think your teacher would count most important." Finally, form OIS-YP asks the pupil to rank the items according to "How . . . you think your parents want you to be."

All forms of the OIS, complete with instructions, are included in Appendix B.

School adjustment was measured on two incomplete sentence tests.

The first test used to measure school adjustment was a modified form of the multiple choice sentence

completion test developed at the Research Center for Group Dynamics at the University of Michigan and reported by Fox et al.[4] Modification consisted of deletion of eleven items dealing primarily with peer relations and study habits. The modified form used in the present study contained eleven sentence stems followed by four phrases. Each of the four phrases completed the sentence, but indicated a different degree of satisfaction. As an example the stem, "My school work" was followed by the four phrases, "is a lot of fun," "is sometimes fun," "isn't much fun," "is not fun at all." Respondents were instructed to,

" . . . put an X only in front of the one ending that comes closest to the way you really feel.

No data concerning validity or reliability was available for the multiple choice sentence completion test.

The second test used to measure school adjustment was a portion of a free response sentence completion test developed by Malpass and Tyler.[5] The authors have developed a test of school adjustment with subsections yielding scores of adjustment to particular phases of school.

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[4]Robert Fox, Margaret B. Luszki, and Richard Schmuck, Diagnosing Classroom Learning Environments (Chicago: Science Research Associates, 1966), pp. 115-121.

[5]Leslie F. Malpass and Forrest B. Tyler, "Validation of the Incomplete Sentences Test of School Adjustment," Southern Illinois University, 1961. (Mimeographed.)

Only the seven items designed to elicit responses on school-in-general were used in the present study.

Three masking items were included on the free response test form which was given to the pupils. The masking items were not scored and were not included in the data. On the test the masking items were number 3, "Boys . . . ," number 5, "School rules . . . ," and number 8, "Girls . . . " The free response sentence completion test used consisted of seven sentence stems designed to elicit school oriented responses. Examples of sentence stems are, "School . . . ," "It's too bad school . . . ," and "I think school . . . " Respondents were instructed to, " . . . finish the sentence as you think it should be."

Data on validation of the free response sentence completion test given by Malpass and Tyler[6] are based on comparisons with three criteria, (1) a tape-recorded structured interview with the child about school, (2) teachers' ratings of the child's behavior, (3) a sociometric device in which children were asked to rate other children in their room. Reported correlations between the test and structured interviews were statistically significant for eight of the nine possible comparisons, with a median r of .30. Correlations for teachers' ratings were reported as .29, .31, and .36 (r of .35 sig.

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[6] Ibid.

at .05 level). Correlations with sociometric data ranged from .04 to .30 and were not significant.

Reliability measures reported by Malpass and Tyler, based on correlations of interscorer agreement, were .87, .93, and .94. Correlations of this magnitude, in addition to being highly significant, were considered to qualify the free response sentence completion test as highly reliable.

Statistical validity is difficult to establish when using paper-and-pencil tests of attitudes. In the present study it was assumed that the OIS and the two incomplete tests of school adjustment revealed what Sells and Trikes[7] referred to as "elicited verbal attitudes" which may not be as valid as either spontaneous verbal attitudes or action attitudes. Following Remmers[8] and Getzels,[9] it was expected that elicited responses represent a suitable compromise between actual opinion and pupil perception of the requirements of the situations.

Demographic data were obtained on a teacher questionnaire asking for age, sex, years teaching experience,

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[7]Saul B. Sells and David K. Trikes, "Attitudes," in Encyclopedia of Educational Research, ed. by Chester Harris (New York: The Macmillan Co., 1960), p. 103.

[8]H. H. Remmers, Introduction to Opinion and Attitude Measurement (New York: Harper, 1954), p. 437.

[9]Jacob W. Getzels, "The Question-Answer Process: A Conceptualization and Some Derived Hypotheses for Empirical Examination," Public Opinion Quarterly, Volume 18, 1954, pp. 80-91.

present grade and the percentage of instructional time that that teacher was with one group of pupils.

Scoring Procedures

IB scoring followed the accepted procedure of assigning weightings to the four degrees of agreement for each question, those being most typical of the responses of closed persons receiving a weighting of one, less closed a weighting of two, etc. The overall score was the sum of weightings for individual items. The scores arrived at by this means placed the most open teacher at the top of a rank order of scores (highest score 303) and the most closed teacher at the bottom of the rank order (lowest score 178).

Teachers marked responses to IB on mark sensing sheets which were then scored by the University test scoring service.

The OIS instrument yielded a single score called A-S Index. A-S Index was calculated by subtracting the sum of ranks for the three submissive OIS items from the sum of ranks for the three assertive OIS items. The score obtained in this manner gave an index of assertiveness-submissiveness for each respondent, but provided no cut-off point beyond which it was possible to give a label of "assertive" or "submissive." Rather, the A-S Index gave

information about each respondent which could then be compared with other scores and other data in the study.

Although no cut-off point was established, it may help the reader to understand the data if it is kept in mind that relatively high positive A-S Index scores were an indication of preference for submissive school goals and relatively high negative scores were an indication of preference for assertive school goals. The mean A-S Index score for combined group teachers was -0.44 and for pupils, 7.80.

It was also possible to include the ranking for each individual OIS item as a separate score to permit later item analysis should it be found useful.

Scoring the two incomplete sentence tests required assigning weightings to the responses. The multiple choice test had four points on the scoring continuum corresponding to the four choices offered to complete the sentence. No scorer judgement was necessary on this test as each of the four sentence completions included had been constructed to fit an assigned value. In each case the response indicating the poorest attitude was weighted "3," and the response indicating the most favorable attitude was weighted "0."

Considerable scorer judgement was necessary on the free response incomplete sentence test. A seven point

continuum was used, ranging from a weighting of "6" for the poorest attitudes to "0" for the most favorable attitudes.

Since this was a free response test it was necessary to train scorers to assign weightings to each response. Three college instructors were trained using the scoring manual provided by Malpass and Tyler.[10] Each independently scored a set of forty-three test protocols selected randomly from all similar tests in the sample to determine the level of interscorer reliability. Table 2.1 shows these correlations.

TABLE 2.1

INTERSCORER CORRELATIONS FOR FORTY-THREE PROTOCOLS OF FREE RESPONSE INCOMPLETE SENTENCE TEST OF SCHOOL ADJUSTMENT

Scores	r
A and B	.816
A and C	.877
B and C	.858

Because interscorer reliabilities were considered to be sufficiently high one of the three scorers completed

[10]Malpass and Tyler, "Validation of the Incomplete Sentence Test."

scoring all free response sentence completion protocols in the study.

Once item weightings had been assigned it was possible to treat scoring of both sentence completion tests in the same manner. By adding the values assigned to each response and dividing by the number of responses it was possible to arrive at a mean score for each test which represented overall adjustment to school. One such score from each test was calculated for each classroom, in effect the mean school adjustment for the pupils in that room as revealed by that test. In addition the response to each item in the two incomplete sentence tests for each of the 1198 pupils in the sample was included in the data to provide opportunity for further analysis of individual items should it be found useful.

Statistic Used and Data Preparation

Pearson Product-Moment Correlation was selected as the statistic to test all hypotheses. The level of statistical significance was set at 5 per cent for testing the hypotheses. Levels of 1 per cent and 10 per cent were used in addition to 5 per cent when a more precise description of supplementary data was needed.

Correlations for comparisons of one teacher measurement with another teacher measurement were obtained by making direct comparisons between individual teacher

data, such as IB scores and number of years teaching experience or IB scores and A-S Index scores. This procedure was followed to test hypotheses A and D.

A slightly different procedure was used to test hypotheses B and C. These two hypotheses compared teacher data and pupil data. By correlating individual pupil data with teacher data it would be necessary to use data for one teacher in many correlations, thus violating the assumption of independent observations. The procedure followed compared the mean pupil scores for each classroom with the teacher data from that classroom, giving fifty-one sets of independent data for testing hypotheses B and C.

Correlations limited to measurements of pupils only were also obtained and included all pupils in the sample (N = 1198). Chapter IV contains some observations made from correlations of pupil data.

Point biserial correlation was used in analyses dealing with sex of teacher.

Several other statistical tests were used when analyzing supplementary data. Significance of the differences between means, when the standard deviations were small, was tested by use of the t-test. When standard deviation discrepancies were large the Wilcoxon test was used. The Wilcoxon procedure is a nonparametric test based on rank sums of sample values. Values from the

two samples, A and B, are arranged jointly in increasing order of magnitude and assigned ranks. If one population tends to give larger values than the other, most of the lower ranks will be occupied by the values of one sample while the higher ranks will be occupied by those of the other sample. The statistic upon which the test is based is the sum of the ranks of sample A.

A third test was used with correlations. All statements about significance of the difference between two correlations used in Chapter III were based on the Z test as given by Olkin.[11]

Data Collecting Procedures

Because of the assumption made in this study that personality interrelationships between teachers and pupils are partially a function of the length of mutual contact time, it was necessary that the data be collected after the longest possible exposure. For this reason the data were collected as close to the end of the school year as possible. Teacher data were collected during the second week of May, and pupil data were collected approximately two weeks later.

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[11] Ingram Olkin, "Correlations Revisited," in Improving Experimental Design and Statistical Analysis, ed. by Julian Stanley (New York: Rand McNally, 1967).

The Inventory of Beliefs, the teacher form of the Order of Importance Scale and a personal and situation data form were administered to all fifth and sixth grade teachers in the two school systems. In most cases sealed envelopes containing the IB and OIS-T and the personal and situation data form were delivered to the school principal by the researcher with the request that they in turn ask their fifth and sixth grade teachers to self-administer the tests, seal them in an envelope and return through the school mail to a central office secretary.

Each teacher was given a number by the principal, and the returned protocols were known to the researcher only by number.

The nature of the hypotheses required that an open and a closed set of teachers be identified. This was accomplished by ranking the IB scores and dividing them into a high, low and middle group. Fifty-one scores, of the teachers of fifth and sixth grades meeting the established criteria, were taken from the extremes of the ranking to establish the open and closed groups. Ranges of scores in the three groups are shown in Table 2.2.

Pupils of the twenty-six closed and twenty-five open rooms completed the OIS and the two incomplete sentence tests of school adjustment.

The middle group (Table 2.2) had no function in the study after the open-closed dichotomy was established,

and was not included in the data dealt with beyond this point.

TABLE 2.2

RANGE OF SCORES ON INVENTORY OF BELIEFS

Group	Lower Limit Scores	Upper Limit Scores	Range of Scores	Number of Teachers
Closed	192	233	41	26
Middle	235	263	28	67
Open	264	303	39	25

Summary

The sample was selected following the establishment of four criteria. Fifth and sixth grade pupils and teachers from two middle-sized school systems in Michigan were used. The research sample was composed of 1198 pupils and fifty-one teachers.

Data to measure teacher open-closed mindedness were obtained by use of the Inventory of Beliefs. The teacher form of the Order of Importance Survey (OIS-T) and a personal and situation data sheet were also completed by teachers.

Pupils completed three forms of the Order of Importance Survey (the Your Self (YS), Your Teacher (YT)

and the Your Parents (YP)), and also two incomplete sentence tests of school adjustment.

Scoring of the IB followed standard procedures of assigning weightings to responses and summing the weightings. Responses on all forms of the OIS consisted of rank orders. Scoring the OIS was accomplished by subtracting the sum of rankings for three submissive items from the sum of rankings for three assertive items, the resulting score being the A-S Index.

