

ABILITY GROUPING AND TEACHER ATTITUDES:
AN EXPLORATORY STUDY OF JUNIOR HIGH
SCHOOL TEACHERS AND THEIR COMMITMENT
TO ABILITY GROUPING

THESIS FOR THE DEGREE ED. D.
MICHIGAN STATE UNIVERSITY

JAMES A. PHILLIPS, JR.

1961

This is to certify that the

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SCHOOL TEACHERS AND THEIR COMMITMENT
TO ABILITY GROUPING
presented by

James A. Phillips, Jr.

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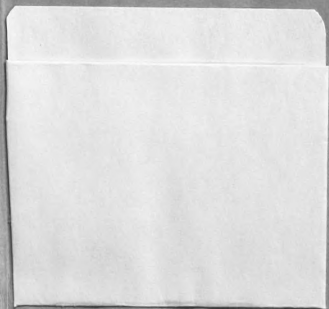
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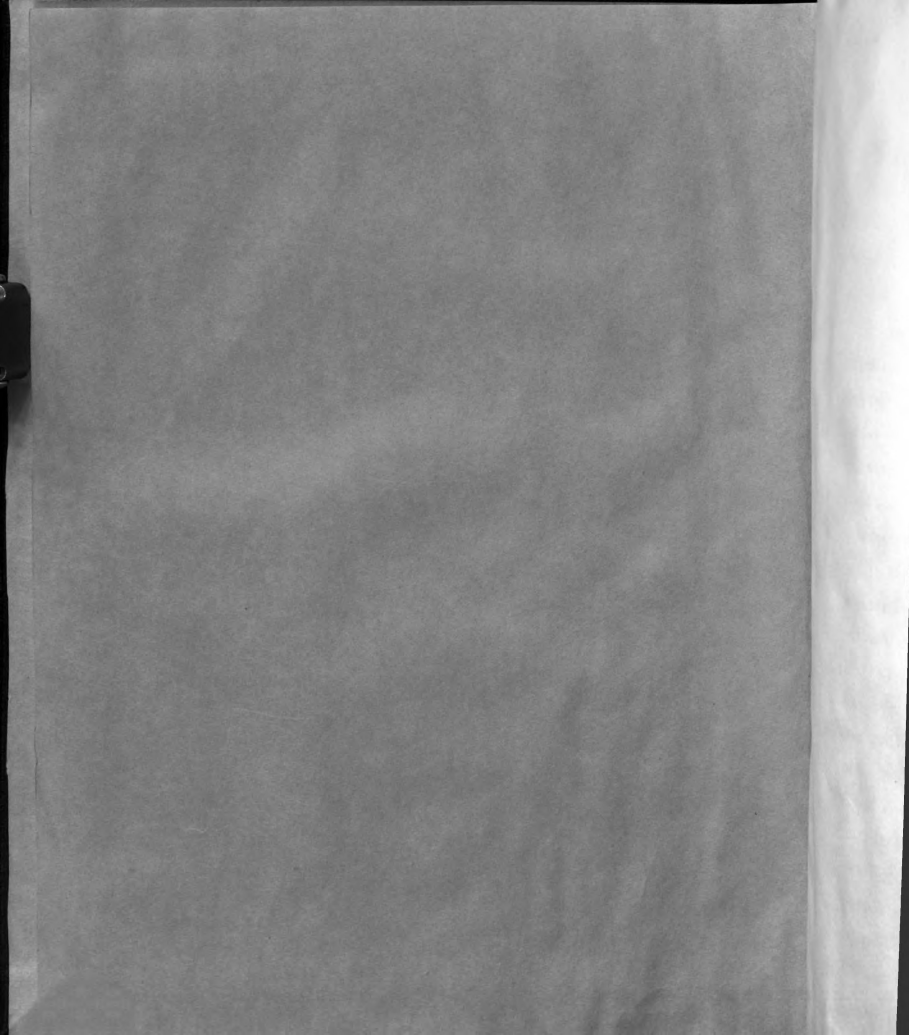
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ABSTRACT

ABILITY GROUPING AND TEACHER ATTITUDES: AN EXPLORATORY STUDY OF JUNIOR HIGH SCHOOL TEACHERS AND THEIR COMMITMENT TO ABILITY GROUPING

by James A. Phillips, Jr.

The investigation is an exploratory study to determine whether teachers highly committed to ability grouping reflect different attitude patterns toward pupil-teacher relationships, as opposed to those less committed to ability grouping; and to explore possible relationships between teachers' personal and professional backgrounds and their commitment to ability grouping.

The sample consisted of all junior high school teachers in twelve schools in five county systems in Maryland. A total of 440 teachers was involved.

An index of commitment to ability grouping was developed. Validity of items was determined by scalogram analysis, coefficient of reproducibility, 85 per cent. The Minnesota Teacher Attitude Inventory (MTAI) served as the index of teacher-pupil rapport. The total instrument administered by the investigator consisted of eleven questionnaire items about teachers' personal and professional backgrounds, seven items related to beliefs about ability grouping, and the MTAI. An F test was applied to mean score differences for each

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of the indices for each of the factors investigated. The .05 level of significance was established for statistical computations. A least significant difference test was employed to determine sub-categories for the factors which contributed the significant differences. Principals in the participating schools were interviewed to gather information about staffs, programs, and policy determinants.

The following relationships of factors to the two indices are reported: Significant index of commitment mean score differences only were found for age of respondents, North-Hatt Index of Occupational Prestige (father's occupation), amount of college education of respondents, grade level taught by respondents, and respondents' experience with grouping practices.

Significant mean score differences for both indices were found for respondents' amount of college education, major field of study at the undergraduate level, type institution in which respondents matriculated at the undergraduate level, degree held by respondents, subject area taught by respondents, and respondents' stated preference for type ability group to teach.

Insignificant F values were found for respondents' sex, marital status, size and type community in

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which respondents were reared, attained educational level of respondents' parents, amount of graduate study completed by respondents, and respondents' years of experience. Significant mean score differences were not found for schools and school systems.

Coefficient of correlation of relationship between commitment to ability grouping and MTAI scores = .0065. Though too small to be significant, limited evidence of patterns of inverse relationships between index of commitment mean scores and MTAI mean scores was found.

Limited evidence of a relationship between school staff involvement in policy making and the two indices was found - the greater the involvement of staff the lower the index of commitment and the higher the MTAI scores.

Among the conclusions resulting from the study are the following:

1. Teachers' commitment to ability grouping can be ascertained.

2. There may be some inverse relationship between a teacher's commitment to ability grouping and his ability to create good rapport with pupils.

3. There appear to be factors in teachers' personal and professional backgrounds related to

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JAMES A. PHILLIPS, JR.

commitment to ability grouping.

4. Most teachers indicate a preference for ability grouping and prefer to teach groups with average or above ability.

5. A need for further research into grouping practices and results in which the teacher factor is controlled is indicated.

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ABILITY GROUPING AND TEACHER ATTITUDES:
AN EXPLORATORY STUDY OF JUNIOR HIGH
SCHOOL TEACHERS AND THEIR COMMITMENT
TO ABILITY GROUPING

by
James A. ^{Archibald}Phillips, Jr.

A THESIS

Submitted to
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for the degree of

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College of Education

1961

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The writer wishes to express his appreciation to: the members of his guidance committee, Professors George R. Myers, Archibald O. Haller, Carl H. Gross, Louise M. Sause, and particularly the chairman, Professor Charles A. Blackman for their careful and thoughtful guidance; to the school systems and teachers and administrators who so generously cooperated; to the Baltimore County Maryland Board of Education whose staff and data processing equipment were made readily available; and especially to his wife, Mildred Bluett Phillips who as typist, editor, and inspiration, made completion of the project possible; and to Jimmy and Stephen, who were patient with daddy.

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CHAPTER I

PURPOSE OF THE STUDY

Statement of the Problem

The purpose of this study is to determine whether teachers who are highly committed to ability grouping as a basis for sectioning pupils into class groups, as opposed to those who are negatively committed to ability grouping as a school practice for sectioning pupils, tend to reflect significantly different attitude patterns toward pupil-teacher relationships.

Additional purposes of this study are to determine and explore possible relationships between teachers' personal and professional backgrounds and their commitment to ability grouping.

A basic assumption is that there may exist characteristic differences between teachers highly committed to ability grouping and those less committed to ability grouping. If such distinguishable characteristics do exist, knowledge of such might permit anticipation of attitudes toward grouping - hence, making it possible to consider teacher differences when making teaching assignments.

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Background of the Study

Among the major concerns of educators is how to discern and utilize those conditions of the teaching-learning situation which promote the greatest amount of desirable growth for the learner. Among these conditions are the administrative arrangements of pupils into "teachable" groups. Numerous attempts have been made through the years to create "more teachable" groups of pupils by means of administrative devices such as ability grouping.

Grouping procedures have been utilized extensively because of a belief that they contribute significantly to the individualization of instruction. Research has produced conflicting evidence, however, about the relative values of heterogeneous versus homogeneous (ability) grouping in achieving "educational results". The more crucial question is the one of the teacher and his role in creating a classroom climate most conducive to learning, rather than the fact of homogeneous or heterogeneous grouping per se.

Altho contradictory findings have come from the many studies, a summary of the evidence slightly favors ability grouping as contrasted with heterogeneous grouping in academic learning. Standard tests of academic achievement, particularly where adaptations of standards, materials, and methods are made, show that pupils make slightly larger gains under ability grouping. The evidence for ability grouping indicates greatest relative effectiveness in academic learning for dull children, next greatest for average children, and least for bright children. This conclusion must be regarded as tentative. . . . Classroom teachers

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have differences of opinion about ability grouping, but several studies reveal that a majority of teachers prefer it. The data regarding the effects of ability grouping upon the personal characteristics of pupils are so inadequate or subjective in character that no valid conclusions can be drawn.¹

Educators have placed a great deal of faith in grouping procedures as a means for reducing the range of differences among pupils in given classes. One summary of basic assumptions, which may be open to question, is stated by Hammond:

1. Intelligence is so adequately measured by verbal intelligence tests that the result may serve as basis for action which concerns the whole individual.
2. A further assumption is that homogeneity of grouping reduces the range of variations with a grade.
3. Perhaps, the most important assumption is that homogeneity of grouping tends to bring superior learning results.
4. Another important assumption is that homogeneity tends to make superior provision for individual differences.
5. . . . homogeneous grouping provides for better attitudes in pupils.²

Investigation of the proposed problem appears timely in light of recent developments on the educational horizon in this, the age of space. With the rising concern for fostering growth of the "whole child" and providing for "individual differences"

¹J. Wayne Wrightstone, Class Organization for Instruction (Department of Classroom Teachers American Educational Research Association of the National Education Association, 1957), p. 8.

²Sarah Lou Hammond, Homogeneous Grouping and Educational Results, Department of School Services and Publications, Curriculum Letter No. 40 (Middletown, Connecticut: Wesleyan University, 1959).

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came the realization that adequate investigation of the teaching-learning continuum demanded identification and examination of multiple forces on learning.

Developmental experiments were burgeoning.

And then came Sputnik! With the surge of fear came a kind of absolute impatience that made most of the thoughtful reservations seem, to much of the public, like mere academic quibbling. To many minds, the extreme demands upon science and technology made any kind of goodness except intellectual brilliance seem near-irrelevant. Their solution is--or seems--simple: Identify the intellectually brilliant as early as you can; push them as hard as you can, along intellectual lines.¹

The timeliness of further investigation into grouping practices is highlighted by a resolution adopted by the Association for Supervision and Curriculum Development at its 1960 national convention. The resolution is partially reproduced below.

Whereas, some schools are grouping pupils into separate classes or sections of the same subjects on such bases as: intelligence, achievement, social maturity, teachers marks, or some combination of these or other factors in an attempt to provide for individual differences, and

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Be It Resolved, that while the Association for Supervision and Curriculum Development continues to encourage experimentation with various organizational patterns to deal with the problem of individual differences, we authorize the Executive Committee to take appropriate steps to urge all schools to review present administrative devices for grouping in the light of their previous history, the relevant research, and the effect of these devices on learning, personality, and social development.²

¹"The Nature of Classroom Grouping for Learning" Prepared by Fred T. Wilhelms (Background for Association for Supervision and Curriculum Development Discussion Group H-7, 1958), p. 18. (Mimeographed.)

²Association for Supervision and Curriculum Development, News Exchange, II, No. 2 (April, 1960), p. 17.

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Much recent research, especially studies utilizing such measures as the Minnesota Teacher Attitude Inventory, has been based on the assumption that teacher attitudes toward pupil-teacher relation aspects of the teaching-learning situation may be of uppermost importance in determining the extent to which classroom climate is conducive to learning. Research is needed on the effect of patterns of organization such as ability grouping upon the classroom climate.

There are some indications that reservations about "panacean" administrative devices appear to be giving way to a return to the practice of sectioning pupils into class groups on more rigid and restricting bases, particularly with respect to "gifted" learners. In some geographical regions with which the writer is familiar, the Intelligence Quotient has become as sacred and potent as in the Thirties as the major basis for making pupil placement decisions. Many recent lay and professional articles have been devoted to championing a narrow "academic" cause - ability grouping one prescription to cure the disease. This movement toward increasingly narrow bases for grouping gives the appearance of being a retrogression from that which Otto reported in 1953. At that time he said: "The trend in recent years has been away from the more mechanical aspects of grouping and toward a greater consideration of such factors as mental hygiene, sociometrics, human

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relations in the classroom, and the various dynamics of group relations."¹ More than at any time in history the demand is for an effective "total personality" with many competencies, academic proficiency but one of these.

Research on Grouping

(More extensive discussion and analysis of the following selected studies appears in Chapter II). Research on grouping practices needs to be considered in light of what ultimately happens to the learner because of grouping. Are the instructional products, either positive or negative, claimed for the practices the results of the administrative arrangement?

Nature of findings in terms of pupils.--Billett produced evidence in 1929 which cast doubt on the benefit of ability grouping for all pupils of all ability levels.

In her classic study, Keliher² raises serious question about the validity of ability grouping, especially when factors other than academic achievement are measured. She emphasizes the inconclusiveness of evidence for or against either homogeneous or heterogen-

¹Henry J. Otto, "Organization of the Educational Program," Review of Educational Research, XXIII (April, 1953), p. 183.

²Alice V. Keliher, A Critical Study of Homogeneous Grouping. (New York: Bureau of Publications, Teachers College, Columbia University, 1931), pp. 95-96.

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eous grouping. This same inconclusiveness has been pointed to by Cornell¹, Otto², and Goodlad³.

Though fifteen and twenty-five years respectively had elapsed between the reviews by Cornell, Otto and Goodlad, no different or additional conclusions were drawn. Likewise, the same questions are posed relative to the efficacy of ability grouping. There seems to be implied in the above inconclusiveness, notions that variables other than the administrative device determine the outcome of learning activities. Among these, certainly, is the teacher, his attitudes and competencies.

Since 1950 a few studies on the problem of grouping have appeared. Severson's⁴ study (1955) is comprehensive in scope. He presented evidence indicating

¹Ethel L. Cornell, "Effects of Ability Grouping Determinable From Published Studies," Part I The Grouping of Pupils, National Society for the Study of Education, Thirty-fifth Yearbook, (Bloomington, Ill: Public School Publishing Co., 1936), p. 304.

²Henry J. Otto, "Elementary Education--III. Organization and Administration." Encyclopedia of Educational Research. Revised edition. (New York: Macmillan Co., 1950), pp. 377-378.

³John Goodlad, "Ability Grouping," Encyclopedia of Educational Research, edited by Chester W. Harris, 3rd edition. (New York: The Macmillan Co., 1960), pp. 223-224.

⁴Ole Burnett Severson, Jr. "A Study of Academic Achievement and Personal-Social Development of Junior High School Pupils as Affected by Ability Grouping." (Unpublished doctoral dissertation, University of Denver, 1956).

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some desirability for ability grouping. His findings (reported in detail in Chapter II) are noteworthy for the investigation at hand. Some of the positive results he reported may have been materially effected in part by the experimental situation in the school he studied. He indicates that grouping procedures as utilized in the experimental situation were changed as evidence of pupil growth and development was gathered. It should be noted that such pupil growth and development included not only that in academic achievement, but in mental health and personal-social adjustment as well.

Harrah¹ studied the effects of five kinds of grouping within the classroom; ability, alphabetical, arbitrary, friendship, and interest. He reported grouping, especially friendship and interest, an influence on both achievement and social behavior. Following is one of several implications he drew:

That grouping within the classroom has two major factors that must be considered if grouping is to be effective on the achievement and social behavior of the students involved.

- a. The students should have an active part in the selection of their peers with whom they are to carry on their learning activities if good rapport is to be established and maintained among and between members of the class.
- b. Students should have an active part in the identification, selection, and planning of

¹Delvin Dae Harrah. "A Study of the Effectiveness of Five Kinds of Grouping in the Classroom." (Unpublished doctoral dissertation, University of Virginia, 1955).

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their activities for and within their areas and scopes of interest. Students' interests may be individual or collective; usually there are sufficient group interests to organize groups within a class unit to carry on classroom activities. Interests of individuals within the class may change in varying degrees, but most members of the group will retain sufficient interest to complete, within reasonable limits, the job or task selected by them.¹

The conditions which Harrah sees as desirable may be products of the teacher-pupil rapport factor which results in a good climate for learning.

Research pointing up teacher variable.--In the sampling of some of the more pertinent literature, the question of the possible or probable effect of the teacher, the interaction of his personality with that of the pupils and the group, his attitudes toward the group, and his expectations for the learners persists.

Billett said, ". . . the teacher factor is a more potent influence in pupil accomplishment than is the grouping factor."² (Italics mine.) On the basis of similar results obtained by a particular teacher in three consecutive experiments, he suggested that teachers may be better adapted to teaching one or another type group. In citing needed research, Keliher stated: "Especially should some effort be made to ascertain the differences brought about by the degree of antici-

¹Ibid., pp. 188-89.

²Roy Oren Billett, "The Administration of Homogeneous Grouping." (Unpublished doctoral dissertation, Ohio State University, 1929) p. 383.

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pation of results in the teacher's mind."¹ (Italics mine.) She implicates the teacher variable as crucial in the educational results which occur in any grouping pattern.

P'ei Yu Li² builds a strong case for ability grouping in his treatment of the literature. However, he emphasizes the need to differentiate subject matter and technique within the group. He seems to indicate clearly that quality teacher-pupil relationships are demanded if instruction is to be maximally effective. In part, Li draws his conclusions from criticism he leveled at studies presenting inconclusive evidence in favor of ability grouping.

In reporting his investigation, Severson makes the following statements about the teachers of the experimental group:

It is noteworthy that the faculty and staff of Morey Junior High School have been able through the years to maintain an openminded attitude toward the grouping of pupils. This was true even during the late 1930's and the subsequent decades when ability grouping was so vociferously condemned by many nationally known educators. In so far as the local school system was concerned the same pressures against the practice were evident, but fortunately each school unit was allowed to carry on whatever experimentation its personnel felt desirable.³

¹Keliher, op. cit., p. 96.

²P'ei Yu Li, A Critical Study of Group Instruction in American Schools. (Shanghai: The Comacrib Press, 1937).

³Severson, op. cit., p. 92.

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It appears that the teacher-pupil rapport factor may have been of sufficient magnitude to contribute to Severson's findings favoring ability grouping.

Similarly, with Harrah's findings, though he doesn't specify the teacher factor, any discussion of personal-social relationships in the classroom cannot ignore the role of the teacher.

Reeder's recent study tends to substantiate the need for research on the teacher factor in the question of grouping. Her study dealt with relationships of self-concept to academic achievement and classroom adjustment. She says:

The academic and social success or failure of children with either high self-concepts or low self-concepts is often dependent on the types of behavior patterns which they manifest. Teachers often have a stereotype in mind of the ideal pupil: respectful, obedient, non-aggressive, amenable both to authority and suggestion, wide awake, eager to learn and able to subordinate present goals to planning for the future. Hopkins, Blair, Buhler and Redl hold with the theory that the purposes of teachers and pupils are often not the same.¹

She emphasizes that "children learn what they feel."²

Haegney, in her summary of Thelma's recent presentation to the 5th Annual Association for Supervision and Curriculum Development Research Institute, says:

¹Thelma Adams Reeder, "A Study of Some Relationships Between Level of Self-Concept, Academic Achievement and Classroom Adjustment," (Unpublished doctoral dissertation, Denton, Texas, 1955), p. 142.

²Ibid., p. 148.

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It is the teacher, in most cases, who establishes the climate and determines the kind of group.

Surely the climate in American classrooms is determined to a large extent by teachers. What teachers do is important, according to Thelen. If we know the teachers' goals, we can estimate some possibilities about the quality of learning that is likely to transpire in a given group.¹
(Italics mine.)

In discussing the best climate for learning she says:

Quoting from recent experiments in teaching and learning, Dr. Thelen presented data which point clearly to the learner-centered classroom as that in which learning of the highest quality takes place. Learning seems to fare best when the teacher is well-grounded in content certainly, but also in human relations.²

The learner-centered group which Thelen sees superior to other types of groups, "is one in which the teacher is responsive to needs of the learners. The teacher's time is given to building and supporting the learner's ego, to clarifying, to defining, to helping children build understanding."³

Such conditions and results of experimentation as those described by Billett, Keliher, Severson, Harrah, and Reeder cannot be dismissed as mere happenstance with respect to the teacher variable. Undoubtedly, classroom climate is highly related to pupils' learning. Teachers create classroom climate. It

¹Genevieve Heagney, "The Individual in the Group," Summary of presentation to 5th Annual Association for Supervision and Curriculum Development Research Institute, (Washington, D. C., December, 1959), p. 2.

²Ibid., p. 3.

³Ibid., p. 2.

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appears valid to assume that the teacher variable remains the crucial issue in the ultimate effectiveness of learning under any program of sectioning pupils into classroom groups.

The basic concern being developed is not a new one. In the Thirty-fifth Yearbook of the National Society for the Study of Education, Coxe said:

The success of an organization by ability groups depends very largely upon the attitude of the teachers - a matter that merits careful attention on the part of the administrator, because the principles underlying such an organization seem to differ radically from those underlying our traditional school organization under which most of the present teachers have been brought up. There must be ample opportunity for discussion of the new plan of organization before it is initiated and also for discussion of difficulties that arise after it is put into operation.¹

Conclusions reached by the above cited authors cast questions on the values of ability grouping. Further, these authors seem to be pointing to the importance of teacher-pupil rapport as it may affect learning in any type class group.

The Study

The design of this study is exploratory in nature. It is an effort to determine whether or not, within the limitations of this project, (1) teachers readily identify into two groups, those oriented toward

¹Warren W. Coxe, "Summary and Interpretations," The Grouping of Pupils, Thirty-fifth Yearbook of the National Society for the Study of Education, Part I (Bloomington, Ill.: Public School Publishing Co., 1936), p. 314.

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homogeneous grouping and those oriented in opposition to homogeneous grouping as a means of assigning pupils to class groups or sections; and (2) when identified whether these two groups of teachers tend to reflect any characteristic differences relative to classroom atmosphere (rapport) and selected concomitant personal and professional characteristics.

At present there are indications of an imperative need to learn more about the factors which contribute to effective learning. Among these is the need to know the relative effectiveness of various grouping procedures on the learning of children. The teacher variable has been cited as a crucial one by early researchers and recent reporters on grouping practices. In recent research there have been implications and insinuations that the teacher variable has contributed significantly to the findings. Hence, the question is raised whether or not grouping procedures are really responsible for obtained results - or whether these results are more closely related to the teacher and his beliefs.

The teacher variable is one of the more difficult variables to assess in research on classroom practices. Factors such as administrative and instructional demands on the teacher, factors in the teacher's personality and background and his reaction to the above demands may affect the quality learning experience he

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creates. It is anticipated that this investigation may provide some insight into possible approaches for assessing the teacher factor in learning. The underlying assumption on which this study is based has been stated as follows by Wilhelms: ". . . The particular systems used in grouping are far less important than general warmth and acceptingness toward persons, and the efficient organization of work."¹

The working hypothesis of this study may be stated thus: Teachers who tend to be highly committed to homogeneous (ability) grouping as a basis for sectioning pupils tend to differ significantly with respect to the teacher-pupil rapport factor and other selected characteristics than teachers who tend to be less committed to homogeneous (ability) grouping as a basis for sectioning pupils.

The null hypothesis may be stated: There are no significant differences between those teachers highly committed to homogeneous (ability) grouping as a basis for sectioning pupils and teachers less committed to homogeneous (ability) grouping as a basis for sectioning pupils as measured by an index of commitment to ability grouping.

Definitions of Terms

Ability grouping.--The term ability grouping as used in this study is an attempt to divide students

¹Wilhelms, op. cit., p. 16.

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into classes according to their ability to attain on the basis of any one or combination of the criterion cited by Goodlad: General ability as revealed by intelligence or readiness tests or inferred from past general or specific accomplishments.¹ The terms "homogeneous grouping" and "ability grouping" are used synonymously in this study. Preliminary investigation by the researcher and interviews with teachers have indicated that these terms tend to bear synonymous meaning for teachers in the sample.

Grouping.--For purposes of this study, grouping is used synonymously with sectioning. The reference is to intra-grade grouping into class-size sections.

Index of commitment.--As used in this study, index of commitment or commitment score is a numerical value ascertained by the accumulation of weighted item responses relative to the teachers' indication of preference for homogeneous (ability) grouping. The range in scores is from low (negative) (four or less) to high (positive) (16).

MTAI.--Minnesota Teacher Attitude Inventory - referred to throughout the study as MTAI.

Limitations of the Study

Among the major difficulties in conducting research on grouping procedures and practices is the in-

¹Goodlad, op. cit.

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ability to replicate conditions of prior studies because of the human element. Investigation of the proposed problem is launched in full recognition of a major weakness of prior studies - the fact that they have been too piecemeal. It is also recognized that teachers' response patterns may be subject to such influences as administrative preferences, class organization within the system, teacher-administrator relationships, size of school and system, and teachers' perceptions of what they think should be best practices.

The sample.--The sample for this study consists of total junior high school faculties representing several school systems within the state of Maryland.

Preliminary investigation has supported earlier findings to the effect that most teachers seem to prefer homogeneous (ability) grouping. Therefore, the percentage of teachers with negative attitudes toward ability grouping is expected to be substantially smaller than those with positive attitudes toward ability grouping.

Delimiting the study.--Some delimitation is achieved by restricting the study to junior high school teachers. It is at this level in the school program at which the question of grouping seems to become most crucial. Goodlad supports this choice. "The arguments for and against [ability grouping] tend to increase and decrease, respectively, as the focus of attention

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moves upward from elementary to higher education."¹

Among those factors assisting the creation of grouping problems in the junior high school are:

(1) the nature of human physiological development in the pre and early adolescent period and (2) our professional concern with the "transitional" functions of the junior high school. The junior high school period is characterized by wide ranges in maturity at a given grade level. Traditionally, the American public high school has a differentiated program. The junior high school is that point in general education where preparation for entrance into this differentiated program is begun.

Summary

Olson has resolved that:

. . . grouping by height or no groupings at all in the junior high school competes with ability grouping in terms of educational outcomes.

.
A good school environment for growth provides diversity of opportunity in the difficulty of materials and in the areas of experience provided. The environment should have a diversity that matches the diversity of the human beings in it.²

Evidence is inconclusive and knowledge inadequate about the effect of ability grouping on pupils' learning. Evidence and opinion supports the quality

¹Goodlad, op. cit., p. 224.

²Willard C. Olson, "Reaching and Teaching the Individual," Phi Delta Kappan, XLI (June, 1960), p. 393.

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of the classroom climate for learning as a crucial factor in learning results, the teacher being the central element in the establishment of the climate. There is increasing concern about the advisability of grouping on some bases. Group instruction is commonly accepted in public schools as a basic administrative facility. Much more research into grouping pupils on bases other than those heretofore utilized is needed. In light of the above conditions, along with little more than informed opinion about teacher-pupil relationships as related to attitudes toward grouping procedures, the investigation here proposed appears valid and necessary.

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CHAPTER II

REVIEW OF THE LITERATURE

What Otto calls: "The fetish about ability grouping which prevailed in educational circles between 1920 and 1935 . . ." ¹ is clearly indicated by the variety and extent of the literature and experiments in the field during that period. More recently the amount of research has shown marked decrease. Currently, however, a resurgence of the amount and intensity of the writing characteristic of that early era is evident. Pertinent literature on grouping will be presented in chronological order. Where appropriate, note is made of references to the teacher factor in the studies cited. The latter part of this chapter is devoted to a discussion of some pertinent studies and literature which point up the role and impact of teacher attitudes on the classroom climate.

Early Research and Literature

The limits and purposes of this research do not warrant extended description and analysis of the

¹Henry J. Otto, "Elementary Education--III. Organization and Administration." Encyclopedia of Educational Research, Revised edition. (New York: Macmillan Company, 1950), p. 378.

magnitude of the early writing. Numerous excellent readily available summaries and descriptions will be referred to.

In its Twenty-fourth Yearbook the National Society for the Study of Education presented a comprehensive description of attempts to adapt the schools to individual differences in learners. The authors state:

Ability-grouping has recently come into strong favor with many people. Intelligence tests and achievement tests, usually checked by teachers' judgments, have been used to determine the group in which each child belongs. The instruction in each group has then presumably been modified to fit the type of children composing it.¹

The above statements follow Sutherland's formulation of three principles for education he sees emerging from the studies up to that time; namely;

1. No group has yet been found in which the individuals composing it possess equal amounts of any one ability.
2. Performances vary so greatly as to indicate that no single requirement is adequate as a stimulus to a majority of the group.
3. To study the development of a learning process it is absurd to set up as a standard a definite quantity of performance and expect each member of the group to accomplish just that amount and no other.²

Reavis³, writing in the same volume indicates that without ability grouping it is possible for the

¹National Society for the Study of Education, Twenty-fourth Yearbook, Adapting the Schools to Individual Differences. (Bloomington, Illinois: Public School Publishing Company, 1925), p. 44.

²A. H. Sutherland, Ibid., p. 6.

³W. C. Reavis, Ibid., pp. 49-52.

teacher to provide for individual differences within the classroom. In concluding this volume and reacting to the inconclusiveness of research at that time

Kilpatrick says:

We must have both individualized work and group work. But we must revise the common notion of what constitutes the school's task. Education is not acquiring specified subject matter fixed in advance; it is the continuous remaking of life by acquiring subject matter as it is needed for present behavior. When we can see this and can understand the necessity for the unity of self-hood, then we shall see why drill, though necessary, must be subordinated to life - why the school, to be finally satisfactory, must be continuous with life.¹

These early writers appear to be pointing to the importance of the teacher in the learning situation while cautioning against the imposition any administrative device in such a fashion that the desired ultimate values of school experience are not negated.

Among the important early investigations reported by Billett in his review of the literature in 1929 are those of R. R. Cook (1924), Ralph W. Walter (1926), William H. Martin (1927) and T. Luther Purdom (1929).