The incomplete sentence tests of school adjustment were scored by adding weightings of items assigned according to the degree of adjustment evident in the response.

Pearson Product-Moment Correlation was the statistical procedure used to test the hypotheses and a significance level of 5 per cent was set. When interpretation of supplementary data required determination of the significance of the differences between means the Wilcoxon or the t-tests were used as appropriate. A Z test for the significance of the difference between two correlations was used to compare correlations.

Teacher data were collected, open and closed groups were established, pupil data were gathered from the rooms of the open and closed teachers, and teacher and pupil data were analyzed to test hypotheses.

CHAPTER III

RESULTS

Teacher open-closed mindedness was the main focus of the set of hypotheses tested. Two hypotheses dealt with teacher factors only. Tests of these two hypotheses showed relationships to exist between teacher open-closed mindedness and the other variables measured. Although tests of the two hypotheses relating teacher open-closed mindedness and two pupil measures did not show strong relationships, one hypothesis was accepted.

Included in this chapter are the hypotheses, the results of tests of these hypotheses, and observations of data relevant to the hypotheses.

Hypothesis A

The first hypothesis examined was an attempt to investigate possible connections between general belief constructs and specific beliefs about school practices stated as school goals. The hypothesis tested was: There is a significant relationship between teachers' IB scores and teachers' A-S Index scores.

To test this hypothesis a Pearson Product-Moment Correlation was computed for teachers' IB and A-S Index scores for the combined group. The resultant correlation, $r = -.51$, was significant at the 5 per cent level ($F = 16.90$, $N = 51$). The hypothesis was accepted.

The negative nature of the observed correlation indicated that submissiveness and closedness were associated and that assertiveness and openness were associated.

This result is perhaps not so surprising. To follow Rokeach,[1] the school goals included in the OIS are similar to the kinds of beliefs belonging to the peripheral region of the organization of belief-disbelief systems. As such, they are derived from the formal content of the intermediate region, the locus of beliefs about authority and the nature of authority. Items in tests such as OIS supposedly sample peripherial beliefs which are good indicators of the intermediate region. It would be expected then that items on two different kinds of tests, if they were truly related to a deep-seated belief structure, would be answered in corresponding patterns.

If school goals are then in effect a representative subset of the construct "belief system," one would expect to observe a stable relationship between the two throughout

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[1]Rokeach, The Open and Closed Mind.

the range of circumstances to which they would be relevant. Such is not the case. The correlation within the closed teacher group was -.01 and in the open teacher group was -.05. These correlations show that although the relationship of IB to A-S Index scores was significant overall, it did not hold within the two extreme groups. The pattern of school goal choices within the closed group and within the open group did not match the patterns of school goal choices for the combined group. Does this mean that A-S Index does not measure the same belief system measured by IB? Is there a "threshold factor" of openness and closedness beyond which specific teaching beliefs are no longer tied to general beliefs? These questions could not be answered from the data, although it is expected that the dichotomized nature of IB scores could result in little within-group correlation with that variable, and thus provide an explanation for the observed relationships.

The data did afford a better description of the mean A-S Index scores of open and closed teachers. These data are given in Table 3.1.

A Wilcoxon test for the differences between A-S Index means for open and closed teachers was significant at the 1 per cent level. Mean A-S Index for open teachers was -4.34, and for closed teachers was 3.30.

TABLE 3.1

MEANS, STANDARD DEVIATIONS AND SUMS OF RANKS FOR DICHOTOMIZED TEACHERS' A-S INDEX SCORES

	Open (N = 25)	Closed (N = 26)
A-S Index mean	-4.34	3.30
Standard Deviation	4.90	6.90
Sum of Ranks*	462	864

*Z = 3.54, significant at 1 per cent level.

In general, A-S Index scores for open teachers were negative, and the scores for closed teachers were positive. Nine of the twenty-six closed group scores and twenty of the twenty-five open group scores were negative. The range of scores was also of interest. In the closed group, scores ranged from -11 to 13, while in the open group the range was from -12 to 8. Although the scatter was rather large, the OIS seemed to yield A-S Index scores which varied around zero for all teachers in the sample.

Understanding the nature of the A-S Index--IB relationship requires that the entire spectrum of scores on the two tests be examined. Obviously the two were related at the extremes, but it was considerably less obvious as to where along the continuum of scores the relationship was established. No A-S Index scores were

available for comparison with "middle range" IB scores. A complete examination of A-S Index--IB relationships was beyond the scope of the present study.

Summary, Hypothesis A. It was shown that there was a relationship between teacher A-S Index and IB scores. The correlation was negative, showing a tendency for closedness and submissiveness to be associated and for openness and assertiveness to be associated. It was also found that there was a significant difference in the mean A-S Index of open and closed teachers, but that there was wide divergence in individual A-S Index scores within groups, especially for open teachers. The large SD, combined with the failure to find significant A-S Index--IB correlation within the extreme groups raised a question as to where the strongest association of the two scores could be found.

Hypothesis B

The second hypothesis examined was an attempt to investigate possible connections between general belief systems of teachers and pupils' specific beliefs about school practices stated as school goals. The hypothesis tested was: There is a significant relationship between teachers' IB scores and pupils' A-S Index scores.

To test this hypothesis a Pearson Product-Moment Correlation was computed for teachers' IB scores and the

individual classroom means of pupils' A-S Index scores. The resultant correlation, r = -.28, was significant at the 5 per cent level (F = 4.26 N = 51). The hypothesis of a significant relationship was accepted.

The negative nature of the observed correlation indicated that pupil submissiveness and teacher closedness were associated and that pupil assertiveness and teacher openness were associated. This finding was supported by a comparison of teacher and pupil scores for A-S Index, r = .35, showing that assertiveness in teachers and pupils was associated and that submissiveness in teachers and pupils was similarly associated. The A-S Index correlation would seem to support that measure as a better predictor of school practices than IB, however the difference in the two correlations, r = .28, and, r = .35, was not statistically significant. The evidence is that teachers and pupils tend to score alike using either measure.

Pupil A-S Index scores were subject to several other comparisons. Of particular interest was the difference between means of teacher and pupil A-S Index. The mean of pupils (YS form) was 7.80, while the teacher mean (T form) was -.44. This difference in means was significant at the 5 per cent level. Evidently pupils believed submissive goals to be substantially more important than their teachers did. Only seven of the fifty-one teachers

in the sample had A-S Index scores higher than the pupil mean.

The correlation of IB and pupils' A-S Index was low, about 8 per cent of the variance in one variable was attributable to the other variable. It was thought that parents or other significant persons in the pupils' environment might have a stronger effect on pupils' school goals. An attempt was made to assess the relative influence of teachers and parents. To accomplish this each pupil was asked to complete two OIS forms after filling out his own. One of the two was OIS, Your Teacher (YT) and the other OIS, Your Parents (YP). The items were printed in a different order on each form, and the instructions asked the pupils to rank the items in the order that "your teacher would count most important" for the YT form and, that "your parents would count most important" for the YP form.

Correlations between the identical items on all forms of OIS are given in Table 3.2. From an examination of the first three columns of Table 3.2 it can be seen that pupils made very little distinction between the three points of view they were asked to assume. Although there was slight variation between the various correlations the tendency was toward uniformity. Tests of the differences are given in Chapter IV along with a discussion as to what

TABLE 3.2

CORRELATIONS BETWEEN ITEMS ON "TEACHER" (OIS-T) "YOUR SELF" (OIS-YS), "YOUR TEACHER" (OIS-YT) AND "YOUR PARENTS" (OIS-YP) FORMS OF THE ORDER OF IMPORTANCE SCALE

Item*	YSrYT	YSrYP	YPrYT	YSrT	YTrT	YPrT
1	.39	.41	.41	.03	-.03	.04
2	.31	.39	.39	.10	.14	.00
3	.37	.39	.39	.00	.04	.04
4	.28	.27	.27	.02	.09	.08
5	.41	.39	.39	.02	.06	.00
6	.42	.47	.47	.05	.10	.06
7	.27	.29	.29	.13	.07	.06
8	.46	.44	.44	.06	.15	.02
9	.30	.15	.15	.03	.01	.13
10	.38	.34	.34	.04	.00	.01

*For complete item see Table A.2.

meanings can be attributed to the responses on different forms. Could it be said that uniformity of responses is probably more of a testimonial to the reliability of the instrument than to its ability to elicit responses from different perspectives? When the instrument was administered there was no planned time lapse between each form of the OIS. The items were in a different order on each form and the pupils were not permitted to turn ahead to the next form or back to the last until told to do so by

the teachers. The fact that pupils were able to obtain correlations which appear to be quite similar for most items seems to point to a rather strong underlying predisposition to respond in a set way.

Item 9, "Be able to figure things out," is the only item of the ten which appears to vary from a consistent correlation. The greatest agreement between pupil judgement of "your parents" and the teachers' actual ranking of that item occurred with item 9. If there is any significance here it is obscure, particularly when considering that the YS and YT correlation for item 9 was similar to the others in the first column.

A Wilcoxon test for the difference in the means for YT and YP of open group and closed group pupils showed no significant difference.

Summary, Hypothesis B. There is a relationship between teacher IB scores and pupil A-S Index scores. The direction of the correlation showed submissiveness and closedness to be associated and assertiveness and openness to be associated. Pupil A-S Index scores were significantly more submissive than teacher A-S Index scores. Attempts to use YT and YS forms of OIS to obtain A-S Index scores for pupils' perceptions of their parents' and teachers' school goals yielded no clear results.

Hypothesis C

The third hypothesis examined was an attempt to investigate possible connections between teacher belief systems and pupil adjustment to school. The hypothesis tested was: There is a significant relationship between teachers' IB scores and pupils' scores on two incomplete sentence tests of school adjustment.

To test this hypothesis a Pearson Product-Moment Correlation was computed for teachers' IB and the individual classroom means of pupils' scores on each of two incomplete sentence tests. For the multiple choice incomplete sentence test and IB the correlation was, $r = .17$, too low for significance at the 5 per cent level ($F = 1.51$, $N = 51$). The free response incomplete sentence test also failed to show a significant correlation at the 5 per cent level, $r = .10$ ($F = .55$, $N = 51$). The hypothesis was rejected.

Only one of the test items showed significant correlation with IB. Sentence stem, "In the lower grades," yielded a positive correlation, $r = .34$, showing good school adjustment and closed-mindedness to be associated. Sentence stem, "Studying is," yielded a positive correlation significant at the 10 per cent level. None of the other items approached significance.

Three of the eighteen items were negatively correlated with IB, however one of these three correlations may be assumed to be zero. Table 3.3 lists individual test items and their IB correlations.

TABLE 3.3

CORRELATIONS BETWEEN TEACHERS' IB SCORES AND PUPILS' SCORES ON INCOMPLETE SENTENCE TEST ITEMS

Test	Item	r
Multiple Choice Test	1	.10
	2	.18
	3	.19
	4	-.14
	5	.16
	6	.09
	7	.22
	8	.24*
	9	.19
	10	-.04
	11	.16
Free Response Test	1	.11
	2	.08
	4	-.00
	6	.34**
	7	.11
	9	.07
	10	.02

*Significant at 10 per cent level.

**Significant at 5 per cent level.

N = 51

It was of interest to note the comparison of the two types of incomplete sentence tests, especially in their ability to yield measures of association with other variables. Table 3.4 contains several comparisons.