Cook concluded the following:

1. In geometry (a) superior pupils did not benefit by homogeneous grouping, (b) inferior pupils seemed to benefit.
2. In tenth grade English the results were similar to those in geometry except that the inferior pupils did not seem to benefit so much.
3. In ninth grade English the results were similar to those in tenth grade English.

¹William H. Kilpatrick, Ibid., p. 286.

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4. In history (a) superior pupils profited very much by homogeneous grouping (b) inferior pupils were apparently handicapped by the grouping.¹

In his study of the results of homogeneous grouping in junior high school, Martin concluded that homogeneous grouping benefits slow and bright pupils but not average pupils. His data further indicates a greater advantage for slow pupils than for bright pupils.²

Of Purdom's study Billett states:

1. Pupils in homogeneous sections do not make better semester marks.
2. Pupils in homogeneous sections do not gain more, as measured by standardized tests, than pupils in heterogeneous sections.
3. Pupils in homogeneous sections do not cover more course material.
4. Semester grades do not show pupils in homogeneous sections put forth more effort.
5. Gains made on standardized tests and semester grades do not show that pupils of any degree of intelligence were favored by homogeneous grouping.
6. Homogeneous grouping on the basis of intelligence tests does not reduce failures.

In short, one must conclude from this study that pupils in homogeneous sections do not acquire more, as measured by standardized tests or teachers' marks, than do pupils of equivalent ability in heterogeneous sections.³

Billett's study.--Billett's study in 1929

dealt with the administration of homogeneous grouping.

He stated his major question under investigation as:

¹Roy Oren Billett, The Administration of Homogeneous Grouping, (Unpublished doctoral dissertation, Ohio State University, 1929), p. 50.

²Ibid., p. 83.

³Ibid., p. 56-57.

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The real question is not whether ability grouping can be accomplished, but whether it creates a learning and teaching situation which will enable the pupil to acquire more efficiently those attitudes, habits, and skills which it is the purpose of the teaching process to develop.¹

The sample in the experiment was limited to ninth grade classes in college preparatory English. The investigation consisted of seven "unit experiments" utilizing twenty-two objective tests.

At the close of the experiment Billett drew the following general conclusions, two of which have been previously referred to in Chapter I:

1. This study shows plainly that one cannot predict the measurable results which will be obtained by a teacher when given homogeneous groups for the first time. Two of the three levels of ability, one of the three levels of ability, or none of the three levels of ability may be benefited. It seems unlikely, however, that all three levels of ability should be benefited by homogeneous grouping. These statements are quite consistent with the suggested "law" of homogeneous grouping. They merely indicate that the teacher factor is a more potent influence in pupil accomplishment than is the grouping factor. (Italics mine.)
2. Real differences in accomplishment do appear in from 16-33 weeks as a result of homogeneous grouping. These differences may be positive or negative for any level of ability, depending apparently in general upon the teacher, and specifically upon the type of ability measured by the test.
3. The fact that Teacher M consistently obtained similar results in three consecutive experiments suggests that teachers might be classified into types -- those best adapted to slow groups -- those best adapted to average groups -- and those best adapted to fast groups. At present such classification can be made only on the basis of judgment.

¹Ibid., p. 38.

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4. In general, only slow pupils, those of intelligence quotient less than 94-97, benefit by homogeneous grouping. In the two specific instances (experiments four and five) where slow pupils failed to benefit by homogeneous grouping, the teachers expressed a feeling of disability to get results with slow pupils or an actual dislike for work with such a group. The greatest disadvantage of homogeneous grouping rests upon the average groups.¹

Cornell² criticizes Billett's study on the basis that differentiation of content was left to the discretion of the teacher. Differentiation of instruction by teachers, she feels, contributes significantly to the learning outcomes. Because this differentiation of instruction is an individual matter, it becomes one of the major difficulties in evaluation of research on grouping procedures. However, conclusions one and four in Billett's study point up the need for careful investigation and analysis of the teacher variable as it may affect the educational results.

Keliher's study.--Among the classic studies of the problem is that of Alice Keliher. The major question which she saw was "determining wherein various educational schemes approach and wherein

¹Ibid., pp. 383-84.

²Ethel L. Cornell, "Effects of Ability Grouping Determinable From Published Studies," Part I The Grouping of Pupils, National Society for the Study of Education, Thirty-fifth Yearbook, (Bloomington, Illinois: Public School Publishing Company, 1936).

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they deny a concept of the total, evolving individual."¹

In her detailed analysis she considered homogeneous grouping in terms of basic assumptions implied by the acceptance of homogeneous grouping. Each of the following assumptions she either rejects or questions very critically.

1. Intelligence is so adequately measured by verbal intelligence tests that the results may serve as bases for action which concerns the whole individual.
2. An individual is so consistent in his performance in specific traits that homogeneity of grouping is possible.
3. Homogeneity of grouping reduces the range of variations within a grade.
4. Homogeneity of grouping tends to bring superior learning results.
5. Homogeneity of grouping tends to provide superior provision for individual differences.
6. Homogeneous grouping provides for better attitudes in pupils.
7. The legitimate next step to grouping is the arrangement of a multiple-track curriculum, differentiated in number of years, or scope of curriculum, or both.
8. The common essentials in education are those learnings upon which grouping is made, the academic skills.
9. Differences in ability to create and ability to appreciate aesthetic values vary concomitantly with "intelligence" and (in some interpretations) high ability in each is limited to those of high intelligence.
10. The classification and segregation of children in our schools does not adversely affect society since a like segregation exists in democratic society.²

Throughout her analysis she periodically points

¹Alice V. Keliher, A Critical Study of Homogeneous Grouping (New York: Bureau of Publications, Teachers College, Columbia University, 1931) p. 40.

²Ibid., pp. 49, 66, 71, 77, 85, 91, 96, 101, 131, 140, 142 and 147.

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to the teacher and his expectations of learners as a highly important factor in the outcome of school experience. As to the improvement of learning results she concludes:

The evidence concerning the improvement of learning under homogeneity is hardly conclusive, though the control studies point to heterogeneity as favorable to learning. Before we can declare ourselves on this matter, however, we should be able to draw into our measurement other factors than the academic learnings now measured. Especially should some effort be made to ascertain the differences brought about by the degree of anticipation of results in the teacher's mind. The question of learning results in terms of individuals should be studied. Mass results are of little concern when the major interest is in provision for the individual. The writer believes that present data in the field do not offer conclusive evidence. The broader learnings, the total individual, and the attitudes which enter into learning must all be taken into account.¹ (*Italics mine.*)

Relative to provision for individual differences she summarizes in part as follows:

The writer fears that, so far as total individual differences are concerned, and indeed so far as academic differences are concerned, grouping, unless extremely carefully directed, would lead teachers to have less alertness to detect and provide for these differences. On the academic side, the desire for uniformity would easily lead to less attention to deviations and consequently to mediocrity. From the total personality aspect the fixation on the academic traits on which the grouping is based leads to overattention to the partial academic phases of education. (*Italics mine.*)

True provision for individual differences can come only through the right teaching and the optimum educational program. When education means the liberation of the individual, both teacher and learner, for the maximum of development through social living and community interaction, individual

¹Ibid., pp. 95-96.

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differences will assert themselves and be apparent for curbing or encouraging. Individual needs cannot be ascertained without individual expression. The mechanizing accompaniments of homogeneous grouping are in opposition to this type of educational program.¹

As to the attitudes of pupils she found that "children as well as teachers and administrators, think of "slowness" or "brightness" as general traits.

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The laziness of children, said to be lessened by grouping, is a matter of an attitude which is affected materially by the teaching."²

In her concluding statements, Keliher considers homogeneous grouping undesirable at the time of her study.

. . . In the light of sound theory and science of education homogeneous grouping should not be employed. In the light of the evidence concerning the results proposed for grouping, it does not achieve those results.

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The differentiation of curricula may easily lead to the fixing of environmental conditions which, in turn, may fix the possibilities of development for the child.³

She also speculates on probable consequences of homogeneous grouping.

Consistent school segregation for twelve years of life may have its effects on the restriction of free social intercourse and cooperation in society when these children who have been so segregated

¹Ibid., pp. 100-101.

²Ibid., pp. 129-30.

³Ibid., pp. 162-63.

reach adult life.

Further speculations as to outcomes point to the possible and probable effects of hurtful attitudes on the development of individual potentialities and consequently on the elevation of society.¹

Evidence presented by Keliher brings to light numerous salient questions about the advisability of ability grouping as a means for providing for individual differences. Throughout her analysis she implicates academic achievement and excellence as one prime motivating force for homogeneous (ability) grouping. Implicit in her analysis is the importance of the teacher's attitudes toward, and approach to the learning situation he creates.

Summary of the early findings

Several things stand out in this early period. First, grouping up to 1937 was based primarily on intelligence quotient or mental age and had as its goal efficient teaching of subject matter. Assessment of outcomes was almost entirely in terms of amount of subject matter achieved. To be sure, "other" factors were mentioned and included in the studies primarily on the basis of calculated guesses and impressions or opinions. The evidence on the measured factors also remained highly inconclusive. Of this inconclusiveness one recent writer says that "the tone of the literature suggests something more fundamental than in-

¹Ibid., p. 164.

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ability to measure: far less commitment to personal-development goals than we now take for granted."¹

Cornell has succinctly summarized the studies up to 1937 in the following paragraph:

The results of ability grouping seem to depend less upon the fact of grouping itself than upon the philosophy behind the grouping, the accuracy with which grouping is made for the purposes intended, the differentiations in content, method, and speed, and the technique of the teacher, as well as upon more general environmental influences. Experimental studies have in general been too piecemeal to afford a true evaluation of results, but when attitudes, methods, and curricula are well adapted to further the adjustment of the school to the child, results, both objective and subjective, seem to be favorable to grouping.²
(Italics mine.)

The Literature Since 1937

Goodlad's summary of the studies on ability grouping for the 1960 edition of the Review of Educational Research indicates no appreciable progress since the review by Cornell. Studies since that time have in general not taken cognizance of the research limitations she pointed out. The evidence slightly favoring ability grouping in regard to academic achievement, moreso for the dull child than the bright, he

¹Fred T. Wilhelms, "The Nature of Classroom Grouping for Learning," Paper prepared for Association for Supervision and Curriculum Development, 1958. (Mimeographed) p. 5.

²Ethel L. Cornell, "Effects of Ability Grouping Determinable from Published Studies," The Grouping of Pupils, Thirty-fifth Yearbook of the National Society for the Study of Education, Part I (Bloomington, Ill.: Public School Publishing Co., 1936), p. 304.

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says is of limited value in getting at the basic questions involved.¹

Pei Yu Li included a critical study of ability grouping in his Critical Study of Group Instruction in American Schools, 1937. Though he worked solely from the literature available in developing his historical study, he points up the need for attention to procedures taken after grouping has been accomplished. Those he includes consist of:

- A. Transfer and reorganization [flexibility in placement of pupils]
- B. Differentiation of subject matter, both of courses and curricula.
- C. Special classes for the extreme cases in both ability and behavior.
- D. A study of teaching methods; including examination of plans, organization and assignments; methods of teaching characterized by the unit-assignment plan - the need for flexibility within a given grouped situation and attention to teacher quality.²

Inadvertently he infers a major weakness of earlier writings - the desirability of administratively tight ability categories within groups for more efficient teaching and learning. He believes that this tight organization should exist simultaneous with maximum flexibility in all phases of the school program, whether

¹John Goodlad, "Ability Grouping," Encyclopedia of Educational Research, edited by Chester W. Harris, 3rd edition. (New York: The Macmillan Company, 1960) p. 224.

²Pei Yu Li, A Critical Study of Group Instruction in American Schools. (Shanghai: The Comacrib Press, 1937) pp. 163-224.

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in an ability grouped situation or not.

After Li's study, research on ability grouping virtually disappeared from the educational scene. Few studies have been reported since. There has been voluminous writing, especially within the past three years, little of which has been research based.

Two studies on intra-class grouping.--Two studies, those of Jones in 1948 and Holmes and Harvey in 1946 bear mention as the conclusions are pertinent to the problem at hand. Both of these studies deal with elementary school groups. It is recognized that these studies deal with intra-class grouping.

Jones did a study in 1948 to determine

. . . the difference, if any, between the progress in skills of children at the intermediate grade level if taught on their individual levels of accomplishment regardless of grade placement and that of children taught as a group the curriculum prescribed for their grade with only minor and incidental provisions made for individual differences in ability or achievement.¹

The findings in this study of 250 pupils were based on growth in knowledge of specific subject matter from one point of measurement to another over a given period of time rather than level of achievement at a specific time.

Statistically the results were in favor of the experimental group. The researcher however, was con-

¹Daisy Marvel Jones, "An Experiment in Adaptation to Individual Differences," The Journal of Educational Psychology, XXXIX (May, 1948) p. 257.

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vinced that a significant factor in the differences was due to differences in both teacher and pupil point-of-view which permeated the two types of classrooms. She felt that results for the experimental group might in part be attributed to pupils' awareness of their own needs and potentialities. This was possibly achieved through the working relationship between teachers and pupils. This relationship tended to be characterized by greater mutual acceptance and understanding than existed in the control group.

Holmes and Harvey conducted a study in 1946 to determine the relative effectiveness of two methods of intra-class grouping for arithmetic instruction; permanent grouping vs. flexible grouping.¹ Permanent grouping was defined as that grouping in which a class was divided into two or more sections and remained without change throughout the year. Flexible grouping was defined as that grouping in which the class was treated as a whole when new materials were introduced, then being divided into groups on the basis of accomplishment in a particular subject or topic.

Two third and two fourth grade classes were originally involved in the study. The groups were matched on the basis of intelligent quotient, socio-

¹Darrell Holmes and Lois Harvey, "An Evaluation of Two Methods of Grouping," Educational Research Bulletin, XXXV (November, 1956) pp. 213-222.

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economic background and the ability of the instructors. The approach to teaching in all four sections was with emphasis on meaning and practice. As the study progressed it was noted that attitudes toward arithmetic and social development were increasingly important. Consequently, two sixth grade classes matched as above, were added to the study to test these factors.

Significant differences in arithmetic learning were found in favor of the flexible arrangement in the fourth grade. The researchers attributed this difference to the enthusiasm of the teacher and concluded the "the method of grouping did not significantly affect the learning of arithmetic."¹ The sociogram did reveal changes in group structure, but none which could be attributed to the method of grouping. Neither were there found to be any significant differences between the two methods with respect to attitudes toward arithmetic.

The conclusions of both these researchers emphasizes the importance of the teacher factor rather than the administrative device in the creation of an effective learning-climate.

Harrah's study.--Harrah analyzed the effectiveness of five kinds of grouping in classrooms in the high schools of Greenbrier County, West Virginia. Those he identified as ability, alphabetical, arbitrary,

¹Ibid., p. 222.

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friendship, and interest grouping. The researcher polled schools in the system to ascertain grouping practices in the junior high schools. At the conclusion of the school year Harrah analyzed the results of Metropolitan Achievement Tests, teachers grades or marks, McCall Social Behavior Scale, and teachers' and students' opinions.

In all five types of grouping a positive change considered satisfactory was found in social behavior. The reporting of findings in this area do not appear to be conclusive.