TABLE 3.4

CORRELATIONS OF TWO SENTENCE COMPLETION TEST MEANS AND TWO A-S INDEX SCORES

	r
A-S Index (T) r Multiple Choice Test	-.23
A-S Index (T) r Free Response Test	-.11
A-S Index (YS) r Multiple Choice Test	-.28*
A-S Index (YS) r Free Response Test	-.04

*Significant at 5 per cent level.

N = 51

Three combinations of sentence completion tests and A-S Index yielded no significant correlations. Only the multiple choice test and YS form of A-S Index were significantly correlated. The negative nature of the significant correlation meant good school adjustment was associated with submissive school goal choices by pupils. The three non-significant correlations were also negative.

There appeared to be a tendency, not statistically significant, for the multiple choice test to yield higher correlations than the free response test with three

variables in the study; IB, and both T and YS forms of A-S Index. The correlation between the two sentence completion tests was .81 (F = 94.62, N = 51, significant at the 1 per cent level). Though one test may have been somewhat more powerful than the other for purposes of predicting variables in the present study, it appeared that they were measuring approximately the same thing.

When pupil I.Q. and the incomplete sentence tests were compared, the free response test yield r = .50 and the multiple choice test r = .36. This was the only correlation with extra-test variables in which the observed correlation was higher for the free response test. The difference between the two correlations failed to reach significance.

Among all correlations of the two incomplete sentence tests with other variables in the study, only the correlations with pupil I.Q. reached r = .35 or greater. The question was then raised as to whether pupil I.Q. might be related to the other variable in Hypothesis C, IB scores. No such relationship was found for the combined group of pupils and teachers' IB scores.

The differences between correlations of IB and each sentence completion test (r = .17, r = .10), and the correlations of each sentence completion test with pupil I.Q. (r = .36, r = .50), were significant at the 5 per cent level.

The conclusion was that both sentence completion tests included some of the same factors measured by I.Q. tests but included little of the factors measured by IB.

Summary, Hypothesis C. Hypothesis C, that there is a significant relationship between teachers' IB scores and pupils' scores on two incomplete sentence tests of school adjustment, was not supported. Several indications were cited to show that the slight trend in the data was toward associating positive school adjustment with closed teachers. A significant correlation existed between school adjustment and both pupils' school goals and pupils' I.Q.

Hypothesis D

The fourth hypothesis examined was an attempt to investigate the possible connections between teacher belief systems and length of teaching experience. The hypothesis tested was: There is a significant relationship between teachers' IB scores and length of teaching experience.

To test this hypothesis a Pearson Product-Moment Correlation was computed for teachers' IB scores and number of years teaching experience. The resulting correlation, $r = -.31$ was significant at the 5 per cent level ($F = 5.33$, $N = 51$). The hypothesis was accepted.

The negative nature of the observed correlation indicated that open teachers had less teaching experience

than closed teachers. This finding was consistent with the results reported by Musella[2] and Porter[3] in the comparison of teacher belief systems and age. In the present study however, teacher age and IB were not significantly related ($r = -.15$).

The data suggested a stronger relationship between teaching experience and IB than between age and IB. A test of the difference between the correlations of IB with experience and with age was significant at the 10 per cent level ($Z = 1.89$, $N = 51$).

Dissonance theories and theories of cognitive change based on learning by reward-punishment could possibly provide a basis for predicting the observed correlation between teaching experience and open-closed mindedness. The correlation with teaching experience was approximately twice the correlation with age, raising a question as to whether teaching introduces a determinant of closed mindedness more powerful than age alone. Such a determinant may be found within the teaching experience.

It would seem a reasonable assumption that ability to control pupils' physical actions is a prominent value

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[2]Musella, "Open and Closed-Mindedness as Related to the Ratings of Teachers."

[3]Porter, "Student Attitudes Toward Child Behavior Problems."

in elementary schools. The unstructured, chaotic classroom is very likely to arouse anxieties in the teacher in charge. Even a relatively orderly group of pupils can cause a teacher concern at times, especially if she thinks other teachers, parents, or administrators may judge her on the basis of pupil control. When anxiety and the need for approval, whether self approval or authority figure approval are high, the teacher may place a greater value on pupil conformity and all forms of pupil control.

There is no way to tell, from the data in this study, whether change actually took place or whether only closed teachers stayed in teaching. A higher attrition rate among open teachers would offer a plausable explanation for the phenomena. Open teachers who cannot adjust to the demands of pupil control may change from teaching to another profession.

The only data in the present study which could possibly shed light on teacher drop-outs and open-closed mindedness is the information of teacher sex. Since women may have less obligation for family support than men, it might be that they would find it easier than men to leave teaching. The result might be that more of the experienced female teachers would be closed. It is possible that open male teachers would be more likely to deal with dissonance in some manner other than leaving the teaching profession,

all other factors being equal. Those who stayed might be expected to change to conform to the relatively closed patterns that are typical of experience. If this were true the ratio of men to women could be higher in the closed group than in the open group.

TABLE 3.5

LENGTH OF TEACHING EXPERIENCE AND SEX OF TEACHER COMPARED FOR OPEN AND CLOSED TEACHERS

	Open	Closed
N men	7	7
N women	18	19
Mean experience	8.28	13.52
r experience and sex	.32	.36
r IB and sex	-.02	-.06

The data in Table 3.5 agree with those reported by Kirk[4] who found sixteen males in a sample of seventy-two new elementary teachers to be evenly divided between openness and closedness. Open men did not leave teaching at a faster rate than closed men in the present sample. The difference between r = .32 and r = .36 for the two groups relating sex and teaching experience was not statistically

[4]Kirk, "Behaviors of a Teacher New to a Building."

significant. There was no evidence to support the suggestion of sex role influence in teaching experience as related to open-closed mindedness.

The correlations for experience and sex shown in Table 3.5 were similar to the correlation for the combined group for the same variables ($r = .33$, $F = 6.03$, significant at the 5 per cent level). The tendency for female teachers to be more experienced was relatively constant throughout the sample.

The number of men was the same in both groups. The only difference in sex makeup of the two groups could be attributed to the fact that the closed group had one more person than the open group. Nor was there a significant difference in the correlations of experience and sex between the two groups. There was no significant difference in the correlations of IB and sex between open and closed teachers, a finding which also held true for the combined group of teachers ($r = 0.03$).

Summary, Hypothesis D. Hypothesis D, that there was a relationship between IB scores and length of teaching experience, was accepted. The correlation of IB and experience was larger than the correlation of IB and age raising a question about the effect of teaching on teacher open-closed mindedness. No evidence was available in the study to determine which variable was cause and which effect.

CHAPTER IV

DISCUSSION OF SUPPLEMENTARY DATA

This chapter examines some of the data not directly related to the hypotheses in an effort to shed additional light on the hypotheses and to suggest directions for additional investigation.

The nature of an "after only" correlation study such as the present one, does not permit conclusions as to which variable caused or influenced the other variable. Nevertheless, a distinction can be made between conclusions, based on observations of the data, and theoretical constructs, based on inferences from the data. Observations and inferences are summarized separately at the end of the chapter.

Closed-Submissiveness Reversal

The data were examined for differences in the relationships of age, experience, A-S Index, and IB among open teachers and among closed teachers. These comparisons are presented in Table 4.1.

TABLE 4.1

PRODUCT-MOMENT CORRELATIONS AMONG THREE TEACHER GROUPINGS AND FOUR TEACHER VARIABLES

	Closed N = 26 r	Open N = 25 r	Combined Group N = 51 r
A-S Index--Age	-.66*	.10	-.24
A-S Index--Experience	-.45*	.30	-.03
IB--Age	-.12	-.12	-.15
IB--Experience	-.19	-.25	-.31*
IB--A-S Index	-.15	-.17	-.51*

*Significant at 5 per cent level.

IB--Experience was found to be consistent in sign among the three groups in Table 4.1. The consistent negative relationship indicates that the tendency for closed mindedness and teaching experience to increase together holds for all three groups, although it was significant only for the combined group.

The relationship between A-S Index and the two factors of age and experience shows that within the closed teacher group there was a reversal of the trend which might be expected from examination of the combined group A-S Index--IB relationship. The negative correlations for both age and experience with A-S Index for closed teachers

(Table 4.1) shows that older and more experienced closed teachers chose relatively more assertive goals than younger and less experienced closed teachers.

For a possible explanation of this closed group reversal trend it may be helpful to look at some characteristics of a closed teacher. It could be hypothesized that closed teachers are led to favor submissive school goals because of the very characteristics of closedness. Selected characteristics from Table 1.1 are juxtaposed against the three submissive items from the A-S Index in Table 4.2 to facilitate comparison.

TABLE 4.2

SELECTED S SYNDROME CHARACTERISTICS AND SUBMISSIVE A-S INDEX ITEMS

From S Syndrome	Submissive A-S Index Items
Depersonalization of Relationship	Be respectful toward adults
Authority seen as threatening	
Submission to authority	Be a dependable worker
Attempt to dominate and control	
Anxiety and guilt about own hostility	Be obedient to the teacher
Continual free floating anxiety	
Manipulates things and people as external objects through physical action	
Conformity for immediate ends	
Emphasizing obedience, order	
Inaccessable to new experience	

The emphasis of both columns is obviously on control, submission to established order, conformity. The left column depicts a highly anxious, defensive person. Anxiety is called up easily when a structured, rigid, mechanistic mode of operation is threatened or is inoperable.

The beginning teacher is faced with many new and anxiety producing situations for which she has no channelized response system; that is, she has no ready response which she has learned to rely on for solving problems. As she meets and deals with these situations over a period of several years, she develops "satisfactory" routine responses. During this time her main concern is with pupil control, specifically discipline and other teacher-pupil relationships.[1]

The data in Table 4.1 suggests that if the beginning teacher was closed, or had tendencies toward closedness, she might have those tendencies heightened by the anxieties aroused in the unstructured and unrespecting environment of a first classroom. As a result both her closed mindedness and the related pupil control ideologies would be strengthened. Characteristics listed in the left column of Table 4.2 for closed persons lead one to expect

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[1]Kirk, "Behavior of Teachers New to a Building."

exactly the goal cathexis represented in the right column, and in addition a general retreat in the overall belief system to a safer less threatening position.

Concerns of closed teachers new to a building were found, by Kirk,[2] to rank in order from greatest to least concern among four items of teacher-pupil interaction: discipline, teacher-student relations, grading, classroom instruction. It would seem a logical conclusion that new closed teachers, then, would concentrate their energies toward creating a closed controlled environment in their classrooms.

The above explanation would seem to fit the data in Table 4.1 for IB--A-S Index and IB--Experience correlations. An extension of the same line of reasoning would suggest an explanation for the A-S Index Age and Experience correlations that show a decided reversal in control ideology with increased age and experience. With a strong need for order, structure, conformity, and authority the closed teacher would, through experience, establish those channelized responses to pupil control situations which would be formal, structured and yield the desired feeling of control. Once these modes of pupil control become institutionalized, they would no longer be available for

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[2] Ibid.

examination by the closed belief system. Following Rokeach's characteristics of closed systems,[3] new ideas or perceptions bearing on pupil control would be dealt with in a way that would not permit serious challenge to the established beliefs.