Among the implications from this investigation Harrah includes the following:

1. That the grouping of students, particularly friendship and interest, influence both achievement and social behavior. The study suggested that teachers might profitably emphasize social adjustment through friendship or interest grouping in the early stages of a planned learning experience in order that optimum growth might be obtained in the area of continuous social development as well as academic achievement.
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4. That any kind of grouping technique used or employed for the grouping of students of the junior high school age level in a classroom needs careful explanation and complete understanding by the teacher and students if full benefits are to be derived. Since some students will react differently toward certain kinds of grouping and toward different subject matter areas, the purposes to be attained by small grouping within a classroom unit must be clearly defined and reasonably understood by those who participate in this grouping.¹

It may be deduced from the above reported findings that there may be a positive relationship between the

¹Delvin Dae Harrah, "A Study of the Effectiveness of Five Kinds of Grouping in the Classroom," (Unpublished doctoral dissertation, University of Virginia, 1955.) Pp. 188-90.

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learning atmosphere created by the teacher and the amount of pupil growth, both academic and social.

Severson's study.--One of the more comprehensive studies on grouping in recent years is that reported by Severson in 1956. He investigated the comparative progress of pupils who had experienced their junior high school academic instruction grouped according to two different criteria:

1. Reading comprehension as determined by standardized tests;
2. Random age-grade distribution.¹

The major characteristics he compared were: academic achievement, mental health, and personal-social adjustment. It should be noted that his sample was limited to "more able" students, defined as those pupils possessing an I.Q. of 114 or above.

Following are some of the more salient of Severson's findings. Pupils grouped for academic instruction according to reading comprehension excelled the control group in:

1. Language arts
2. Academic marks in junior high school
3. Records achieved during the first year in high school (They were also less likely to drop out of high school before graduation).
4. Nearly all personal-social areas; moreso for boys than for girls with the exception of "sense

¹Ole Burnett Severson, Jr., "A Study of Academic Achievement and Personal-Social Development of Junior High School Pupils as Affected by Ability Grouping," (Unpublished doctoral dissertation, University of Denver, 1956) p. 2.

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of responsibility" and "response to authority."¹

He stated that there is no evidence to indicate that ability grouping has a negative effect on mental health. He further draws the following conclusions:

11. The evidence indicates that certain differences in background and personal characteristics exist between the most successful and least successful pupils regardless of grouping. The successful were younger and had a fifteen point I.Q. advantage. Least successful pupils were not much below average in intelligence, however. The successful had far more stable home conditions and more than likely had fathers who were professional men or who had their own businesses. Most of the relatively unsuccessful pupils had quite the opposite type homes. In mental health tests the successful were on the average thirty-three percentile points above the other extreme group. The successful were not only high in academic marks but far excelled the others in personal-social development.
12. In so far as the more able pupils were concerned (higher I.Q. group), ability grouping based on reading comprehension fostered better growth in nearly all areas. Arithmetic appears to be an exception in which there was not much difference either way. In high school progress the more able who had been grouped in junior high school according to ability made a much better record than their random-grouped peers. In personal-social development the former group also excelled in relation to the latter. There appears to be a close relation between good mental health and fairly high intelligence.²

His findings appear in part to substantiate Keliher's earlier contention "that it is a natural and reasonable procedure to group according to a specific ability when the purpose is to improve that ability-"

¹Severson, op. cit., pp. 322-23.

²Ibid., pp. 324-25.

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i.e. Severson's findings relative to the language arts.¹

Two important aspects of Severson's study of which he is cognizant, but which he appears to not consider in his analysis are the importance of the school climate and of a high degree of flexibility in the grouping.

It should be noted in passing that the present Morey program has evolved from earlier experiments in grouping and from various combinations of "core" programs. For example, from 1922 to 1940 the school under the administration of Jessie M. Hamilton utilized the I.Q. on group tests as a basis for grouping. Other similar criteria were given consideration through the years. Principal Clark H. Spitler in 1941 encouraged the faculty to experiment with reading as a criterion.

The Morey faculty and administrative staff have recognized the necessity for gaining school-wide and community-wide acceptance of any grouping plan if it is to succeed. . . . The idea of working to ability, whatever the level of ability might be, is of prime importance.²

He goes on to state that: "The locale appeared to be reasonably typical as compared with other metropolitan junior high schools. However, typicality is not proved in the study."³ (*Italics mine.*)

As to flexibility of the groups he states: "In the experimental group, pupils were frequently changed from section to section if initial placement proved unsuitable. Over thirty per cent of the pupils

¹Ibid., p. 26.

²Ibid., pp. 90-93.

³Ibid., p. 289.

were changed, thus maintaining flexibility in grouping."¹

It occurs to this researcher that the findings favoring ability grouping in this study may be in part, if not wholly, more the result of the attitudes of administration and faculty members, and procedures utilized after grouping, rather than the fact of the administrative device itself.

Martin's study.--In 1958 Martin reported a study of the effects of ability grouping on junior high school achievement of 176 children.

The primary purpose of this study was to analyze the mean achievement gains for total battery and each subtest, as determined by the use of the Stanford Achievement test. These gains were measured from grades 6 to 7, 7 to 8, and 6 to 8, in an ability grouped, nonability grouped and modified ability grouped school.²

Secondarily, the researcher wished to determine which ability group, low, middle or high benefited most from the grouping and whether there were advantages for grouping in some subjects and not in others.³

He reported that significant gains in three I.Q. groups in language achievement in grade seven in the ability grouped school could be attributed to

¹Ibid., p. 296.

²William B. Martin, "Effects of Ability Grouping on Junior High School Achievement," (Unpublished Ed. D. dissertation, George Peabody College for Teachers, 1958) p. 16.

³Ibid.

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However, the null hypothesis for the study could not be rejected: Mean gain in School A (ability grouped) = Mean gain in School B (nonability grouped) = Mean gain in School C (moderate ability grouped) at the .05 level of significance.²

The findings in this study clearly indicate no advantages for ability grouping. Severson appeared not to take cognizance of the teacher factor. Neither did he pursue the question of why his findings may have been so.

Summary of later findings.--In the 1950 edition of the Encyclopedia of Educational Research Otto reported:

1. The evidence slightly favors ability grouping as contrasted with heterogeneous grouping, particularly where adaptations of standards, materials, and methods are made.
2. The evidence regarding the attitudes of teachers toward ability grouping is that most teachers prefer to work with "homogeneous" rather than mixed groups.
3. The evidence regarding the relative merits of various types of adaptation of standards, materials, and methods is inadequate to form a judgment.
4. The evidence indicates greatest relative effectiveness for dull children, next greatest for average children, and least (frequently harmful) for bright children.
5. The evidence regarding the particular grade levels or subjects in which ability grouping is particularly effective is inadequate to form a judgment.
6. The evidence regarding the effect of ability grouping upon characteristics of pupils other

¹Ibid.

²Ibid., p. 97.

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than knowledges and skills is highly subjective and cannot be said to be conclusive, although one study shows that the great majority of pupils are happy and satisfied in schools using ability grouping.

7. On the whole, where grouping is used parents are favorable to its use; the majority of parents believe that children are at least as happy as in other groupings, do better work in school, and are correctly sectioned according to ability.
8. The indications are that in general the variability in achievement (which is an index of difficulty of teaching and the need for instructional adjustments) in ability groups, in grades which have three groups each, is about 83 per cent as great as in unselected groups. In grades having two groups each, the variability in achievement in ability groups is about 93 per cent as great as in unselected groups. These percentages are reduced to about 74 and 84 respectively if the plan of ability grouping is accompanied by a multiple track of promotion.¹

As has been stated previously, it is noteworthy that Goodlad reports nothing to alter these conclusions in the 1960 edition of the same volume. Goodlad does conclude with the following commentary:

. . . An analysis of the many studies of ability grouping reported by Cornell and by Petty and of several more recent studies suggests that curricular differentiation for the range of student variability represented in a given group is a more significant contributor to academic progress than is the basis for establishing classroom groups. Teachers tend to react more favorably to teaching groups in which the heterogeneity has been somewhat reduced, than to teaching groups selected at random. This finding raises the serious question as to whether many teachers see in ability grouping a kind of Utopia in which undifferentiated teaching procedures and content will be applied to differentiated, "homogeneous" groups. The results would be far from Utopian for the students unfortunate enough to find themselves in such classrooms.²

¹Otto, op. cit., pp. 377-78.

²Goodlad, op. cit., p. 224.

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Wrightstone has reported no conclusions or evidence conflicting with those reported by both Monroe and Goodlad.¹

Other Pertinent Literature on Grouping

Within the last few years professional publications have deluged the reader with discussions about grouping. Most of this deluge adds little or nothing to knowledge about the advisability or in-advisability of ability grouping. Most writers re-iterate the confusion and report status of practices in one or more situations.

Grouping for the exceptional learner.--Frequently expressed points of view in recent years have dealt with rapid and slow learners, and especially with the rapid or "gifted" learner. The U. S. Office reported in 1954 that 48 per cent of 795 secondary schools surveyed (including 397 separate junior high schools) practiced ability grouping in making administrative provision for both rapid and slow learners.²

Much recent attention has been directed to ability grouping for gifted children. As early as 1931 Gray and Hollingworth reported superior learning

¹J. Wayne Wrightstone, Class Organization for Instruction, (Washington, D. C.: National Education Association, 1957), p. 6.

²U. S. Office of Education, Some Types of Classroom Organization. No. 5, November, 1955, p. 8.

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for gifted in terms of subject matter accomplishment regardless of whether segregated for instruction or spread throughout heterogeneous groups.¹

These researchers further concluded that:

The advantages to be hoped for from the homogeneous grouping of gifted children lie not so much in the expectation of greater achievement in the tool subjects of (reading, arithmetic, spelling) as in an enrichment of scholastic experience with additional intellectual opportunities.²

It occurs to this researcher that the quality of enrichment discussed at length in provisions for the gifted may in part at least, be a product of teachers' perceptions, skill, creativity and personality - in short, their ability to develop rapport with pupils.

Barbe reviews practices and research up to 1956 in the problem of homogeneous grouping of gifted children. His final statement follows:

While no definite conclusions can be reached about the best method of providing for the gifted, it is important to recognize that the gifted child is being neglected and is in need of special attention.³

The above further attests to the inconclusive evidence for ability grouping, even for this limited segment of the school population.

¹Howard A. Gray and Leta S. Hollingsworth, "The Achievement of Gifted Children Enrolled and Not Enrolled in Special Opportunity Classes," Journal of Educational Research, XXIV (November, 1931), pp. 255-61.

²Ibid., p. 261.

³Walter B. Barbe, "Homogeneous Grouping for Gifted Children," Educational Leadership, (January, 1956), p. 229.

The results of an opinion poll of superintendents published in the Nation's Schools in 1955 showed 40.3 per cent of the respondents said yes; 59.2 per cent, no; and 0.5 per cent, undecided on the question: "Do you favor grouping of children through the early years on the basis of ability rather than on the typical age-grade system?"¹

Superintendents who favored ability grouping generally were concerned that the gifted child was not getting the attention he needed, and they felt that ability grouping was one way to give it to him. The majority opposed ability grouping for three reasons: (a) children learn from one another as well as from the teacher and the instructional material, and they should not be segregated; (b) ability grouping subjects the school to great parental displeasure; (c) new teachers are almost always assigned the lower ability groups, a practice very destructive of teacher morale.

Some superintendents who favored the practice in high school said that reliable classification was not possible in the elementary school.²

In his recent report on the American High School, Conant advises ability grouping. "In the required subjects and those elected by students with a wide range of ability, the students should be grouped according to ability, subject by subject."³

For each of the subjects he advocates at least

¹National Education Association, Research Division, "Organization Plans in the Elementary School." (Washington, D. C., February, 1956). (Mimeographed.)

²Ibid., pp. 4-5.

³James B. Conant, The American High School Today. (New York: McGraw-Hill Book Company, Inc., 1959), p. 49.

three types of classes - "one for the more able in the subject, another for the large group whose ability is about average, and another for the very slow readers who should be handled by special teachers."¹

In response to ability grouping for the above stated purposes, Goodlad and Anderson hold out little hope for its effectiveness.

. . . it is noted that the greatest variation [in achievement in paragraph meaning, word meaning, spelling, arithmetic reasoning, and arithmetic computation] occurs, usually, for children at the top and bottom of the achievement continuum. And yet, paradoxically, when grouping by ability levels is proposed in educational circles, invariably it is the gifted or the slow pupils who are to be segregated into "homogeneous" groups. When will we start paying at least some attention to the facts, to the realities of the human material with which we deal?

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Consequently, teachers who proceed as though their class of gifted or retarded pupils were homogeneous are fooling themselves and cheating their pupils.²

Some of what has been reported in the foregoing sections of this chapter is "feeling" of researchers and commentators, while some is research-based "fact".

Selected Literature Relating to Classroom Climate (The Human Relations Factor)

A second dimension of the problem under investigation is the classroom climate factor - one of

¹Ibid.

²John I. Goodlad and Robert H. Anderson, The Nongraded Elementary School. (New York: Harcourt, Brace and Company, 1959), pp. 15, 17.

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the variables which may appreciably affect the learning outcomes of any classroom situation. Inherent in this variable is the teacher, his attitudes toward pupils and his perception of his role in the classroom.

Ruby Dahlin states in regards to grouping for reading:

What a teacher does with children and the quality of her leadership and guidance are tied closely to her educational values. These values are not always evident or even consciously recognized; yet they are determinants of practice.¹

The Classroom as a Group Situation

An essential factor contributing to classroom climate is the group dynamics aspect of the classroom situation and the role of the teacher as perceived both by himself and his pupils.

Jenkins is among the researchers who has pursued with depth and precision some of the social-psychological aspects of the learning situation. He holds that "greater learning will occur in the classroom to the extent that the pupil is able to get his emotional needs satisfied there."²

He proposes two sources of the satisfaction

¹Ruby Dahlin, "Evaluation of Current Practices In Grouping." Supplementary Educational Monograph, No. 72. Edited by William S. Gray. (Chicago: University of Chicago Press, October, 1950), p. 58.

²David H. Jenkins, "Interdependence in the Classroom," The Journal of Educational Research, XXXV (October, 1951), p. 138.

of pupils emotional needs in the classroom; one, from other pupils in the class, and two, through the teacher. A second dimension which he feels merits attention is the dependence of the teacher on the children in the classroom to satisfy many of his emotional needs.¹

Resultant of considerable research which he has conducted, Jenkins believes that far too little attention has been given to the learning situation the classroom provides for the teacher.