It is theorized that once anxieties of a closed teacher are allayed by channelization of responses, those responses are no longer challenged by new perceptions, and the teacher becomes progressively more free to attend to other demands of her environment. Because of the isolation of, and within, belief systems she is able to maintain a basically closed belief system while at the same time attending to admonitions of the profession to "humanize" or otherwise become responsive to individual pupil needs. Professional journals, graduate class instructors, conference speakers, and the like, may represent authority, which could gradually take the place of anxiety in determining teacher attitudes as pupil control becomes less threatening.

The teacher data from the present study would indicate that the model represented in the above hypothesis may be accurate. They do not yield information as to whether the reversal in pupil control ideology is real or superficial. Does the classroom behavior of a closed teacher

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[3]Rokeach, The Open and Closed Mind.

actually become more assertive oriented with experience, or, does she successfully maintain stated beliefs (A-S Index) in isolation from "action" beliefs?

This question cannot be answered from the teacher data in this study. Although only data dealing with belief systems and teaching are being considered to this point, it was felt that pupil responses may give some data indicating indirectly what was being communicated by the teacher's classroom behavior. By looking at pupil responses it may be possible to determine whether the submissive reversal "phenomena" was basic or superficial.

No conclusions can be drawn from the data in this study concerning the possible effect of teacher factors on pupil factors. Submissive oriented teachers may teach children to be submissive, or, could it be that teachers respond to the need of the class to be dealt with in a submissive or assertive manner? Common ideas about the effect of "teachers" on "learners" would lead to the speculation that the observed characteristic in the teacher was the direct or indirect cause of the corresponding characteristic in the learner. This point of view would seem to have strong appeal when applied to an adult personality in communication with growing, changing, highly perceptive children. Add to this the highly defined role distinctions of teacher as "sender" and pupils as "receivers" and

speculations about cause-effect relationship would seem to be self answering.

With the above reservations in mind, the correlation of A-S Index scores for pupils and teachers were examined for possible answers to the question, "Does the classroom behavior of a closed teacher actually become more assertive oriented with experience . . . ?" It was thought that if pupil A-S Index scores were positively correlated with teacher experience this might be indirect evidence that closed teachers' classroom behavior did not match the reversal in their A-S Index scores with increasing experience. In other words, it could hardly be argued that the cause of increased experience of a teacher was the submissive orientation of her present class.

TABLE 4.3

PRODUCT-MOMENT CORRELATION OF TEACHER EXPERIENCE WITH PUPIL A-S INDEX

	Correlation	N
Closed	.30	26
Open	.30	25
Combined	.33*	51

*Significant at 5 per cent level.

As can be seen from the top line of Table 4.3, the correlation was positive, but of insufficient magnitude to be of statistical significance. However, some meaning might be attached to the fact that the correlation was not negative, or of significant magnitude in that direction. A large negative correlation would have indicated that pupils under experienced closed teachers were more assertive oriented than pupils under less experienced teachers. Such a finding would tend to support the observed correlation of teacher experience and A-S Index. It can only be said that the data in Table 4.3 do not contribute evidence to support the previous findings. If closed teachers' classroom behavior did become more assertive oriented as they gained experience it was not matched by a significant trend in the same direction by their pupils' beliefs. If the assumption of teacher causation is applied, this finding heightens the suspicion that experienced teachers may not become more assertive in actions, but only in words. Such a position, while highly speculative, is nevertheless consistent with Rokeach's closed model.

While the data in Table 4.3 for each extreme group was not significant, there was a significant correlation between these factors for the combined group. The positive correlation of pupil A-S Index and teacher experience for the entire sample, while small, is nevertheless greater

than the correlation of teachers' own A-S Index and experience of -.03 (Table 4.1). The data may indicate that pupils' choices of school goals may be a better predictor of a teacher's own choices. The correlation of .33 showed a slight tendency for pupils to choose submissive school goals as their teacher's experience increases.

Data for the open group indicates that there was little or no correlation between age or experience and A-S Index (Table 4.1). Open teachers indicated a preference for assertive goals, as seen in Table 3.1. There was no evident consistent change in school goal choices as open teachers became more experienced. Openness and choice of assertive school goals appeared to be functionally interrelated. Open people are not subject to the same environmental pressures; they have less anxiety, hold their beliefs more tentatively, and tend to put more stress on authority as transient than do closed people.[4] The stress that open teachers put on freedom of thought and expression and personal autonomy in problem solving is seen as consistent with Rokeach's model of the open personality.

The absence in the open teacher group, of the reversal trend noted in the closed teacher data for

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[4]Stern, Stein, and Bloom, Methods in Personality Assessment, pp. 189-226.

experience and A-S Index is seen as consistent with the suggested model of open teacher change. For open teachers the environmental press is less threatening, defensiveness is less important, and differentiation between beliefs and actions is less evident.

The Order of Importance Survey

The OIS instrument, from which the A-S Index was constructed, proved capable of distinguishing between open and closed teachers. However when the correlation of each OIS item with IB was examined it was evident that all items did not discriminate equally. The highest correlation was obtained with item 2, "Be willing to say what they think" ($r = -.49$). Considering means of ranks of OIS items in the two extreme groups, open teachers ranked item 2 as the second most important school goal, while closed teachers ranked it seventh.

Item 10, "Be obedient to the teacher," had a correlation of -.47 with IB. Again, by ranking the means of teacher ranks it is seen that open teachers placed item 10 in the eighth ranked position while closed teachers ranked the same item sixth. It is not clear why the correlation of item 10 is high, yet the two extreme groups are relatively close in their rank order assignment of the item. Perhaps the answer lies in the lack of precision inherent

in a procedure that would rank the means of ranks. It should be noted that there was more variance in the response to this item (SD = 2.5), than to any of the other nine.

These two items appear to be better predictors of IB scores than any of the other items, although no test of the difference was made. They are approximately as effective in this capacity as the A-S Index for teachers, which gave a correlation of .51.

Table A.1 listing the correlations of each item with five factors is included in Appendix A. Many of the correlations were statistically significant, several were of sufficient magnitude to show strong relationships. "Do many things that they want to do," item 1, had the highest correlation with teacher age (r = -.29), yet was not highly correlated with teaching experience (r = -.05).

Two items had a correlation with sex of teacher greater than .20. Two correlations were positive, indicating they were favored by male teachers. They were: item 3, "Know the right answers on test" and, item 10, "Be obedient to the teacher." Both items are submissive, but perhaps the low correlations prevented them from substantial contributions toward a correlation between A-S Index and teacher sex.

Another analysis of particular interest to the present study was the relationship of similar items on the four forms of OIS for the combined group. Correlations between paired items are given in Table 3.2, however these gave no indication of the relative rank order importance placed on each item. This information is given in Table 4.4, with the mean rank order indicated for each OIS form.

Item 9 was given the highest rank order by teachers, followed by items 8 and 7. These three items could appear to be at least conceptually related to assertiveness. Mean rank order scores for pupils, on the other hand, indicated that they gave the first three ranks to items 10, 7 and 5, two of which may be conceptually associated with submissiveness. Item 7 was ranked among the first three by both groups.

Employing the t-test for correlated measures when appropriate, the t values for differences between pairs of mean ranks for each OIS item across forms are given in Table 4.5. The mean rank scores for T and YS forms for items 5 and 7 were not significantly different. The mean rank differences for items 8, 9 and 10 were significantly different. These three were also the items which elicited the most discrepant rankings between teachers and pupils. Item 10, "Be obedient to the teacher," was ranked 1 by

TABLE 4.4

ORDER OF IMPORTANCE SURVEY ITEMS COMPARED BY RANK OF MEANS FOR FOUR OIS FORMS

Item	T			YS			YT			YP		
	Rank of Means	$\bar{x}$	SD	Rank of Means	$\bar{x}$	SD	Rank of Means	$\bar{x}$	SD	Rank of Means	$\bar{x}$	SD
1. Do many things that I want to do.	8	6.29	2.30	10	8.70	2.15	10	8.60	2.37	10	8.96	1.81
2. Be willing to say what you think.	6	5.00	2.48	6	5.38	2.78	8	6.31	2.40	9	6.98	2.28
3. Know the right answers on tests.	9	8.70	1.09	9	6.60	2.53	9	6.90	2.31	8	6.64	2.38
4. Understand how things work.	4	4.47	2.43	4	5.10	2.20	4	5.00	2.13	7	5.80	2.05
5. Be respectful towards adults.	5	4.83	2.06	3	4.52	2.53	3	4.73	2.31	3	4.39	2.38
6. Be very intelligent.	10	8.74	2.12	8	6.32	2.79	7	6.02	2.89	6	5.65	2.77
7. Be a good dependable worker.	3	3.92	1.90	2	3.80	2.56	1	3.08	2.23	2	3.70	2.11
8. Be happy.	2	3.46	2.42	7	6.01	2.70	6	5.70	2.78	5	5.20	2.78
9. Be able to figure things out.	1	3.34	2.13	5	5.31	2.13	5	5.23	2.18	4	4.83	2.24
10. Be obedient to the teacher.	7	6.25	2.51	1	3.24	2.53	2	3.43	2.57	1	2.87	2.49

TABLE 4.5

VALUES OF t FOR DIFFERENCES BETWEEN MEANS OF RANKS FOR ITEMS ON FOUR FORMS OF ORDER OF IMPORTANCE SURVEY

Item	T-YT	T-YP	T-YS	YT-YP	YT-YS	YP-YS
1	-6.83*	-10.21*	-7.83*	- 5.43*	- 1.40	3.79*
2	-3.82*	- 6.06*	-0.96	- 8.96*	10.53*	17.78*
3	5.55*	6.16*	5.91*	3.48*	3.81*	0.50
4	-1.72	- 4.51*	-2.00	-10.99*	- 1.34	9.11*
5	0.30	1.30	0.86	4.55*	2.81*	- 1.63
6	6.65*	7.90*	6.13*	4.51*	- 3.41*	- 7.46*
7	2.65*	0.73	0.33	- 8.37*	- 8.61*	- 1.23
8	-5.67*	- 4.41*	-6.64*	5.90*	- 3.79*	- 9.00*
9	-6.08*	- 4.67*	-6.48*	4.85*	- 1.10	- 5.96*
10	7.69*	9.51*	8.34*	6.70*	2.32	- 4.52*

*Significant at 1 per cent level.

$N_T = 51$, $N_Y = 1198$

pupils and 7 by teachers. Apparently pupils see obedience as the most important of the ten school goals listed, while their teachers see it as relatively unimportant among the ten. Item 9, "Be able to figure things out," was ranked 5 by pupils, 1 by teachers. Item 8, "Be happy," was ranked 7 by pupils, 2 by teachers. It would appear that pupils believe these goals to be less important than their teachers. There was also a substantial difference in the rank means for item 1, however a ranking of the means showed a rank order of 10 for pupils and 8 for teachers on that item. Item 3 showed a significant difference in means although the ranking of means was the same on that item for both forms. There was no statistical difference between the means for items 2, 4, 5 and 7.

When the T form is compared with pupil forms of OIS consistency in sign of the values of *t* are noted. Although there is some variance in the size of *t*, particularly in items 2, 4 and 7, no item changed sign across the three comparison sets. The means were frequently different enough from each other to be significant at the 1 per cent level. Twenty-two of the thirty pairs of means comparing teacher and pupil forms were found to be different. Means for items 1, 2, 3, 6, 7, 8 and 9 were significantly different for all three combinations of pairings. All three pairings of means failed to reach statistical differences for only one item, number 5.