In another publication this author elaborates on the "helping" relationship in education, a key principle in a healthy learning climate.² "Those of us who, in any one of many ways, are trying to help people will have to assume primary responsibility for the relationship between ourselves and those we are trying to help."³

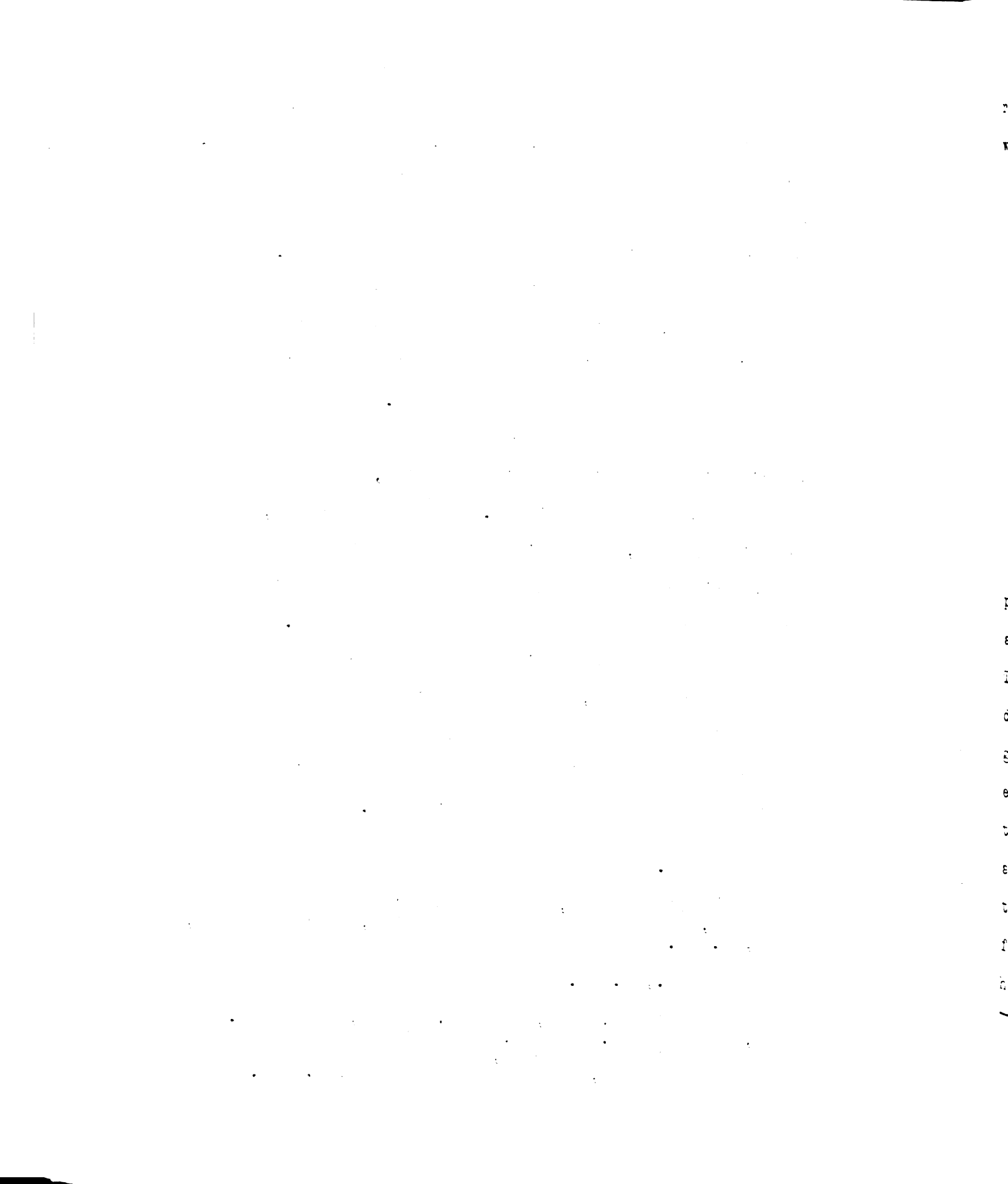
Among the assumptions underlying research on the class as a group, one group of investigators stated as a truism that "teachers have long known that pupils responded to other stimuli than the words of wisdom emanating from behind the teacher's desk."⁴ These

¹Ibid.

²David Jenkins, "The 'Helping' Relationship in Education," School of Education Bulletin, XXII (February, 1951), p. 66.

³Ibid., p. 67.

⁴William C. Trow, Alvin E. Zander, William C. Morse, and David H. Jenkins, "Psychology of Group Behavior: The Class as a Group," The Journal of Educational Psychology, XXXI (October, 1950), p. 324.



researchers went on to establish a set of assertions which needed research and investigation. Among them:

1. Groups, especially those similar to classroom groups, can be disrupted into separate cliques; . . . [a condition which can be] effected by an outsider, such as a teacher. . .
2.
The group climate or style of group life can have an important influence on the member's personalities. One such style of group life can develop hostile, obedient, uncreative, 'goldbrickers'; another can produce confused, purposeless, competitive, drifters; and still another can mould cooperative, flexible, purposeful, turn-taking, we-spirited persons. The group climate that produces such effects is created by the resultant of a number of group properties which can be combined in various ways, among which are the leadership style of the teacher or that of those who function most as group leaders. . .¹ (*Italics mine.*)

"Thus we can safely accept the view that group phenomena definitely affect the progress of learning, as well as the kind of learning that takes place."²

Trow and his co-workers contend that there are several different potential sources in a group atmosphere where good mental hygiene prevails, one of which is the teacher. "The second source of increased motivation lies in the extent to which the teachers and the pupils build a supportive atmosphere in the classroom . . ."³ It is through this supportive atmosphere that the teacher fulfills one of his important roles, that of therapist - helping all children toward individual and social ad-

¹Ibid., pp. 327, 328.

²Ibid., p. 329.

³Ibid., p. 330.

justment.¹

All of these concerns help to emphasize the importance of interpersonal perceptions in the development of a healthy classroom climate. Specifically, Jenkins states:

Because of the impersonal character of these contacts, [teacher-pupil in situations where teachers see many pupils in a day] the mental pictures which the teachers and the students build up of each other may be important factors in determining the nature of their working relationship.²

The role and effect of interpersonal relations have been extensively elaborated on by, among others, Combs and Snygg,³ Kelley,⁴ and Kelley and Rasey.⁵ This important element in the learning situation is receiving increasing attention in our professional research and literature.

Bush⁶ points up the need for research attention

¹Ibid., p. 333.

²David H. Jenkins and Ronald Lippitt, Interpersonal Perceptions of Teachers, Students, and Parents. (Washington, D. C.: National Education Association, 1951.) p. 51.

³Arthur W. Combs and Donald Snygg, Individual Behavior. (New York: Harper & Brothers, 1949).

⁴Earl C. Kelley, Education for What is Real. (New York: Harper & Brothers, 1947).

⁵Earl C. Kelley and Marie I. Rasey, Education and The Nature of Man. (New York: Harper & Brothers, 1952).

⁶Robert N. Bush, "Principles of Successful Teacher-Pupil Relationship," Phi Delta Kappan, XXXIX (March, 1958), pp. 271-73.

to the human relations factor in teaching and learning. He cautions that the problem is broad, comprehensive, and complex; in danger of being oversimplified. "The personal factor in the teacher-pupil relationship, the rapport and feeling tone, is one, and only one, aspect of the total teacher-pupil relationship which must be taken into account."¹ Benne and Bennis², in the same publication, follow up Bush's remarks with a further treatment of the previously cited concept - the classroom as a group.

Thelen's approach to grouping.--A most provocative approach to grouping pupils based upon the concepts of group dynamics and interpersonal perceptions has been proposed by Thelen.³ In light of extensive interest in grouping pupils for instruction coupled with the fact of instructional groups in educational organization, Thelen contests traditionally accepted bases for grouping for learning, including ability grouping. In addressing himself to the need for increasing homogeneity within class-size groups, Thelen questions the commonly accepted approaches and bases.

¹Ibid., p. 271.

²Kenneth D. Benne and Warren G. Bennis, "Studying the Classroom as a Group," Phi Delta Kappan, XXXIX (March, 1958), pp. 274-79.

³Herbert A. Thelen, "Classroom Grouping of Students," The School Review, LXVII (Spring, 1959), pp. 60-77.

Dimensions commonly ascertained and employed as bases for assigning pupils to class groups are ability (I.Q.) and achievement. Thelen holds that dimensions other than these might provide more adequate preliminary information on which to base assignments to groups for learning. He raises the following questions as to what might constitute appropriate bases for the establishment of class groups:

1. What are the student's values and expectations concerning the situations he is to be grouped for?
2. What is the student's standing with respect to the objectives of the course? What are his potentials in the subject?
3. With which teachers can the student identify?
4. Who threatens and who supports each child?
5. How does the child deal with stress in the classroom?
6. What kind of situation can the student deal with? What kind of situation is meaningful and challenging to him? What kinds of activities does he seek?¹

Even if we established groups on these or a combination of these bases with a wealth of utilized knowledge about the teachers involved, would it necessarily follow that school achievement would be greater? "The answer probably depends on what the teacher does with the group, that is, on the method of teaching."²

In citing the need for breadth and depth research of the foregoing dimensions, Thelen appears to be pointing, among others, to the teacher-pupil rapport

¹Ibid.

²Ibid., p. 77.

factor as one of the salient variables in the problem of grouping for learning. In the 1960 Yearbook of the National Society for the Study of Education, devoted to extensive examination of this phase of the problem, Olson says: "The teacher becomes the central figure in determining the nature of the atmosphere which is to prevail in the group. . . ." ¹

Selected Literature on Teacher Attitudes

A third area from which basic assumptions for the current investigation are drawn is the role of teacher attitudes as they may effect the classroom climate. It should be noted that this facet may be considered either in conjunction with the group dynamics and interpersonal relations factor or as adjunct to it. Research has been cited which claims both advantages and disadvantages for ability grouping. Other research findings and writings cited have pointed to the classroom as a group situation. Still a third area which has been implied and identified is that of teacher attitudes as they may relate to the effectiveness of teaching. The problem of researching the question of ability grouping is complex. The point of view of this researcher is that all three of these areas,

¹Willard C. Olson, "Implications of the Dynamics of Instructional Groups," The Dynamics of Instructional Groups, National Society for the Study of Education, Fifty-ninth Yearbook, (Chicago: The University of Chicago Press, 1960), p. 270.

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findings about ability grouping, the classroom as a group situation, and teacher attitudes, must be considered in studying the administration and results of ability grouping. Only in so doing can results of such investigations be interpreted with maximum meaning.

Several authors have tied together teacher attitudes, interpersonal relations and teacher-rapport in meaningful terms. Ambrose and Miel talk about "a climate which supports democratic interaction."¹ They elaborate as follows:

Research related to healthy personality development has shown that the emotional tone of the social environment in which children live has a decisive influence upon the behavior of children. Importantly determining the emotional tone are interpersonal relations. As at home, so at school, the climate which prevails is determined by interpersonal relations. The teacher plays a key role in influencing not only the pupil-teacher relations but also pupil-pupil relations.²

Mill has emphasized that teacher attitudes are an important variable in the learning process of children.³ Bishop suggests that intangibles such as room atmosphere and teacher attitudes may be factors in the individualizing of instruction within a classroom situation.⁴ A

¹Edna Ambrose and Alice Miel, Children's Social Learning, (Washington, D. C.: Association for Supervision and Curriculum Development, 1958.).

²Ibid., p. 63.

³Cyril R. Mill, "Attitudes Affect Pupils' Learning," Educational Leadership, XVII (January, 1960), pp. 212-16.

⁴Leslee J. Bishop, "Methods of Individualism - in Junior High School," Educational Leadership, XVII (November, 1959), pp. 80ff.

recent yearbook of the Association for Supervision and Curriculum Development emphasizes the importance of the teacher role in facilitating learning.¹ Several recent investigations of teacher attitudes help to clarify and reveal the scope of this phase of the problem.

Juul's study.--In her study of authoritarian personality in relation to teachers' attitudes toward child behavior, Juul² reported that:

1. Men tended to be significantly more authoritarian and less understanding of child behavior than women.
2. A proportionate correlation between number of courses taken in psychology - decrease in authoritarianism and increase in understanding of child behavior.
3. Sectarian differences were found; Jewish students less authoritarian than Protestants, who were less authoritarian than Catholics. The inverse was found for understanding of child behavior.
4. Working class students tended to be less authoritarian and were inclined to have better understanding of child behavior than middle and upper class students, however there was no difference in these two groups with respect to understanding of child behavior.

Kerber and Reeder's studies.--Kerber concluded from his study that ". . . the role of the teacher grows out of the primary fact that he will be and teach what he is, as his personality lends him to certain emphasis

¹Association for Supervision and Curriculum Development, Learning and the Teacher. (Washington, D. C., 1959).

²Dristen Dorthaus Juul, "Authoritarian Personality in Relation to Teachers' Attitudes Towards Child Behavior," (Unpublished Ed. D. dissertation, Wayne State University, 1953).

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or blind spots."¹ Being what he is, in part his feelings and sensitivity, are qualities which this writer would consider contributory to his rapport creating ability.

Reeder² found positive correlations between a child's self-concept and group status, achievement in proportion to his potential, lack of being classified as a behavior problem, and socially acceptable behavior characteristics. She concluded that "the improvement of the self-concept is pre-requisite to the improvement of group status, behavior, and achievement."³ Reeder has reiterated as a result of her investigation that "the process of learning is not divorced from emotional involvement."⁴ It appears reasonable to conclude that there may be a significant relationship between the teacher's ability to create good teacher-pupil rapport and his success in helping develop high level self-concepts in learners.

¹August Kerber, "The Interrelation of Value-Attitude Structure and Role Perception Among School Teachers and Administrators," (Unpublished doctoral dissertation, Wayne State University, 1956), p. 122.

²Thelma Adams Reeder, "A Study of Some Relationships Between Level of Self-Concept, Academic Achievement and Classroom Adjustment," (Unpublished doctoral dissertation, University of Texas, 1955), p. 154.

³Ibid., p. 155.

⁴Ibid., p. 148.

Mann¹ has recently produced evidence showing that ability grouping may have negative effects on the development of self-concepts in fifth grade pupils. In asking why this may be so, she questions the approach and attitudes exhibited by the teacher toward the group he is teaching.

McCardle's study.--McCardle² investigated relationships of teacher attitudes as measured by the Minnesota Teacher Attitude Inventory (MTAI). He grouped the sample of 29 first year algebra teachers from 13 schools into high, middle, and low groups on the basis of MTAI scores. Pupil achievement was measured by tests of quantitative thinking, functional competence in mathematics and elementary algebra achievement.

He reported significantly greater gains in both quantitative thinking and functional competency in mathematics for pupils taught by the group of teachers with high MTAI scores. There were no significant differences among the three teacher groups in pupil mean scores in the elementary algebra achievement test. He concluded that these results might be attributed to

¹Maxine Mann, "What Does Ability Grouping Do to the Self-Concept?" Childhood Education, XXXVI (April, 1960), p. 60.

²Hugh Joseph McCardle, "An Investigation of the Relationships Between Pupil Achievement in First Year Algebra and Some Teacher Characteristics." (Unpublished Ph. D. dissertation, University of Minnesota, 1959).

the fact that pupils of teachers who obtained high MTAI scores may have had a more pleasant classroom experience, and may have been exposed to other qualities of good teaching than were pupils of other teachers in the sample. He further indicated that teachers who obtained high MTAI scores probably tended to be less "text-book bound" than teachers who obtained lower MTAI scores.

Studies of attitudes toward school practices.--

Two studies here cited report findings of teachers' attitudes toward grouping of pupils. Both these are concerned with the intellectually gifted. Smith¹ sampled opinions of both lay and professional groups as to what should be done with regard to the gifted in the secondary school. Her findings included the following:

1. The large majority of the respondents desired segregated classes, superior teachers, and a "hard core" of rigorous subjects for gifted learners.
2. The more academic and traditional oriented responses came from (a) teachers and (b) the non-education group of professors in the sample.
3. Those who selected the more permissive responses were guidance counselors and education professors.
4. Administrators were about evenly divided between teacher and guidance counselor point of view.²

¹Gjertrud Hjorth Smith, "Professional and Lay Attitudes Toward the Education of the Intellectually Gifted High School Students." (Unpublished doctoral dissertation, University of Southern California, 1959).

²Ibid.

Justman and Wrightstone studied attitudes of teachers of intellectually gifted children (classes of these intellectually gifted children are referred to as IGC classes) at the elementary level in New York City Schools.¹ Recognition that attitudes of the teaching staff toward the administrative arrangement may well be an important factor in assessing results of the program gave rise to the study.

The researchers reached the following conclusions:

1. Teachers who have had specific experience with IGC classes show markedly more favorable attitudes toward such classes than teachers who have not been assigned to such groups.
2. Teachers who report less than twenty years of experience show markedly more favorable attitudes toward such classes than those who have served in the schools for twenty or more years.
3. Teachers who have had specific experience with IGC classes show much the same attitude toward such classes, regardless of the number of years of service they may have had as a teacher.
4. Teachers reporting less than twenty years of service show much the same attitude toward IGC classes, regardless of their specific experience with such classes.
5. Teachers reporting more than twenty years of service show marked differences in attitude toward IGC classes, depending upon whether or not they have had specific experience with such classes.
6. Unfavorable attitudes toward IGC classes take the form of:
 - a. rejecting the basic philosophy underlying the formation of IGC classes;
 - b. maintaining that enrollment of a child in

¹Joseph Justman and J. Wayne Wrightstone, "The Expressed Attitudes of Teachers Toward Special Classes for Intellectually Gifted Children," Educational Administration and Supervision, XXXXII (March, 1956), pp. 141-48.

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- an IGC class is conducive to personal and social maladjustment;
- c. resenting the activities of parents of children placed in IGC classes; and
- d. contending that organization of IGC classes leads to undesirable administrative practices.¹

The aforementioned reasons for unfavorable attitudes compare closely with criticisms of ability grouping as stated by Otto in his 1950 review in The Encyclopedia of Educational Research cited in an earlier part of this chapter.

Worthy of mention in conjunction with Justman and Wrightstone's findings, is Oliver's study. His study led him to conclude ". . . it is evident that there is little relationship between the professed educational beliefs of these teachers and their classroom practices."² He reported a coefficient of correlation of .31. The above finding would seem to raise a question about the degree to which teachers really believe what they say they believe. A further correlate of this speculation may be the degree to which teachers' responses to items about their educational beliefs are related to how they (the teachers) perceive expectations of a given administrator or administrative hierarchy.

Oliver has pointed to what may be a very real

¹Ibid., pp. 147-48.

²W. A. Oliver, "Teachers' Educational Beliefs Versus Their Classroom Practices," Journal of Educational Research, XXXXVII (September, 1953) p. 53.

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problem when conducting research in which teachers are asked their opinions about school practices. His findings raise questions about validity of results, as well as indicate that conclusions resulting from such techniques must be held tentatively. His reported coefficient of correlation is not so substantial as to negate use of the technique, however.

Characteristics of Teachers

Currently, considerable attention is being directed toward ascertaining characteristics of teachers judged good to poor. Such efforts as those of the University of Illinois¹ and The California Teachers Association² include as dimensions to be measured relative to classroom proficiency, climate for the teacher and climate for the pupil.

In a recent study directed by Hughes³ good teaching is defined in terms of a reduction of Controlling Functions performed by the teacher. Hughes describes good teaching in terms of several criteria.

¹Francis G. Cornell, Carl M. Lindvall, and Joe L. Saupe, An Exploratory Measurement of Individualities of Schools and Classrooms. University of Illinois Bulletin, L, No. 75, June, 1953. (Urbana: Bureau of Educational Research, 1953).

²Teacher Competence: Its Nature and Scope. San Francisco: California Teachers Association, 1957.

³Marie M. Hughes and Associates, Development of the Means for the Assessment of the Quality of Teaching in Elementary Schools: A Research Study. (Salt Lake City: University of Utah Press, 1959).

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Among them she says:

Good teaching requires an increase in the use of functions of Personal Response. . . .

Good teaching requires that minimum use of functions of Negative Affectivity be used. Functions of Positive Affectivity need to be used more frequently than those of Negative Affectivity.¹

She emphasizes the role of a classroom environment conducive to learning - a circumstance requiring adequacy and maturity of the teacher as a person.

These researchers also hasten to note: "From our experience we would hypothesize that anything said about teaching in elementary school is just as applicable to all segments of education including graduate school."²

A recent publication which promises to be monumental in the study of teacher characteristics is the culmination of Ryans³ many years work. The sum total of Ryans' findings are much too extensive for inclusion here. However, since several of the findings relate directly to the design of this project, they are reproduced below. After thorough investigation of patterns of values, verbal ability, emotional stability and numerous behavior syndromes of a broad sample of teachers, Ryans reports numerous observed trends. Among them:

1. The attitudes of elementary teachers toward

¹Ibid., p. 297.

²Ibid., p. 302.

³David G. Ryans, Characteristics of Teachers. (Washington, D. C.: American Council on Education, 1960).

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- pupils, toward administrators, and also toward fellow teachers and nonadministrative personnel in the schools were markedly more favorable than were similar attitudes of secondary teachers.
2. The attitudes of teachers who were judged by their principals to be superior in teaching performance were significantly and distinctly more favorable toward pupils, and also toward administrators, than the attitudes of teachers who were judged by their principals to be unsatisfactory or poor.
 3. Neither amount of teaching experience nor age appeared to be very highly associated with teacher attitudes, although there was a slight tendency for the attitudes of secondary teachers of greater experience to be slightly more favorable toward administrators and somewhat less favorable toward pupils than other experience groups.
 4. More favorable attitudes toward pupils were expressed by women teachers in the secondary school, but among elementary teachers there was a tendency for men to possess more favorable pupil attitudes than did women.
 5. Teachers whose observed classroom behavior was judged to be more characteristically warm and understanding and more stimulating possessed more favorable attitudes toward pupils and also more favorable attitudes toward administrators.
 6. Actual pupil behavior in the classroom (based upon observers' assessments) did not appear to be related to the attitudes held by teachers.
 7. The educational viewpoints expressed by secondary teachers were of a more traditional or learning-centered nature, while those of elementary teachers leaned more in the direction of permissiveness; within the secondary school, science and mathematics teachers appeared more traditional in their viewpoints and English and social studies teachers more permissive in theirs.
 8. Teachers judged to be more warm and understanding in their classroom behavior, and to a somewhat lesser extent, those judged to be more stimulating, expressed more permissive educational viewpoints. Teachers judged to be more businesslike and systematic showed a slight tendency toward more traditional viewpoints.
 9. The verbal understanding scores obtained by secondary teachers were significantly higher than those of elementary teachers, English and foreign language teachers excelling other subject-

- matter groups within the secondary school.
10. Men teachers at both the elementary and secondary levels appeared to be markedly more emotionally stable than women teachers.
 11. There was a tendency for elementary teachers who were judged to be warm and understanding in classroom behavior, and also those judged to be stimulating in their classes, to manifest superior emotional adjustment.
 12. There seemed to be no observable relationship between scores on the validity-of-response scale and the classification of teachers by amount of teaching experience, age, sex, grade or subject taught, or observed classroom behavior.¹

In addition to the above trends, Ryans found no clear picture in differences among secondary teachers in relation to the type of undergraduate college attended. Elementary teachers from large universities scored higher than those attending other types of colleges on scales measuring stimulating classroom behavior and child-centered educational viewpoints.²

Though significant differences relative to marital status were reported,

. . . the patterns of differences were not the same for the teachers responsible for different grades and subject matters, and although general trends are apparent, it probably is more important to recognize the interaction of marital status with grade or subject taught when considering many of the teacher characteristics which have been studied.³

Significant differences at the .05 level were found with regard to five characteristics in relation to size of school. Teachers (elementary and secondary

¹Ibid., pp. 385-86.

²Ibid., p. 394.

³Ibid., p. 393.

combined) from larger schools (17 to 50 or more teachers) scored higher in stimulating imaginative classroom behavior; understanding, friendly classroom behavior; favorable attitudes toward administrators and other school personnel; emotional stability; and verbal understanding than did those from small schools. Teachers from one-teacher schools, and three-to-five teacher schools scored even lower.¹

Differences in relation to the size of the community were reported. "Analysis of the data suggests that teachers from smaller communities attain lower mean scores and those from larger communities, higher mean scores. . ."² Results of analysis of characteristics in relation to socio-economic status of the community in which the school is located appeared parabolic. Higher scores on the characteristics and more permissive educational viewpoints were contributed by teachers representing communities typified by both low socio-economic and high socio-economic levels. The lowest scores on characteristics and the most traditional educational viewpoints were contributed by teachers in communities judged to be about average in socio-economic level.³

¹Ibid., p. 395.

²Ibid., p. 396.

³Ibid., p. 396.

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One of Ryan's concluding paragraphs is pertinent for inclusion:

There was a general tendency for high teachers to: be extremely generous in appraisals of the behavior and motives of other persons; possess strong interest in reading and literary affairs; be interested in music, painting, and the arts in general; participate in social groups; enjoy pupil relationships; prefer nondirective (permissive) classroom procedures; manifest superior verbal intelligence; and be superior with respect to emotional adjustment. On the other hand, low teachers tended generally to: be restrictive and critical in their appraisals of other persons; prefer activities which did not involve close personal contacts; express less favorable opinions of pupils; manifest less high verbal intelligence; show less satisfactory emotional adjustment; and represent older age groups.¹

Summary

In presenting the review of literature appropos to this study, attention has been directed toward three areas - first, ability grouping; second, the concept of the school class as a group and related role of interpersonal relations; and third, teacher characteristics.

As to ability grouping, predominant amounts of research were carried on during the 1920's and early 1930's. Most of the studies were interpreted in terms of measured academic achievement. The evidence was inconclusive. Later studies into the 1950's have failed to present any more clear evidence on the relative merits of ability grouping, though in some instances

¹Ibid., pp. 397-98.

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more precision has been exercised than was true in earlier studies.

The value of ability grouping is still under question. There is some confusion about the terms "ability grouping" and "homogeneous grouping." They are commonly used interchangeably. There are those who contend that they are not synonymous - the evidence appears to point, however, to an emphasis on intelligence and academic achievement as measured by standardized tests as predominant bases for grouping children when either of the terms is used.

The literature is virtually devoid of evidence which points specifically to the teacher variable in the success or failure of grouping procedures. However, virtually every researcher has cited the probable impact of the teacher on his findings.

It seems imperative to examine the rapport factor in terms of implications it may have for the relative effectiveness of different types of grouping situations for learning. The rapport factor is but one part of the complex whole of what makes for good teaching. It seems feasible to conclude that group dynamics in the classroom - the classroom as a group - and the interpersonal perceptions of members of that group, including the teacher, may have great bearing on the degree of rapport created. Evidence has been presented showing the wide concern given to this facet of creating

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an environment conducive to learning. This writer considers it inadvisable to proceed with an examination of teacher characteristics related to commitment to ability grouping without recognizing the possible impact of these factors on the quality of learning environment established by teachers.

The third area given attention and assumed to have a relationship to the outcomes of the learning situation, and possibly to teachers' degree of commitment to ability grouping is teachers' attitudes. Ample evidence has been presented to focus attention on the apparent importance of teacher attitudes. More dimensions have been proposed in this respect than this study is designed to clarify. It is hoped that the dimensions under investigation might point directions for further study into the relation of teacher commitment to administrative devices such as ability grouping, and the results of interaction of these commitments with teacher-pupil rapport and resultant classroom climate.

In a very recent article Shane has proposed:

It seems reasonable to conclude that the "best" grouping procedures are likely to differ from one school to another, the most desirable practice often being dependent upon such factors as: (1) the competence and maturity of the local staff; (2) the nature of the physical plant, (3) school size, (4) class size, (5) the local curriculum or design of instruction, and (6) a highly intangible quality - the intensity of the desire of a teacher or a group of teachers to make a particular plan work effectively.

The philosophy and ability of the able teacher

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are undoubtedly more important than any grouping plan, however ingenious it may be, with respect to creating a good environment for teaching and learning.¹

In light of our limited evidence on the values and results of ability grouping, Goodlad has so aptly pointed to the serious issues which must be examined. His statements are re-cited as they focus attention so appropriately.

. . . Teachers tend to react more favorably to teaching groups in which heterogeneity has been somewhat reduced, than to teaching groups selected at random. This finding raises the serious question as to whether many teachers see in ability grouping a kind of Utopia in which undifferentiated teaching procedures and content will be applied to differentiated, "homogeneous" groups. The results would be far from Utopian for the students unfortunate enough to find themselves in such classrooms.²

¹Harold G. Shane, "Grouping in the Elementary School," Phi Delta Kappan XLI (April, 1960), p. 318.

²Goodlad, op. cit.

CHAPTER III

METHODS AND PROCEDURE

Identification of Factors to be Studied

For purposes of this investigation it was determined that the following information should be gathered about each in-service junior high school teacher included in the sample:

1. Index of commitment to ability grouping
2. Index of teacher-pupil rapport
(Minnesota Teacher Attitude Inventory Score)
3. Personal background information
 - a. Age
 - b. Sex
 - c. Marital status
 - d. Size and type community in which reared
 - e. Father's occupation
 - f. Attained educational level of parents
4. Educational and professional background
 - a. Amount of college education
 - b. Degree held
 - c. Major field in undergraduate school
 - d. Type institution in which undergraduate work was taken
 - e. Major field in graduate work, if such had been undertaken

- f. Grade level teaching
- g. Subject or subjects currently teaching
- h. Basis on which pupils are sectioned in the school
- i. Types of bases for sectioning with which one has had experience
- j. Type ability group preferred for teaching

(See Appendix I - items relating to above factors).

A further factor to be taken into consideration is the judged "atmosphere" of the school as determined by interview with the principal. It is recognized that this dimension as treated is highly subjective, and that any reported analysis on this factor may be subject to question on this basis. The principal interview was further adjudged the best means to gather information about size of school, class organization, type school population, and grouping policy. A presentation of these findings appears in Chapter Four.

Selection of the Sample

The sample consists of total junior high school faculties from 12 junior high schools in five Maryland Counties. The schools were selected on the basis of:

- (1) their representativeness of the county system in which they were located - including diversity of program and organization within the system, if such be the case;
- (2) the representativeness of the county of organizational patterns of the state;
- (3) desire of county and local school officials to participate in the study;

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and (4) suggestions from school officials in participating counties. It should be noted that in Maryland's school system the smallest independent administrative unit is the county. There are 24 systems in the state, one in each of the 23 counties and Baltimore City.

Description of Counties - Policy on Grouping

There is a statement of state policy on grouping procedures (See Appendix V) which calls for flexibility in grouping and classifying procedures - suggesting both homogeneous (ability) and heterogeneous grouping. None of the school systems are bound to subscribe to it, but are encouraged to consider questions of class organization for themselves.

County A.--County A has no stated policy on grouping or sectioning practices and procedures. Means of arriving at policy on this question are left to the discretion of the principals in each school.

County B.--County B follows basically the same procedure as County A with regard to grouping policies. However, in a county handbook the following statement appears.

When a grade is large enough to require more than one section, pupil placement should be designed to provide sections that are basically heterogeneous, but in which the range of ability is not so extreme that the teacher finds it difficult to meet the needs of all pupils.

County C.--County C has no stated policy on grouping. In its administrative handbook the state-

ment from the Maryland State Department, School Administrative Manual (Appendix V) appears.

County D.--County D's policy is one requiring homogeneous grouping as the basis for sectioning pupils - ability, as measured by standardized tests, being the principle criterion. The policy is not stated in writing, but is conveyed to administrators and teachers through the administrative and supervisory hierarchy. This system is currently placing heavy emphasis on programs for gifted and superior learners.

County E.--County E, like County A has no stated policy, means of arriving at decisions on grouping practices being left to the discretion of the principal in each school.

Description of School Communities

The majority of the schools whose faculties comprise the sample are located in areas adjacent to large metropolitan districts. Two factors should be observed. First, truly rural areas are rapidly on the decline in Maryland. The state as a whole is becoming heavily urbanized. Second, there is a trend toward greater consolidation within the administrative units in the state. This in turn means that a large majority of pupils from rural areas are transported to schools located in more urban centers.

Schools in County A.--County A is one of the few counties in the state which is predominantly

rural. Schools 1 and 2 are located in small rural communities, population under 2500, and serve their surrounding rural territories. Seventy-five per cent of the pupils in school 1 and 85 per cent of the pupils in school 2 are transported by bus. School 3 is located in the county seat, a community a little over 25,000 and a college town. Approximately 75 per cent of the pupils are transported by bus to this school.