Comparisons between the various pupil forms of OIS showed more uniformity in ranks of means but less uniformity in measures of the differences between pairs of mean scores than did comparisons with the teacher form.

Four items varied more than one rank across the three pupil forms as indicated by the ranks of means. These differences were all significant at the 1 per cent level except for item 4, YT--YS pair. Pupils ranked, "Be willing to say what you think" as more important than they thought either their parents or their teacher would rank it. Pupils also seemed to think their parents would place less value on, "Understand how things work" than either the pupils themselves or their teachers. "Be very intelligent" and "Be happy" were seen as more important to teachers and parents than to the pupils themselves.

In addition to these differences, twelve other pairs of means of pupil forms were found to be statistically different, even though ranking the means resulted in no more than one rank difference.

The importance to be attached to the differences and similarities in responses to OIS items is unclear. Do these differential responses represent sets toward action beyond the test situation itself? Are there inherent limitations in the methodology employed, timing of administration of the pupil forms for instance, which limit or exaggerate differences between same-item responses?

The OIS instrument yielded different responses under different forms. It can be seen from an examination of Table A.4 that intercorrelations of OIS items were not uniform. Additional study of the instrument, especially item analysis, may lead to improved means of assessing certain teacher and pupil attitudes.

Pupil Variables

The correlations between teacher variables and pupil variables were either low or altogether absent in this study. Few meaningful conclusions could be based entirely on observations of the data. The data did provide the basis for inferences about some relationships between teacher and pupil data, however.

That there is little correlation between pupil variables and teacher belief systems seems evident from the data. What is not so evident is how much "little" really is. Can educators be satisfied that teacher belief systems account for less than 8 per cent of the variation in student goal choices as shown in the data for Hypothesis B, for instance? An examination of some additional data from the present study provided an inferential basis for answering that question and several others.

Four items of the OIS-YS instrument correlated with IB at the 1 per cent level (see Table A.3) all four were in

the hypothesized direction, that is, assertive items correlated with open minded teachers, and submissive with closed. None of the four had a correlation greater than .12.

Even if the assumption that teachers caused the change could be accepted, the amount of teacher influence presumably would not account for the strong preference in one direction indicated by pupils' A-S Index means.

Whereas teachers' A-S Index scores were more-or-less evenly distributed on either side of zero, pupils' scores were heavily weighted toward submissive goals (Table 4.6).

TABLE 4.6

A-S INDEX MEANS OF TEACHERS AND PUPILS FOR OPEN AND CLOSED GROUPS

	Open	SD	N	Closed	SD	N
Teachers' A-S Index	-4.35	4.94	25	3.31	6.90	26
Pupils' A-S Index	7.25	2.24	25	8.33	1.36	26

The explanation that seemingly describes the data is that the means in Table 4.6 are true indicators of pupils' choices. Pupils may simply choose submissive goals

as a consequence of many factors, one of which may be teacher open-closed mindedness.

There are other indicators of pupil preferences for conformity and structure in the school program. That pupils tend slightly toward better school adjustment under closed teachers might be inferred from the data for Hypothesis C. The proposition that youth express more submissive views than teachers is supported by Harnly who compared responses of high school seniors and curriculum society members to such statements as "More attention should be given to formal drill," and "Learning how to compete successfully is more important than learning how to live co-operatively."[5] Students were found to endorse the series of "conservative" statements much more frequently than the professionals.

The student profile consistent with the data would show strong tendencies toward acceptance of submissive goals as being those worthy of attainment. It also appears that the child is slightly more satisfied under conditions which are consistent with these goals, i.e., in the room of a closed teacher. The data here are for upper elementary grades only, however, and so leave some serious questions unanswered. Where do students "learn" to value submissive

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[5]Harnly, Attitudes of High School Seniors, p. 507.

goals? Is it in the early grades, at home, or from peers? Do they "learn" it at all or is it a consequence of some psychological predisposition common to youth?

Factors Related to Pupil I.Q.

A presentation of factors believed related to pupil I.Q. follows. Little attempt was made to examine or explain these findings as they were beyond the primary intent of the present study. They were presented here because of their potential value in stimulating or contributing to additional research.

The discussion in the following sections was not meant to convey conclusions as to which variables were the cause and which the effect, but rather the intent was to make the empirical nature of the correlations clear.

Interpretation of the data related to I.Q. is made more difficult by the fact that some I.Q. scores were obtained from tests given only a few months prior to the collection of data. Approximately one-third of the fifth graders were given an I.Q. test in February. Approximately two-thirds of the sixth graders were given an I.Q. test in April. The remainder of the I.Q. scores were obtained from tests given the previous year. Because of the timing of these tests it would be very difficult to assume any simple cause-effect relationship. On the other hand, if such a

relationship in fact existed between present teacher and pupils, the data presented here would indicate a much smaller correlation than actually was the case, because approximately half the I.Q. scores were obtained from tests given the previous year.

In the present study all I.Q. scores were converted to percentile scores using tables provided by the test publishers. I.Q. percentile scores are referred to hereafter simply as "I.Q."

Correlations between items on three forms of the OIS and pupil I.Q. are given in Table 4.7. High positive correlations indicate that the item was ranked as important by lower I.Q. pupils, but less important by higher I.Q. pupils. High negative correlations show the opposite, that the item was ranked as important by higher I.Q. pupils, but less important by lower I.Q. pupils.

Item 7 showed significant negative correlation between teacher rankings (OIS-T) for the combined group and pupil I.Q. Teachers who rated this item as important seemed to have pupils with higher I.Q. scores. Pupils who ranked this item as important also tended to have higher I.Q. scores.

Within the combined group five OIS-YS items (5, 7, 8, 9, 10), correlated negatively at the 1 per cent level with I.Q. These items were chosen as relatively important

TABLE 4.7

PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN PUPIL I.Q. AND THREE FORMS OF OIS FOR COMBINED, OPEN AND CLOSED GROUPS

OIS Item	Combined			Open			Closed		
	OIS-YS (N = 1198)	OIS-YT (N = 1198)	OIS-T (N = 51)	OIS-YS (N = 581)	OIS-YT (N = 581)	OIS-T (N = 25)	OIS-YS (N = 617)	OIS-YT (N = 617)	OIS-T (N = 26)
1. Do many things that I want to do.	.20**	.13**	.12	.14**	.07	.22	.28**	.21**	.05
2. Be willing to say what you think.	-.06*	-.09**	-.13	-.15**	-.09*	-.18	.04	-.10*	-.10
3. Know the right answers on tests.	.28**	.05	-.01	.35**	.06	-.45*	.21**	.06	.29
4. Understand how things work.	.02	.02	-.06	.06	.07	.07	-.01	.07	-.21
5. Be respectful towards adults.	-.11**	-.07*	-.02	-.14**	-.08	.12	-.06	-.05	-.16
6. Be very intelligent.	.17**	.26**	.17	.24**	.31**	-.09	.08*	.21**	.26
7. Be a good dependable worker.	-.20**	-.10**	-.30*	-.17**	-.06	-.25	-.22**	-.13**	-.37
8. Be happy.	-.14**	-.05	.09	-.17**	-.07	.22	-.10*	-.03	-.05
9. Be able to figure things out.	-.09**	-.15**	-.04	-.05	-.12**	-.20	-.14**	-.19**	.14
10. Be obedient to the teacher.	-.10**	-.13**	.19	-.13**	-.15**	-.02*	-.07	-.09*	.40*

*Significant at 5 per cent level.

**Significant at 1 per cent level.

by pupils having higher I.Q. scores, and the obverse. Three of these items are considered submissive (5, 7, 10), two (8, 9) are assertive.

Also within the combined group three OIS-YS items, (1, 3, 6) were correlated positively at the 1 per cent level with pupil I.Q. These items were favored by pupils with lower I.Q. scores. It is interesting to note that "less intelligent" pupils would tend to favor, "Do many things that I want to do," and "Know the right answers on tests." It is almost as though the two statements represented equally held values, though they seem to be opposites in traditional thinking. Does such a choice represent a kind of wishful thinking on the part of less scholastically inclined pupils that would allow them to "have their cake and eat it too?" The similar correlation of item 6, "Be very intelligent," follows the same pattern for OIS-YS, but differs in that the correlation is even higher on the YT form. Whereas the YT form correlations were lower for items 1 and 3, item 6 shows a markedly higher ranking of what the pupil perceives as his teacher's valuing of "intelligence" as the pupil's I.Q. scores decrease. To put it another way, low I.Q. pupils see this item as relatively important but believe their teacher sees it as even more important than they. Boys tended to rank item 6 slightly higher than girls, r = .11 on both YS and YT forms.

The data do not provide answers to some important questions. Are the observed correlations due to a relatively even change of item ranks from one extreme of I.Q. to the other, or are they due to an extreme tendency for high or low I.Q. pupils to favor specific items? Are pupils' I.Q. scores high or low because of their tendency to value behavior represented by the OIS items, or is it more likely that pupils who score high on I.Q. tests already favor behavior represented by specific items? Could I.Q. be raised by taking advantage of an obvious desire to get answers correct and to be very intelligent? Or would it best be done by working toward the values of high I.Q. pupils to, "Be dependable workers" and "Be happy?" There is some indication that the latter approach could utilize the teacher. As the teacher believes that "Be a dependable worker" and, "Be obedient to the teacher" are more important, the pupils' I.Q. scores may go up. On the other hand it may simply be that those responsible for assigning pupils to rooms match teacher and pupils for these two factors.

Dichotomized Group Differences--I.Q.

Some differences were noted between the extreme groups. The correlation appeared to be higher in the closed than in the open group for YS and YT on item 1.

Items 2, 3, and 6 showed an apparently higher correlation in the open group on the same forms.

Perhaps the most important data from the extreme groups in Table 4.7 however, were four apparent (not statistically significant) correlation differences between OIS-T items. Items 3, 6, 9 and 10 were negatively correlated with I.Q. in the open group and positively correlated in the closed group, indicating that teachers favoring these goals had higher I.Q. pupils in the open group and lower I.Q. pupils in the closed group. The correlations for items 4, 5 and 8 were positive in the open group, negative in the closed group, showing that teachers favoring those items, had pupils with lower I.Q. in the open group and higher I.Q. in the closed group.

None of the above items show significant correlations in the combined group. Because they were in opposite directions they would be expected to have the effect of cancelling each other when combined. Their importance lay within each extreme group. These correlations could not be generalized to statements of comparison or contrast between open and closed teachers. This was not normative data for the two groups, but rather statements of relationships within groups.

No explanation of the above results was possible from the data in the present study. The differences were

sufficiently large to suggest further investigation. The importance of the differences reported here lies not so much in the specific OIS items dealt with but in the fact that some unknown but substantial differences seem to exist in the relationships of open and closed teachers to the I.Q. scores of their pupils.

Differences were also found to exist between open and closed groups in the correlations of pupil I.Q. with teacher age, experience and sex, Table 4.8 includes these correlations within the open, closed and combined groups.

TABLE 4.8

CORRELATIONS BETWEEN PUPIL I.Q. AND THREE TEACHER VARIABLES

Group	Age of Teacher	Teaching Experience	Sex of Teacher
Open (N = 25)	.04	-.05	.13
Closed (N = 26)	.54*	.46*	.59**
Combined (N = 51)	.22	.18	.34*

*Significant at 5 per cent level.

**Significant at 1 per cent level.

An examination of the correlations under each teacher variable shows that the strongest consistent pattern in the table is associated with groups rather

than with the three teacher variables. Correlations of I.Q. scores for pupils under open teachers were all below the 5 per cent significance level. Apparently there was little relationship between pupil I.Q. and the three teacher variables within the open group.

Correlations of the three teacher variables with closed group I.Q. yielded significant correlations in all three cases. All three correlations were positive, an indication that higher I.Q. scores were associated with greater teacher age, more teaching experience and with female teachers.

Among the correlations within the combined group only the data for sex of teacher showed a significant correlation at the 5 per cent level. The evidence would seem to indicate that in the present sample higher I.Q. scores were associated with female teachers regardless of openness or closedness, but that perhaps the relationship was strongest within the closed group.

School Adjustment Items--I.Q.

Eleven items from the two tests of school adjustment yielded correlations significant at the 5 per cent level with pupil I.Q. Low scores on these tests indicated good adjustment, therefore positive correlations in Table 4.9 show poor adjustment and high I.Q. to be

associated, negative correlations show good adjustment and high I.Q. to be associated. Ten of the eleven significant items are positively correlated with I.Q.

TABLE 4.9

CORRELATIONS OF PUPIL I.Q. WITH ITEMS ON TWO TESTS OF SCHOOL ADJUSTMENT

	Items	r
	Multiple Choice Sentence Completions	
1.	My schoolwork . . .	.30*
2.	Learning from books is . . .	.60**
3.	Studying is . . .	.43*
4.	My schoolwork is . . .	.17
5.	My schoolwork is . . .	.47**
6.	Homework is . . .	.49**
7.	When I talk about school my mother . . .	-.20
8.	Studying is . . .	.24
9.	Homework is . . .	.36*
10.	When I talk about school my father . . .	-.05
11.	This school . . .	-.28*
	Incomplete Sentences	
1.	School . . .	.43**
2.	If I miss school . . .	-.17
4.	It's too bad school . . .	.67**
6.	In the lower grades . . .	.04
7.	During school hours . . .	.48**
9.	I think school . . .	.50**
10.	Class . . .	.20

*Significant at 5 per cent level.

**Significant at 1 per cent level.

N = 51

It is not clear why two sentence items, "This school," item 11 on multiple choice, and "School," item 1 on incomplete sentences should elicit opposite correlations. Neither is it clear why the multiple choice test should elicit more negative correlations than incomplete sentences. Of all items, item 3 of incomplete sentences yielded the highest positive correlation (r = .67) with I.Q.

Multiple choice items 7 and 10 elicited responses that were thought to reflect perceptions of parental attitudes. Item 10 " . . . my father . . . " yielded a correlation of -.05, however item 7 " . . . my mother . . . " correlated -.20 with pupil I.Q. Although both were negative, neither correlation was statistically significant.

These results, though not significant, may be indicative of the general consequences of parental punitiveness as reported by Baldwin, et al.[6] In that study it was found that parental acceptance was associated with higher I.Q. and parental rejection with lower I.Q. In a study of third grade pupils involving three measures of parental acceptance-rejection Hurley[7] extended the analysis

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[6]A. L. Baldwin, Joan Kalhorn, and Foy H. Breise, "Patterns of Parental Behavior," Psychological Monographs, Vol. 58, No. 3 (1945).

[7]John R. Hurley, Parental Acceptance-Rejection and Children's Intelligence, The Merrill-Palmer Quarterly, Vol. 11, No. 1 (January, 1965).

to include, among other variables, sex of child and parent. The inverse relationship, found earlier, between children's I.Q. scores and parental scores on measures of acceptance-rejection was supported, and in addition it appeared that a somewhat stronger relationship existed between mothers' acceptance-rejection and their daughters' I.Q. scores than for fathers and sons.

The present study revealed a tendency for pupils of lower I.Q. to respond to item 7 in a manner that was judged to show negative attitudes toward school. It could be speculated that the stimulus "mother" called into play a configuration of attitudes associated with lower I.Q. in the following manner: the mother was rejecting; the school work of her children would be a very likely target for criticism, particularly because of diminished I.Q.; the student would reflect the critical attitude of the mother toward scholastic achievement by responding negatively to a stimulus such as item 7.

A more parsimonious explanation would simply recognize mothers as chief respondents in the home to scholastic achievement and thus chief purveyors of negative attitudes that would be expected to be more frequent and more pronounced in the case of lower I.Q. children. In this case it might be expected that the effect would be somewhat equal for boys and girls. Whether this is the case or not in the present study is not known.

It was also possible that the moderate correlation represented by the observed coefficient of -.20 resulted from a preponderant tendency for high I.Q. pupils to respond positively to that particular stimulus item for some unknown reason.

Summary

This chapter is summarized under two headings. Observations include findings supported by the data. Inferences include those findings only partially supported by the data, but of such interest or importance that it was felt they may be useful in suggesting directions for further investigation.

Observations

Teachers

1. Teaching experience and closed-mindedness were positively correlated.

2. There was no correlation between sex of teacher and open-closed mindedness.

3. There was no correlation between sex of teacher and choice of school goals as indicated by A-S Index for teachers or pupils.

4. Among closed teachers, age and choice of assertive goals were positively correlated.

5. Among closed teachers, experience and choice of assertive goals were positively correlated.

6. Among open teachers no significant correlation was found between either age or experience and school goals as indicated by A-S Index.

Teachers and/or Pupils

7. Measures of correlation between pupil responses and teacher scores on IB and OIS instruments were low, though at times statistically significant.

8. There was a strong tendency for pupils in both dichotomized groups to choose submissive goals.

9. Teachers who ranked, "Be a good dependable worker," as important tended to have pupils with higher I.Q.

10. Pupils who ranked, "Be a good dependable worker," as important tended to have higher I.Q. scores.

11. Correlations between I.Q. and several teacher measures were in the opposite direction within one extreme group when compared with the same item in the other extreme group.

12. Closed teachers tended to have higher I.Q. pupils in their classrooms as the teachers' age and experience increased.

13. Among closed teachers and to a lesser extent among all teachers, there was a tendency for pupils with higher I.Q. scores to be in rooms of female teachers.

14. Although several sentence items on two forms of incomplete sentence tests yielded low but significant correlations with pupil I.Q., no pattern was evident and little meaning was apparent.

Inferences

Teachers

1. Teachers may become closed minded as a result of age.

2. Teachers may become more closed minded as a result of teaching than as a result of age alone.

3. Closed teachers may deal with anxiety by instituting rigid pupil control techniques.

4. Closed teachers may isolate pupil control beliefs, once pupil control techniques have become channelized, from conscious statements of school goal ideology, the latter being largely determined by an appeal to "authorities" in the teaching profession.

5. Closed teachers' statements of school goal choices and their classroom behavior may become increasingly divergent with age and experience.

Teachers and/or Pupils

6. Pupils learn to value submissive school goals as a consequence of many environmental factors, one of which may be the belief system of their teacher.

7. Open and closed teachers' effects on the I.Q. of their pupils may be different in kind rather than in magnitude.

8. Those responsible for assigning pupils to rooms may carry out this operation in such a way that differences in open and closed teachers are perceived and pupils are assigned differentially according to some match of teacher and pupil characteristics.

CHAPTER V

IMPLICATIONS AND RECOMMENDATIONS

Summary

Basic to the rationale of this study was the proposition that the effect of teacher behavior might operate in opposition to stated educational goals. Teacher behavior was seen as dependent on teacher belief systems, and a comparison of belief systems with several measures of pupil perceptions of school became the method of investigation.

Educational goals were seen as generally falling within two broad categories "assertive" and "submissive." Teacher behavior was hypothesized as fostering pupil "assertiveness" or "submissiveness."

Analysis of the data showed generally small correlations between teacher measures and pupil measures. The evidence was rather strong, however, that significant relationships exist between teacher belief systems and several teacher measures.

Implications for Education

Little evidence was found in this study to give a clear answer to the original question bearing on the possibility that teacher belief systems might, under certain circumstances, produce an effect in opposition to stated educational objectives. Empirical measures in the present study tending to support this conceptualization were found in the significant correlation ($r = .28$) between pupils' scores on the Assertive-Submissive Index and their classroom teachers' scores on the Inventory of Beliefs. If it could be assumed that teachers' belief systems were the cause, the data suggests that about 8 per cent of the variance of pupil A-S Index scores could be attributed to that teacher variable.

The school goal influence supported by the data in the present study may be assumed to have become operative within one school year. It may be that this effect would be increased or decreased over a period of several years or by exposure to different teachers. The amount of change that could be expected in one year does not appear large, but if this is a cumulative phenomenon the twelve year influence on educational goals and efforts to achieve those goals could be substantial.

Reason would lead to the assumption that teachers caused these changes in their pupils. Little evidence is

available from the present study to support or deny that assumption. Until such evidence is produced the alternate assumptions, that pupils cause changes in teachers, that both teachers and pupils influence each other, or that both are influenced by other elements of the social system must be entertained.

Nevertheless, educators wishing to promote one type of school goal over another may find procedures of staff selection based on teacher beliefs to be worthy of their consideration. Likewise, boards of education and others responsible for establishing educational goals should be aware that a teacher's belief system and what pupils believe about school are related, and may not always be determined by goals set as policy by a board of education.

Perhaps of more immediate concern to educators is the finding that pupils are strongly attracted to submissive school goals. It is not known whether this is the stance most likely to provide a "good" educational climate. Could the submissive stance of pupils be a factor contributing to the turbulence of the adolescent years when, if pupils imitate their teachers, they move to a more or less even balance between assertiveness and submissiveness? Could these years be made less traumatic by lowering the submissive cathexis of pre-adolescents? If lowered, would the result then be insecurity?

Educators interested in the promotion of curricula emphasizing processes of inquiry or discovery might find submissiveness of pupils to be a factor of some importance. If submissive pupils look to authority figures rather than to their own perceptions and experiences for verification of concepts, as may be indicated by the present data, then the emphasis on self sufficiency and self adequacy in some of the newer curricula may not be matched by like values in pupils.

Certainly those wishing to promote a curriculum depending on increased self direction and autonomy should be aware before hand that pupils don't necessarily want this kind of freedom. Successful innovation in this area may require substantial efforts to retrain or reorient pupils in relation to what is important to do in school. It would seem a safe conjecture that the task may be very difficult and that attention might better be paid to guiding developing attitudes of new inductees in early grades.

A generally accepted maxim is that children like to have the security of directions. Insofar as closed teachers can be assumed to be more directive than open, the present data does not refute that idea. To the extent that pupils are encouraged to "continue their education" because of a positive attitude toward school, it appears

that closed teachers make as much contribution to this growth goal as open teachers.

Administrators who are of the opinion that closed teachers are less desirable than open, yet who would minimize teacher turnover on their staffs, are confronted with a difficult problem. The longer the teacher is with them the more likely it is that she will be closed.

Knowing this it might be possible to reduce threat by giving considerable help to all teachers, new and experienced, in room organization, discipline techniques, and structuring the learning environment. Administrators who aid in this way, yet do not threaten, may be able to slow down the change toward closedness.

The long range effects of efforts to develop "sensitivity" in teachers and administrators should be watched for possible implications for reversing the experience-closedness correlation.

For the administrator who wants to build a staff of closed teachers the task is less complicated, though perhaps just as difficult. It would seem this could be done by maintaining a staff of experienced teachers, and perhaps not working too hard to minimize threats.