Schools in County B.--All three schools in County B are located in the metropolitan areas surrounding a large city. All three schools are located in suburban communities which the principals characterize as average to high-average in socio-economic status. Most of the parents are government employees. Less than 25 per cent of the pupils are transported by bus to schools 4 and 5, however, upwards of 75 to 85 per cent of the pupils in school 6 are transported by bus. The pupil population of school 6 is composed of Negro youngsters from approximately three-fourth's of the county. This school draws from a wide range of socio-economic levels.

Schools in County C.--County C is represented by only one school. This probably is not an adequate sample. It was not found feasible, however, to include other schools from this system for this investigation. School 7 is located in another suburban area adjacent to a large Eastern metropolitan district. Over 60 per

cent of the pupils in this school are transported by bus. Many come from rural areas and a wide range in socio-economic levels is represented.

Schools in County D.--The three schools in County D are located adjacent to a large Eastern metropolitan district. School 8 is located in a low socio-economic area, most parents of pupils are laborers in industry. A small portion of the pupil population is drawn from rural areas. Over 75 per cent of the pupils are transported by bus.

Pupils in school 9 come from relatively stable communities - a generally average socio-economic status. Most of the many pupils living in rural areas have parents who work in industry. Over 75 per cent of the pupils are transported by bus.

School 10 represents a wider spread in socio-economic status than either school 8 or 9. This school draws a large percentage of its pupils from rural communities, few of whom come from farm families. Over 75 per cent of the pupils are transported by bus.

It should be noted that in most of the counties in Maryland, census figures are shown only in terms of counties, few towns having the status of corporate political units. This explains the failure to cite population figures for communities in which the schools are located.

Schools in County E.--School 11 serves two

small communities under 1000 population and a large rural farm and resort area. A few parents of pupils in this school are industrially employed. Over 95 per cent of the pupils in this school are transported by bus.

School 12 is located in a county seat. A large percentage of those pupils from the town come from a low socio-economic background. (The community was a war-time boomtown). A substantial number of pupils come from rural areas surrounding the school community, though few are farmers. Approximately 75 per cent of the pupils are transported by bus.

The schools whose faculties comprise the sample would seem to be typical of the state. The five counties represent essentially four different geographic regions within the state, the selected schools representing essentially different areas of the counties. Typicality of the sample is not proved, however.

Instrumentation

Commitment Index

The initial problem of instrumentation for the study was the development of a reliable scale whereby an individual's relative attitude or opinion toward ability grouping could be determined.

Scalogram analysis.--In describing scalogram technique, Goodenough cites Guttman's definition.

. . . the multivariate distribution of a set of qualitative items forms a scale for a population if the following conditions are satisfied:

- a. the items have sameness of content (that is they form a universe of content);
- b. each item is a simple function of scores derived from the distribution.

Condition (a) is mainly determined by the nature of the problem the investigator is interested in.¹

It was ascertained that a scalogram analysis technique was most appropriate for treatment of this qualitative data. The conditions were satisfied that: (1) the rank order of response categories within items could be judged beforehand with reasonable accuracy; and (2) relative positive and negative values could be judged for the responses within the items in terms of the dimension being measured.² (For a complete explanation and description of scalogram technique see Guttman³, Goodenough⁴ and Torgeson⁵).

The above conditions were established for the researcher by the general tenor of the literature on ability grouping substantiated by informal interviews with nine in-service teachers and three in-service

¹Ward H. Goodenough, "A Technique for Scale Analysis," Educational and Psychological Measurement, IV, 1944, p. 180.

²Ibid.

³Louis Guttman, "A Basis for Scaling Qualitative Data," American Sociological Review, IX, 1944, pp. 139-50.

⁴Goodenough, op. cit.

⁵Warren S. Torgeson, Theory and Methods of Scaling, (New York: John Wesley and Son, 1958).

supervisors representing both positive and negative positions on the issue at hand. (Samples of teacher and supervisor responses are reproduced in Appendix III).

On the basis of the above conditions eight multicategory items were prepared for paper and pencil administration to in-service elementary through high school teachers. (It was anticipated in light of earlier findings, that junior and senior high school teachers might exhibit more favorable attitudes toward ability grouping than elementary school teachers). A set of seven items (See Appendix II) evolved was administered to 100 elementary school teachers, 60 junior high school teachers, 80 senior high school teachers, and an unclassified summer workshop group of 30 teachers representing all three levels. A random sample of 100 cases was drawn from the total of 270.

A tabulation technique for scale analysis as developed by Goodenough was applied to the responses of the teachers. Four items were found to be scalable-coefficient of reproducibility 85 per cent. (See Appendix IV). Goodenough's criteria for scalability allows for 15 per cent error in response patterns. Though more recent statements of criterion of scalability set the limits of error at 10 per cent for four items, evaluation of reproducibility must take into account:

The proportion of people in the most popular category for each of the items, the number of items, and the number of categories per item.¹

In light of the nature of the universe, the consistency of type responses made by teachers in interviews, four categories per item and need to combine two response categories only in each of three items, for purposes of this investigation, the items are considered scalable. It is further believed that validity of the items is enhanced by the fact that reproducibility was established on a wide sample spanning the three levels of teachers, elementary, junior high school, and senior high school.

Following are the items:

1. For most efficient learning to occur, pupils of like ability should be placed together
 - _____ almost always
 - _____ more than half the time
 - _____ about half the time or less
 - _____ seldom or rarely
2. Homogeneous (ability) grouping helps the teacher meet individual pupils' needs
 - _____ much easier
 - _____ easier
 - _____ possibly easier
 - _____ with little or no difference in ease
3. Pupils' learning in a homogeneous (ability) group, as compared with that of pupils in a heterogeneous group, will be

¹Torgeson, op. cit., p. 323.

- _____ very much more
- _____ much more
- _____ some more
- _____ little or no more

4. Homogeneous (ability) grouping is a good school practice

- _____ strongly agree
- _____ agree
- _____ disagree
- _____ strongly disagree

Index of commitment to ability grouping is the sum score obtained by a respondent on these four items when responses are valued from 4, high; to 1, low, and 0 for no response for each item. The rank order of possible responses to each item is from high (positive) to low (negative).

Hence, it is determined possible to proceed with the remainder of the investigation. Relative degree of commitment to ability grouping can be determined, making available an index of the commitment to ability grouping variable which can be correlated with other variables in the investigation.

Three additional non-scaling items believed to be related to teacher attitudes toward ability grouping were incorporated in the final instrument. It is believed worthwhile to examine teachers' responses to these items as these responses might be related to other factors under investigation.



Teacher-Pupil Rapport

On the basis of literature reviewed, it has been ascertained that there is probably a relationship between a teacher's ability to establish rapport with pupils and the quality learning climate created in the classroom. Teacher-pupil rapport is therefore a key variable in the investigation. It is hypothesized that a relationship exists between a teacher's degree of commitment to ability grouping and the rapport factor. Few measures of teacher attitudes, especially directed toward the rapport factor, exist. The Minnesota Teacher Attitude Inventory (See Appendix VI) was designed to do this, and has had wide usage in recent years.

Minnesota Teacher Attitude Inventory.--The authors of the Inventory state:

It is assumed that a teacher ranking at the high end of the scale should be able to maintain a state of harmonious relations with his pupils characterized by mutual affection and sympathetic understanding.¹

The authors see teacher attitudes as key to the qualities which make it possible for him or her to create a classroom climate conducive to learning.

. . . it can be assumed that the attitudes of a teacher are the result of the interaction of this multitude of factors [academic and social intelligence, general knowledge and abilities, social skills, personality traits, energy, values and teaching techniques] and, therefore, that attitudes

¹Walter W. Cook, H. Carroll, and Robert Callis, Minnesota Teacher Attitude Inventory: Manual. (New York: The Psychological Corporation), p. 3.

afford a key to the prediction of the type of social atmosphere the teacher will maintain in the classroom.¹

The MTAI is a carefully constructed and validated measure. Most of the work with the Inventory has been done with in-service teachers, even though the authors state its major purpose as prediction of probable success in teaching. In reviewing the instrument Cronbach states:

The authors wisely seek to predict a particular aspect of the teaching job, success in establishing rapport with children, rather than a nebulous global criterion. Ratings of this quality by principals, observers, and pupils themselves correlate .45 to .49 with scores on the test. When the three types of rating are combined into a more reliable criterion, correlations with test score in three studies are remarkably good: .60, .63, and .46. In design, replication, and care in reporting, these studies are distinguished. There is a clear correspondence between inventory scores and teaching behavior at the time the test is given.² (*Italics mine.*)

Split half reliability on the inventory is .93.

Norms for the MTAI have been developed for students and both elementary and secondary teachers at various age levels for students, and years of training for teachers, including academic and non-academic secondary teachers. Norms for elementary teachers tend to be higher than those for secondary teachers.

¹Ibid., pp. 3-4.

²Lee J. Cronbach, "Minnesota Teacher Attitude Inventory," The Fourth Mental Measurements Yearbook. Edited by Oscar K. Buros. (Highland Park, New Jersey: The Gryphon Press, 1953), p. 798.

Pertinent studies utilizing MTAI.--Numerous studies have implemented and tested the MTAI since its development. Mention of several is warranted.

Rocchio¹ studied relationships between teacher attitudes and personal characteristics of teachers and pupils using MTAI. He reported significant relationships between MTAI scores and level of teaching, type school in which teacher was trained, number of years of college education, subject matter taught, teachers rated as liked or disliked by pupils, type teaching situation (self-contained classroom or special subject) for elementary teachers, and levels of fathers' occupation for high school seniors who chose teaching as a vocation. The differences were in favor of, elementary teachers, teachers with the greater number years of training, teachers who attended a university, secondary teachers of academic subjects, teachers liked by pupils, elementary teachers in a self-contained classroom and students whose parents were classified as professional, semi-professional and managerial.

Ferguson² substantiated that the MTAI measures

¹Patrick D. Rocchio, "Teacher-Pupil Attitudes as Related to Teachers' Personal Characteristics and Pupil Adjustment." (Unpublished Ph. D. dissertation, University of Minnesota, 1954).

²John L. Ferguson, "A Factorial Study of the Minnesota Teacher Attitude Inventory," (Unpublished Ed. D. dissertation, University of Missouri, 1953).



expressed attitudes toward students. Mazzitelli¹ reported a reliability coefficient of .91, not significantly different from .93 reported by the authors of the instrument. Price² is one of several researchers who has tested the instrument's susceptibility to distortion. Though this has been found possible in his and other studies, Mazzitelli feels there is not a valid criticism in this respect as too much information appeared to have been given respondents.³ The nature of administration of the instrument in this research would not seem to create an atmosphere conducive to faking or distorting responses.

Standlee's study of the use of the MTAI with 880 Indiana public school teachers supports ". . . the notion that the MTAI may be utilized not only as an index of the type of social atmosphere a teacher will maintain in the classroom, but also, with caution, as an index of a teacher's over-all teaching performance."⁴

Use of MTAI justified.--The inventory contains

¹Dominick J. Mazzitelli, "A Forced-Choice Approach to the Measurement of Teacher Attitudes," (Unpublished Ph. D. dissertation, University of Illinois, 1957).

²Monroe S. Price, "The Susceptibility to Distortion of the Minnesota Teacher Attitude Inventory," (Unpublished doctoral dissertation, University of Michigan, 1956).

³Mazzitelli, op. cit.

⁴Lloyd S. Standlee and James W. Popham, "The Minnesota Teacher Attitude Inventory as a Predictor of Over-All Teacher Effectiveness," Journal of Educational Research, LII (April, 1959), pp. 319-20.

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150 opinion statements to be marked "Strongly agree," "Agree", "Uncertain", "Disagree", or "Strongly disagree". The inventory is not timed, although respondents are encouraged to record their first impressions. Most respondents should complete the inventory within thirty minutes.

For purposes of this investigation the MTAI appears to be an appropriate measure and index of teacher-pupil rapport.

Socio-economic Background of Teachers

Two factors will be considered in determining the relative socio-economic level from which teachers in the sample came. One, fathers occupation at time of entrance to college and two, attained educational level of parents. Analysis of occupational level will be determined from the North-Hatt Scale of Occupational Prestige. In addition to the original North-Hatt ratings, the Ohio State University interpolations by Dynes, and University of Wisconsin interpolations by Silverman, Cook and Haller were utilized. (See Appendix VIII).

The Questionnaire

For purposes of gathering data about the individual, his personal and professional background, a check-type questionnaire was developed (See Appendix I and II). Included among the items were requests for

information about the nature of the respondent's teaching assignment (grade and subject), his experience with ability and other types of grouping and his preference of type ability group to teach. The seven items relating to teacher opinions about grouping were appended to the questionnaire, giving the appearance of one instrument.

Recognizing that some respondents might feel limited and reluctant to express their true feelings if restricted to one of the four choices in each of the items on grouping, a section for comments was provided. It is believed that this gesture may have provided a bit more permissive atmosphere, thereby obtaining more reliable responses, at the same time not doing violence to validity of the items.

Administrator Interview Schedule

An interview schedule was developed for use of the investigator when interviewing principals in the schools comprising the sample (See Appendix VII). The rationale for the principal interview was that of providing evidence about: (1) the philosophy and basis whereby sectioning practices were determined in the school, (2) source of responsibility for decisions relative to grouping practices in the school, and (3) size and organization of the school. Recognizing the subjectivity of the data gathered in this semi-formal interview situation, it was believed the information yielded

valuable to the purposes of the investigation. Analysis of results of the interviews will be presented in Chapter Four.

Data Gathering Procedure

During the Spring of 1960 the investigator visited each of the schools selected for the sample. This visit occurred in an afternoon when all the faculty members were brought together for a professional faculty meeting. A portion of the time, usually 45 to 50 minutes, given over to the investigator was sufficient. In all cases faculties had been previously informed of the investigators visit. In most cases the principal reported prior consent of the faculty to participate in the study. All respondents were assured by the investigator that participation was voluntary.

A unit of materials, including the complete questionnaire, a MTAI inventory booklet, and standard answer sheet was distributed to each teacher. The following instructions were given:

Instructions to Teachers

Your school faculty has been selected as one of several groups of teachers throughout the state to participate in a comprehensive investigation relating to certain phases of the problem of grouping for learning. Since you, the teachers, hold the key to the learning situation, it is only you who can supply the necessary information for this type investigation. We are most appreciative of your time and cooperation this afternoon. The project is an independent research effort, it is not sponsored by your school system and the results

cannot be used in any way to evaluate your effectiveness.

You will of course, be informed of the results of the total study. Please note that the only identification on the materials is a matching pair of numbers on the MTAI answer sheet and the questionnaire. Your responses are completely anonymous - please do not sign your name.

Now if you will look at the materials you have been furnished - a standard answer sheet for the MTAI, a questionnaire, and a copy of the Minnesota Teacher Attitude Inventory. (Check to make certain numbers on questionnaires and answer sheets agree).

The first part of the questionnaire asks for background data. The second part asks for responses to several items relating to some of the factors in the problem of grouping. These seven items begin on page 2 and continue on page 3. Be sure to read the statement of instruction about mid-way of page 2. Please feel free to comment in the space provided if you would like to do so. (If any area needs clarification or additional information, please write it in).

Instructions on the MTAI booklet were read to the teachers with emphasis on the importance of speed in the case of the MTAI, and completing every item on both instruments.

When finished, please clip all three pieces of material together and return them to me. Are there any questions? You may begin. If you have any questions please raise your hands.