It should be remembered when making staff judgments on the basis of openness or closedness, however, that the evidence on which to base value decisions is slim. It is

relatively easy to identify open and closed teachers, it is much more difficult to decide which may be "better" teachers in a given situation.

Recommendations for Further Research

1. Speculation as to the cause of the low correlations between teacher belief systems and pupil measures would certainly have to take into account the low internal consistency of the pupil measures and should seriously consider the possibility of test fallability. On the other hand it would seem fruitful to reexamine Combs[1] thesis bearing on the beliefs of teachers. Combs was able to identify good and bad teachers on the basis of their beliefs. The present study showed a higher correlation between teachers' and pupils' ranking of school goals than teacher belief systems and pupil school goals. The suggestion is that specific teacher beliefs rather than belief systems may be found to exert a stronger influence on pupil assertiveness-submissiveness.

2. The observed reversal of A-S Index--IB correlation within the closed group in this study bears further investigation before it can be said with any certainty that specific beliefs of teachers will be a better predictor

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[1]Combs, "The Professional Education of Teachers."

of classroom behavior than general belief systems. Do closed teachers continue to act "closed" as they gain more experience while verbalizing support of assertive school goals? If so, knowing which specific beliefs (school goals) they espouse may not be enough to predict classroom behavior.

3. The finding of strong submissiveness on the part of pupils in general should be investigated. The ramifications on curriculum, on attitude change in adolescence, and indeed on the adult assertive-submissive orientation, are of great interest. The relationship of assertiveness and inquiry centered curricula should be studied.

4. The relationship of teacher belief system and pupil I.Q. should receive attention. Can experienced closed teachers "cause" higher I.Q.? If pupils are assigned on the basis of I.Q. then what are the assumptions that would place high I.Q. students with experienced closed teachers? Is pupil assignment made on the basis of benefit to the pupil or of least resistance to those doing the assigning?

5. Many significant correlations in the present study applied to closed teachers only. Just what the classroom characteristics of open teachers are is not as well understood. The responses of closed teachers as a group are considerably more predictable. Does this mean that open teachers are inconsistent, more subject to whim or to

react subjectively? Do open teachers make classroom decisions from a stance of conviction, or expedience? Are pupils of closed teachers more likely to be exposed to a structured, sequential learning experience while the open teacher selects learning experiences with less view to order and structure?

It is recommended that future research pay particular attention to gathering data on open teachers.

6. A correlation study such as the present one is not designed to permit drawing conclusions as to cause and effect. Experimental studies designed to test the causes of correlations found in the present study are needed. Of particular interest are the presumed effects of teachers' beliefs on their pupils.

7. Longitudinal studies are needed to determine the cumulative effect of the presumed teachers' belief system influence on pupils. In the present study these effects were not always large within one school year.

BIBLIOGRAPHY

BIBLIOGRAPHY

Ackerman, Walter I. "Teacher Competence and Pupil Change." Harvard Educational Review, Vol. 24, No. 4 (Fall, 1954), pp. 272-289.

Adorno, T. W.; Frenkel-Brunswik, Else; Levinson, Daniel J.; and Sanford, Neoitt R. The Authoritarian Personality. New York: Harper and Brothers, 1950, 990 pp.

Biddle, Bruce J., and Ellena, William J. Contemporary Research on Teacher Effectiveness. New York: Holt, Rinehart and Winston, 1964, 352 pp.

Combs, Arthur W. The Professional Education of Teachers. Boston: Allyn and Bacon, Inc., 1965, 134 pp.

Cook, Walter W.; Leeds, Carroll H.; and Callis, Robert. "The Minnesota Teacher Attitude Inventory Manual." New York: The Psychological Corporation, 1951, 15 pp.

Downey, Lorren Willard. "The Relationship of Teaching Patterns to Organizational Climate and Teacher's Belief Systems." Unpublished doctoral dissertation, University of Arizona, 1966.

Educational Policies Commission. The Purposes of Educa- in American Democracy. Washington, D.C.: National Education Association, 1939.

Fox, Robert; Luszki, Margaret B.; and Schmuck, Richard. Diagnosing Classroom Learning Environments. Chicago: Science Research Associates, 1966, 131 pp.

Getzels, Jacob W. "The Question-Answer Process: A Conceptualization and Some Derived Hypotheses for Empirical Examination." Public Opinion Quarterly, Vol. 18 (1954), pp. 80-91.

Goodlad, John I. Some Propositions In Search of Schools. Washington, D.C.: Department of Elementary School Principals, 1962, 32 pp.

Harnly, Paul W. "Attitudes of High-School Seniors Toward Education." The School Review, Vol. 47 (September, 1939), pp. 501-509.

Hoy, Wayne Kolter. "Dogmatism and the Pupil Control Ideology of Public School Professional Staff Members." Unpublished doctoral dissertation, The Pennsylvania State University, 1965.

Hurley, John R., and Randolph, Christie. "Preferred Qualities in Eight-Year-Olds: The Attribute Preference Inventory." Unpublished manuscript, Michigan State University, 1969.

Kearney, Nolan C. Elementary School Objectives, Report Prepared for the Mid-Century Committee on Outcomes in Elementary Education. New York: Russel Sage Foundation, 1953, 189 pp.

Kirk, Treva B. "Behaviors of Teachers New to a Building in Relation to the Climate of the School and the Dogmatism of the Teacher." Unpublished doctoral dissertation, Michigan State University, 1965.

Lehman, Irwin J., and Dressel, Paul L. Changes in Critical Thinking Ability, Attitudes, and Values Associated With College Attendance. East Lansing, Michigan: Michigan State University, Cooperative Research Project No. 1646, 1963, 177 pp.

Levinson, D. J., and Sanford, R. H. "A Scale for the Measurement of Anti-Semitism." Journal of Psychology, Vol. 17 (1944), pp. 339-370.

Lewin, Kurt; Lippitt, Ronald; and White, Ralph K. "Patterns of Aggressive Behavior in Experimentally Created Social Climates." Journal of Social Psychology, Vol. 10 (1939), pp. 271-299.

Lieberman, Myron. The Future of Public Education. Chicago: The University of Chicago Press, 1963, 294 pp.

Malpass, Leslie, and Tyler, Forrest B. "Validation of the Incomplete Sentence Test of School Adjustment." Southern Illinois University, 1961. (Mimeographed.)

McGee, Henry M. "Measurement of Authoritarianism and Its Relation to Teacher Classroom Behavior." Genetic Psychology Monographs, Vol. 52 (1955), pp. 89-146.

Musella, Donald F. "Open and Closed-Mindedness as Related to the Rating of Teachers by Administrators: Implications for Administrative Theory Based on Superordinate-Subordinate Role Relationships." Unpublished doctoral dissertation, State University of New York at Albany, 1965.

Olkin, Ingram. "Correlations Revisited." Improving Experimental Design and Statistical Analysis. Edited by Julian Stanley. New York: Rand McNally, 1967, 229 pp.

Patterson, Warren E. "Age Teacher's Role and the Institutional Setting." Contemporary Research on Teacher Effectiveness. Edited by Bruce J. Biddle and William J. Ellena. New York: Holt, Rinehart and Winston, 1964, 352 pp.

Porter, Robert M. "Student Attitudes Toward Child Behavior Problems." Journal of Educational Research, Vol. 52 (May, 1959), pp. 349-352.

Preston, Ralph. "The Social Studies: Nature, Purpose, and Signs of Change." Readings on Elementary Social Studies. Edited by John R. Lee and Jonathan McLendon. Boston: Allyn and Bacon, Inc., 1965, 447 pp.

Rabinowitz, W., and Rosenbaum, I. "Teaching Experience and Teachers Attitudes." Elementary School Journal (1960), pp. 313-319.

Remmers, H. H. Introduction to Opinion and Attitude Measurement. New York: Harper, 1956, 437 pp.

Rokeach, Milton. The Open and Closed Mind. New York: Basic Books, Inc., 1960, 447 pp.

Ryans, David G. Characteristics of Teachers: Their Description, Comparison, and Appraisal, A Research Study. Washington, D.C.: American Council on Education, 1960, 366 pp.

Ryans, David G. "Research on Teacher Behavior in the Context of the Teacher Characteristics Study." Contemporary Research on Teacher Effectiveness. Edited by Bruce J. Biddle and William J. Ellena. New York: Holt, Rinehart and Winston, 1964, 352 pp.

Ryans, David G. "Teacher Behavior Can Be Evaluated." The Evaluation of Teaching. Washington, D.C.: Pi Lambda Theta, 1967, 259 pp.

Sears, Pauline S. The Effect of Classroom Conditions on the Strength of Achievement Motive and Work Output on Elementary School Children. Stanford, California: Stanford University Cooperative Research Project No. 873, 1963, 311 pp.

Sells, Saul B., and Trikes, David K. "Attitudes." Encyclopedia of Educational Research. Edited by Chester Harris. New York: The Macmillan Co., 1960, 1564 pp.

Spaulding, Robert L. "Achievement, Creativity, and Self-Concept Correlates of Teacher-Pupil Transactions in Elementary Schools." Readings in Child Behavior and Development. Edited by Cecilia B. Stendler. New York: Harcort, Brace and World, 1964, pp. 313-318.

Stern, George G. "Measuring Noncognitive Variables in Research on Teaching." Handbook of Research on Teaching. Edited by N. L. Gage. Chicago: Rand McNally and Co., 1963, 1218 pp.

Stern, George G.; Stein, Morris I.; and Bloom, Benjamin S. Methods in Personality Assessment. Glencoe, Illinois: The Free Press, 1956, 271 pp.

Stratemeyer, Florence B.; Forkner, Hamden L.; McKim, Margaret G.; and Passow, Harry A. Developing a Curriculum for Modern Living. New York: Teachers' College Press, 1957, 740 pp.

University of the State of New York. Twenty Fifth Annual Report of the Education Department. Albany: University of the State of New York, 1929, 188 pp.

Wallen, Norman E. and Travers, Robert M. W. "Analysis and Investigation of Teaching Methods." Handbook of Research on Teaching. Edited by N. L. Gage. Chicago: Rand McNally and Co., 1963, 1218 pp.

APPENDICES

APPENDIX A

TABLES

TABLE A.1

COMBINED GROUP CORRELATIONS BETWEEN FIVE TEACHER FACTORS AND TEACHERS' RANKINGS OF ITEMS ON THE ORDER OF IMPORTANCE SURVEY

OIS-T Item	r IB	r Age	r Experience	r A-S Index	r Sex of Teacher
1	-.07	-.29*	-.05	.29*	.11
2	-.49**	.20	.23	.54**	.11
3	.15	-.10	-.07	-.12	.24
4	-.16	-.09	-.05	.38**	-.10
5	.23	.10	-.02	-.64**	-.11
6	.12	-.01	-.12	.08	-.01
7	.06	-.16	-.19	-.26	-.05
8	.15	.26	.17	-.13	-.05
9	-.23	-.27	-.17	.44**	-.08
10	.47**	.28	.18	-.77**	.24

*Significant at 5 per cent level.

**Significant at 1 per cent level.

N = 51

TABLE A.2

ORDER OF IMPORTANCE SURVEY ITEMS BY NUMBER AND DESIGNATION AS USED TO CONSTRUCT A-S INDEX

No.	Item	A-S Index*
1.	Do many things that you want to do.	A
2.	Be willing to say what you think.	A
3.	Know the right answers on tests.	
4.	Understand how things work.	
5.	Be respectful towards adults.	S
6.	Be very intelligent.	
7.	Be a good dependable worker.	S
8.	Be happy.	
9.	Be able to figure things out.	A
10.	Be obedient to the teacher	S

*A = Assertive, S = Submissive.

TABLE A.3

COMBINED GROUP CORRELATIONS BETWEEN
IB SCORES AND OIS-YS ITEM RANKS

OIS-YS Item	r	Mean	SD	Significance Level*
1	-.12	8.696	2.150	.01
2	-.10	5.385	2.777	.01
3	.10	6.601	2.530	.01
4	-.01	5.099	2.200	Not Significant
5	-.03	4.515	2.531	Not Significant
6	.02	6.324	2.793	Not Significant
7	-.01	3.796	2.256	Not Significant
8	-.00	6.013	2.705	Not Significant
9	.05	5.310	2.133	Not Significant
10	.09	3.245	2.533	.01

*Correlations reported in Table A.3 based on 1198 pairings of individual pupil observations and teacher observations.

TABLE A.4

PRODUCT-MOMENT INTERCORRELATIONS OF TEACHERS' ORDER OF IMPORTANCE SURVEY ITEMS*

OIS-T Item No.	1	2	3	4	5	6	7	8	9	10
1	1.00									
2	- .07	1.00								
3	- .16	- .18	1.00							
4	- .27	.11	.04	1.00						
5	- .10	- .25	- .17	- .44	1.00					
6	- .21	- .08	- .12	.09	- .19	1.00				
7	.06	- .13	- .02	- .16	.24	- .20	1.00			
8	.15	- .09	- .22	- .39	- .05	- .32	- .15	1.00		
9	- .24	- .10	.25	.41	- .37	.06	- .15	- .38	1.00	
10	- .25	- .40	.12	- .42	.35	- .05	- .28	.21	- .30	1.00

*r = -.11 due to ipsative nature of the data.

N = 51

TABLE A.5

PRODUCT-MOMENT INTERCORRELATIONS OF PUPILS' ORDER OF IMPORTANCE SURVEY ITEMS*

OIS-YS Item No.	1	2	3	4	5	6	7	8	9	10
1	1.00									
2	.12	1.00								
3	.08	- .15	1.00							
4	- .03	- .07	- .01	1.00						
5	- .19	- .14	- .29	- .24	1.00					
6	- .13	- .33	.04	- .20	- .11	1.00				
7	- .23	- .12	- .21	.01	- .03	- .20	1.00			
8	- .09	- .06	- .28	- .17	- .01	- .07	- .13	1.00		
9	- .11	- .18	- .03	.03	- .22	- .02	.08	- .12	1.00	
10	- .25	- .13	- .11	- .13	.15	- .11	- .02	- .19	- .24	1.00

*r = -.11 due to ipsative nature of the data.

N = 1198

APPENDIX B

TESTS USED

TO: Principals

This material is part of a research project being conducted through Michigan State University concerning the "match" of teachers and students under certain situations.

Would you please give one of the accompanying packets to each 5th and 6th grade teacher in your administrative unit. The instructions ask the teacher to return the sealed packets to you within 48 hours. When all the packets have been returned to you, please forward them to the main office (Use attached address sticker). Part of the accuracy of this survey depends on its timing, so all packets should be returned to the main office by this Friday, May 12.

Identification of individual teachers is important, as additional data may be needed from some. However, their names will not be known by those working on the survey, nor will the individual survey results be revealed to those knowing teachers' names. To assure anonymity, will you assign numbers to teachers prior to handing out the packets, write that number on the outside of the teacher's packet, then record here:

Teachers Name	Number written on envelope
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Important. Please return this record in the attached envelope with the returned teacher survey packets. Seal the envelope. If we need more data we will return this list to you unopened.

Your help in this project is very much appreciated.

Jim Anderson

TO THE TEACHER:

This is a survey of the "match" of teachers and students under certain situations. It is necessary to gather this data at this precise time of the school year. For this reason it is important that you complete this survey and return it to your principal within 48 hours. It will take you about 30 minutes to complete.

Be assured that every precaution has been taken to protect your anonymity. No one who knows your names will ever know the results of your survey.

Thank you for participating in this important survey being conducted through Michigan State University.

PERSONAL AND SITUATION DATA

1. What grade do you teach?_____

2. What is your age?_____

3. How many years of teaching experience have you?_____

4. What is your sex? male_____ female_____

Do you have one group of students for all basic subjects? This would be like a "self-contained" class as compared with "team teaching" or "departmentalized" teaching.

5. I have one group of students for all basic subjects.
   yes_____ no_____

If your answer to #5 was "no" please give an estimation of the percent of the school day you have your main group of students with you, and explain briefly.

6. My main group of students is with me about _____%
   of the school day. This is because_____

   _____

   _____

INSTRUCTIONS FOR THE REMAINDER OF THE SURVEY

The next page contains ten "school goals" that you are to put in rank order.

Following that is an "Inventory of Beliefs" for you to complete.

Upon completion of the "Inventory of Beliefs" please seal all this material, including the machine scoring sheet, in the envelope and return it to your principal.

NOTE: Please do not put your name on any of this material. Please do put the envelope number on the answer sheet in the space provided for your name.

TEACHER'S "ORDER OF IMPORTANCE" SURVEY

Please place the following items in order according to what you expect from your students. Number them from "1" to "10" with number "1" being the thing you feel is most important for the pupil. There are no "right" or "wrong" answers. Please be as accurate as you can about your own feelings.

I want my students to - - -

_____do many things that they want to do

_____be willing to say what they think

_____know the right answers on tests

_____understand how things work

_____be respectful towards adults

_____be very intelligent

_____be a good dependable worker

_____be happy

_____be able to figure things out

_____be obedient to the teacher

To the Teacher:

The enclosed pupil "Tell Us About School" surveys are the second part of the two part study of the "match" of teachers and pupils at the end of the school year.

Your cooperation in the completion of this final part of the study is most appreciated. It will require about 40 minutes of your class time. The results of this study will be sent to each building next year.

The completed surveys should be returned to the main office by June second.

INSTRUCTIONS FOR ADMINISTRATION OF "TELL US ABOUT SCHOOL"
Note: this is not a timed exercise, however since it is first impressions that are wanted, time limits are suggested. It is important that each child complete all questions, but you may urge them to hurry if the suggested time limits are exceeded. Start the next page as soon as all members of the class have completed a page.

PROCEDURES

Pass out "Tell Us About School" surveys and instruct each pupil to put his name and grade on the cover.

SAY: These are some questions about school that you are to answer as accurately and as fast as you can. There are no right or wrong answers for any of these questions. It is what you feel that counts.

Now look at what it says on page one. It says "Tell Us About School." In this booklet are some questions about school. By this time of the year you should have some ideas that can help us. When answering these questions please think carefully and give us your own true feelings.

Now turn to page two. Here you are to number some things about school according to how important you think they are. Read the directions. The directions say--How Important Are These Things To You? How do you think you are? Put a "1" in front of the statement that you yourself count most important. Put a "2" in front of the statement you count second most important. Continue putting them in the order you think they should be in until they are all numbered

from "1" to "10." Since there are ten statements, the one you put a "10" in front of would be the one you consider least important.

You may begin.

As soon as all finish (usually less than 5 minutes) say:

Now turn to page 3. Here are some more statements about school but this time you are to number them according to how you believe your teacher thinks about them. Read the directions. The directions say--

How Important Are These Things To Your Teacher? How do you think your teacher wants you to be? Put a "1" in front of the statement that you think your teacher would count most important. Put a "2" in front of the statement your teacher would count second most important. Continue putting them in order your teacher would until they are all numbered from "1" to "10." Since there are ten statements, the one you put a "10" in front of would be the one your teacher considers least important.

You may begin.

As soon as all finish (usually less than 5 minutes) say:

Now turn to page 4. On this page you are to do the same thing, but this time as your parents think. Read the directions. The directions say--

How Important Are These Things To Your Parents? How do you think your parents want you to be? Put a "1" in front of the statement that you think your parents would count most important. Put a "2" in front of the statement your parents would count second most important. Continue putting them in the order your parents would until they are all numbered from "1" to "10." Since there are ten statements, the one you put a "10" in front of would be the one your parents consider least important.

You may begin.

As soon as all finish (again, about 5 minutes) say:

Now turn to page 5. Read the directions. The directions say--

Multiple-Choice Sentence Completions. On this form are some sentences that are started but not finished. Below each sentence that has been started are some different ways that it might be finished. You are to put an X in front of the one that makes the sentence most true for you. There are no right or wrong answers. The way you feel about things is what counts.

Start with first sentence below and put an X in front of the one ending that makes the sentence most nearly true for you. Do every one. There are no right or wrong answers. This is not a test. What is right for you would not necessarily be right for somebody else. Remember, complete each sentence with only one X; that is, put an X only in front of the one ending that comes closest to the way you really feel.

When you complete page 5 go right on to page 6. You may begin.

As soon as all finish, say: Now turn to page 7. Read the directions. The directions say--

Incomplete Sentences. Here are some different sentences that you are to complete. This time you think up the rest of the sentence. Start with the first sentence below and finish the sentence as you think it should be. There are no right or wrong answers. This is not a test. The way you feel is what counts. Be sure to do every one.

Collect all booklets, and return them to your principal.

Again we want to thank you for your participation and contribution to knowledge in the teaching profession.

YOUR NAME_____

YOUR GRADE_____

TELL US ABOUT SCHOOL

In this booklet are some questions about school. By this time of the year you should have some ideas that can help us. When answering these questions please think carefully and give us your own true feelings.

These will not be graded. This is not a test. Please read the directions carefully and follow your teacher's instructions.

HOW IMPORTANT ARE THESE THINGS TO YOUR PARENTS?

How do you think your parents want you to be? Put a "1" in front of the statement that you think your parents would count most important. Put a "2" in front of the statement your parents would count second most important. Continue putting them in the order your parents would until they are all numbered from "1" to "10." Since there are ten statements, the one you put a "10" in front of would be the one your parents consider least important.

DO NOT TURN BACK TO ONE OF THE OTHER PAGES

In school my parents want me to - - -

_____be obedient to the teacher

_____be able to figure things out

_____be happy

_____be a good dependable worker

_____be very intelligent

_____be respectful towards adults

_____understand how things work

_____do many things that I want to do

_____know the right answers on tests

_____be willing to say what you think

STOP close your booklet and wait until your teacher tells you what to do.

The multiple choice sentence completion test used in the present study to measure adjustment to school consisted of selected stems from "Tool 23" published in Diagnosing Classroom Learning Environments by Robert Fox, Margaret Barron Luszki and Richard Schmuck, copyrighted 1966, Science Research Associates, Inc. Used by permission of the publisher.

YOUR NAME_____

YOUR GRADE_____

INCOMPLETE SENTENCES

Here are some different sentences that you are to complete. This time you think up the rest of the sentence. Start with the first sentence below and finish the sentence as you think it should be. There are no right or wrong answers. This is not a test. The way you feel is what counts. Be sure to do every one.

1. School_____

_____

2. If I miss school_____

_____

3. Boys_____

_____

4. It's too bad school_____

_____

5. School rules_____

_____

6. In the lower grades_____

_____

7. During school hours_____

_____

8. Girls_____

_____

9. I think school_____

_____

10. Class_____

_____

STOP now close your booklet and return it to your teacher.