The investigator's interview with the principals was completed either prior to or after the meeting with the teachers, whichever was most convenient in his or her schedule. A large portion of an afternoon was given over to the visit in the school in each case.

Proposals for Analysis

It is proposed to test by analysis of variance technique for differences in teachers' commitment to ability grouping mean scores and MTAI mean scores for the following factors:

1. Schools represented in the sample

2. Counties represented in the sample
3. School size
4. Minnesota Teacher Attitude Inventory Scores
5. Age of teachers
6. Sex
7. Marital status
8. Size and type community in which reared
9. Socio-economic factors
10. Amount of college training
11. Major field of study at undergraduate level
12. Type institution in which matriculated at undergraduate level
13. Graduate studies - amount and major field of study
14. Current teaching assignment - subject area, grade level
15. Experience with grouping practices and procedures
16. Type group with which the teacher prefers to work

It is anticipated that analysis of these mean score differences will permit comparisons to determine patterns of relationship between the two variables, commitment to ability grouping and MTAI scores, as they may be related to the factors under consideration.

In addition to the above, which will constitute the major analysis, it is further proposed to determine correlations of commitment scores with MTAI scores, and commitment scores with total scores derived from the sum of seven items on grouping.

CHAPTER IV

FINDINGS AND ANALYSIS

Data presented in the chapter were gathered from two sources: interviews with principals; and questionnaires from teachers in the schools selected for study. In the first source, attention is focused on information relating to size of schools, organization of the school program, nature and source of grouping policy in the school, and the principals' stated beliefs of their own notions about best grouping practices as well as those notions they believe are held by their teachers.

In the second source, attention is focused on data yielded by the teachers' responses to items in the questionnaire, Index of Commitment, and the MTAI. Statistical analyses of these data are presented. Index of commitment mean scores and MTAI mean scores are compared with respect to personal and professional background factors. Some tabulations of percentages of responses per sub-categories are presented.

The Junior High Schools Represented in the Sample
Size of the schools.--Table 1 summarizes enrollment by schools. The number of pupils taught by

TABLE 1
ENROLLMENT IN SCHOOLS BY GRADES

County	School	7th Grade	8th Grade	9th Grade	Special Ungraded	Total H.S. Enrollment
A	1	94	71	63	. . .	278
	2	90	81	80	. . .	251
	3	334	346	. .	. . .	680
B	4	505	435	340	. . .	1280
	5	314	297	266	16	893
	6	412	370	266	. . .	1048
C	7	618	480	300	. . .	1398
D	8	512	465	421	17	1415
	9	480	418	389	13	1300
	10	520	443	359	14	1346
E	11	112	97	82	. . .	291
	12	217	235	168	37	657
Total	12	4148	4878	2734	97	12857

the 440 teachers total 12,857. All but one of the schools contains all three junior high school grades seven, eight and nine. School 3 houses the seventh and eighth grades only. Five schools reported one or more ungraded classes of retarded learners. In the remaining six schools youngsters of this type were placed in sections bearing grade level designations.

The size of faculty groups is tabulated by school and county in Table 2. For purposes of this study, the schools will be arbitrarily designated as small (less than 20 teachers), medium (20 to 40 teachers), or large (more than 40 teachers); schools 1, 2, and 11 are designated small; schools 3,4,5, and 12 are designated medium in size and schools 6,7,8,9, and 10 are designated large.

Patterns of housing the several grades differed, as did the extent of the principal's jurisdiction. Although there is but one principal in each building, there are several instances in which his jurisdiction extends to grade levels other than seven, eight and nine. In schools 1,6, and 11 grades seven through twelve are housed together. In schools 2 and 3 grades seven and eight are housed with grades one through six. Grade nine in both these cases is housed with grades ten through twelve. In the case of school 2, the ninth grade teachers are included in the study. This is because the buildings are immediately adjacent to each



TABLE 2
NUMBER OF TEACHERS COMPRISING THE SAMPLE
BY SCHOOL AND COUNTY

County	School	School Total	County Total
A	1	13	56
	2	15	
	3	28	
B	4	40	128
	5	40	
	6	48	
C	7	54	54
D	8	49	163
	9	54	
	10	60	
E	11	9	39
	12	30	
Total			440

other and the principal in school 2 assumes some administrative responsibility for the ninth grade program and staff. In the case of school 10, grades seven through ten are housed as a single administrative unit.

Program organization in the schools.--Table 3 summarizes the reported organization of the schools' programs. It is notable that the patterns are not necessarily consistent within a given county. Further, it is noteworthy that one county works dilligently to extensively develop the "core concept", whereas a second county terms its program of correlated English and social studies its core. In all cases where a block-time or core-type organization is indicated, English and social studies provide the basic content. Basically, four patterns of program organization were found in the schools as indicated in Table 3.

In those schools where programs were organized on a separate subject basis, traditional departmental lines were retained. A second type organization identified was that of a block-time, though separate subjects organization. In this pattern teachers who were qualified taught both English and social studies to the same group of pupils in a block of time. Subject area identity was retained. In the third pattern of organization - core - the program tended toward an experience-centered program. Blocks of time were given to a program developed around personal and social problems. The

TABLE 3

ORGANIZATION OF SCHOOL PROGRAMS

School	Completely Separate Subject	Block-Time Separate Subject (English & Soc. Stud. Taught by same Teach.)	Core	Modified Core & Separate Subject
1		Grade 7-9		
2	Grade 9	Grade 7&8		
3	Grade 7&8			
4			Grade 7-9	
5			Grade 7-9	
6			Grade 7-9	
7		Grade 7-9		
8				Grade 7-9
9				Grade 7-9
10				Grade 7-9
11	Grade 7-9			
12	Grade 8-9			Grade 7

fourth pattern - modified core - was a block of time given to English and social studies (taught by the same teacher). A limited amount of time was given over to a correlation of the two areas. Subject matter lines were retained and readily distinguishable, however.

Bases for sectioning pupils in the schools.--

Table 4 indicates that bases for sectioning in the schools of the sample rest on ability and academic achievement criteria. There is some evidence of frequent shifting from pattern to pattern as in schools 1 and 2. In the cases of schools 8,9, and 10, county policy has strongly recommended ability grouping for ten years.

In all but three cases (schools 8,9, and 10) the grouping bases have been static for a period of six years or more. (Schools 8 and 9 have been more recently organized as separate junior high schools). In all but two instances (schools 1 and 6) the number of years the particular sectioning program has been in effect corresponds to the period of time the school has been in operation or to the tenure of the principal. In the majority of the cases these coincide.

There is limited evidence of movement from one plan to another as in the cases of schools 1 and 2. The general acceptance of ability grouping seems to indicate a belief that an administrative device will materially reduce instructional and human relations problems within the classroom. A summary of principals'

TABLE 4 PART I

SUMMARY OF SECTIONING AND GROUPING PRACTICES AS REPORTED BY PRINCIPALS

School	Basis on Which Pupils are Currently sectioned - 1959-1960	No. of Years in Effect	Basis Prior to Current if Known	Is a Change in Basis Indicated	Nature of Change	Reason for Change
1	Homogeneous (ability) I.Q.	1	Heterogeneous	Yes	Planned Heterogeneity (2 year grade level spread in general achieve-ment, especially Reading.	Homogeneous grouping is not working. Teachers want some homogeneity in abilities, but dislike discipline problems in the lower sections.
2	Planned Heterogeneity for instructional groups. (One accelerated section per grade) Homeroom - Heterogeneous	1	Heterogeneous	Yes	Strictly homogeneous (ability and achievement) for instructional groups. Heterogeneous homeroom groups.	Homogeneous grouping is the answer. Makes possible the offering of a more academic program.

TABLE 4 PART I-Continued

School Basis on Which Pupils are Currently Sectioned - 1959-1960	No. of Basis Prior Years in Effect	Is a Change in Basis Indicated	Nature of Change	Reason for Change
3 Homogeneous (Mental Age Achievement Teacher Conference)	2 . . .	No		
4 Homogeneous (I.Q.) Three levels only in one grade (high, average, low) Four sections-gifted	3 . . .	No		
5 Tend toward Homogeneous except in physical education Three sections-gifted	3 . . .	No		

TABLE 4 PART I-Continued

School Basis on Which Pupils are Currently Sectioned - 1959-1960	No. of Years in Effect if Known	Basis Prior to Current Change in Basis Indicated	Nature of Change	Reason for Change
6 Heterogeneous (alphabetical) Two sections for reading instruction only. One section for special Math program	2	Homogeneous	No	
7 Homogeneous (Reading ability) Two music sections - Heterogeneous	6		No	
8 Homogeneous based on performance on standardized tests	2		No	

TABLE 4 PART I-Continued

School Basis on Which Pupils are Currently Sectioned - 1959-1960	No. of Years in Effect	No. of Basis Prior to Current if Known	Is a Change in Basis Indicated	Nature of Change	Reason for Change
9 Homogeneous (Rigid adherence to I.Q.)	5		No		
10 Homogeneous (I.Q. Major criteria)	10		No		
11 Homogeneous (I.Q.) (Academic achievement)	2		Yes	Addition of ungraded "special" class for retarded	
12 Homogeneous (I.Q.)	2		No		

TABLE 4 PART II
PRINCIPALS' RESPONSES REGARDING GROUPING POLICY

School Who decides grouping (sectioning) policy in your school?	What is your own feeling about the "best" type grouping (sectioning)?	How do you think the majority of the teachers in your school feel about grouping (sectioning)?	Do teachers like to teach different types of groups equally well?
1 Principal - with approval of supervisors	Some homogeneity (not clear)	Want some homogeneity	Doesn't know. Teachers dislike discipline problems in low sections.
2 Faculty	Rigid homogeneous on basis of I.Q. (only heterogeneous in elementary grades)	In agreement with principal	No
3 Principal	Given good teachers either heterogeneous or homogeneous (prefers homogeneous - more academic approach)	Homogeneous - in agreement with principal	No

TABLE 4 PART II-Continued

School	Who decides grouping (sectioning) policy in your school?	What is your own "best" type grouping (sectioning)?	How do you think the majority of the teachers in your school feel about grouping (sectioning)?	Do teachers like to teach different types of groups equally well?
4	Principal (with emphasis)	Homogeneous for extremes Heterogeneous for remainder	No complaint with arrangements	No Reluctance of teachers to take top sections
5	Principal - based on discussions with & decisions of teachers with assistance of supervisory staff	Homogeneous for extremes, especially gifted Heterogeneous for remainder	In agreement with principal	No Greater dislike for least responsive groups
6	Total staff decisions - emphasized	Flexible-must consider special interests - provide for depth in learning experiences	Divided on homogeneous vs heterogeneous question	No
7	Principal and staff	Homogeneous - based on reading comprehension	In agreement with principal	No

TABLE 4 PART II-Continued

School	Who decides grouping (sectioning policy in your school?)	What is your own feeling about the "best" type grouping (sectioning)?	How do you think the majority of the teachers in your school feel about grouping (sectioning)?	Do the teachers like to teach different types of groups equally well?
8	County policy - ability (Teacher and administrative decision to use academic performance as opposed to I.Q.	Homogeneous - based on academic performance	In agreement with principal	No Most want top sections
9	County policy - ability	Rigid homogeneous on basis of I.Q.	In agreement with principal - probably reluctant to take opposite side	No
10	County policy - ability	Homogeneous on basis of I.Q., academic achievement and teacher records	Ability grouping - I.Q. primary basis	No
11	Principal with staff agreement	Homogeneous - ability on basis of I.Q.	In agreement with principal	No Most want high I.Q. groups

TABLE 4 PART II-Continued

School	Who decides grouping (sectioning) policy in your school?	What is your own feeling about the "best" type group-teachers in your school?	How do you think the majority of the teachers in your school feel about grouping (sectioning)?	Do the teachers like to teach different types of groups equally well?
12	Principal with staff agreement	Ability - considering judgmental factors in addition to I.Q.	In agreement with principal	No

comments about sectioning and grouping practices is presented in Table 4. In several instances replies to the investigator's questions were sketchy. The investigator's perceptions in several cases led him to feel the principal responding in terms of "This is what we ought to do" without any real feeling about why or how.

Table 4, Part II summarizes the principals' responses to questions relative to who makes decisions on grouping policy in the school, their notions about appropriate grouping or sectioning practices and principals' projection of teachers' held beliefs. (Summaries of these findings are brief - this phase does not constitute a major purpose of the investigation). It was observed that principals tended to assume varying amounts of direct responsibility for policy making decisions on such matters as grouping. Four degrees of intensity of the impact of the principal on policy decisions are noted.

First, as in the case of schools 8,9, and 10, the county sets the policy to be expedited by the principal. In the case of school 8 the principal and his staff tended to alter the basis for that school, but within the basic intent of the county policy.

Second, the decision is left to the principals, and responsibility assumed by them, apparently with little or no consideration of concerns of the teaching staff. This was the case with schools 1, 3, and 4. In the case of schools 3 and 4 the assumption of responsibility for grouping decisions by the principal was emphasized.

In the third level the administrator assumed major responsibility for the decision, but with agreement

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by the teaching staff. This was the case in schools 11 and 12 and somewhat so, but with greater emphasis on the staff in school 7.

Fourth and last are those cases in which grouping policy decisions are seen as total staff responsibility. This was the case with schools 2, 5, and 6. This did not seem to be so clear-cut in the case of school 2 as it was in schools 5 and 6. The maximum of total staff involvement on this question seemed to be achieved in school 6.

No clear-cut patterns of relationships between principal's ideas about "best" grouping practices, their perceptions of teachers' ideas, and source of policy was apparent. (See Table 4, Part II). Most tentativeness in responses appears in schools 5 and 6, however, where policy decisions of this nature seem to be determined more by total staff involvement than by administrative dictates.

Principals' statements are virtually unanimous that teachers are in agreement with the principals ideas about "best" grouping practices. Few exceptions are recorded. (See Table 4, Part II).

All but one principal indicated that teachers did not like to teach all types of groups equally well. The one principal said he didn't know. In cases where qualifications were added, responses tended to center around the desirability for teaching high ability groups, or dislike for teaching low groups, especially because of discipline problems therein. An exception was noted in school 4 - the principal reported a reluctance of teachers to teach "top" sections.

Since validity of these findings is not proved, conclusions must be tentative.

Analysis of Teacher Responses

As stated in Chapter III, teacher responses in terms of index of commitment to ability grouping scores and MTAI scores require analysis. The statistical technique selected was a single entry analysis of variance. A separate analysis of variance test was performed on the index mean scores and MTAI mean scores for each of the categories comprising personal background factors and educational and professional background factors. The first area consisted of age, sex, marital status, size and type community in which reared, father's occupation and attained educational level of parents. The second area consisted of amount of college education, degree held, major field in undergraduate school, type institution in which undergraduate work was taken, major field in graduate work, (if such had been undertaken), grade level teaching, subject or subjects currently teaching, and type ability group preferred for teaching.

Although responses indicating experience with grouping practices and procedures were obtained, they were not included in the analysis. It was observed that these responses corresponded so closely to current practices in schools comprising the sample that further

analysis would not be meaningful.

Obtained F values resultant of the statistical tests were considered significant if they reached the .05 level of significance. In that this is an exploratory study, F values significant at the .01 level as well as those significant at the .05 level are reported. Analysis of variance tables for significant factors are reproduced in Appendix IX.

Where significant F values were obtained it was desirable to determine which means contributed to the significance. The technique employed to make these determinations was the least-significant-difference test at the .05 level as developed by R. A. Fisher and described by Duncan.¹ The new multiple range test for the .05 level was applied to the mean scores yielded by the sub-categories of respondents in each of the factors yielding significant F values. The test is hereafter referred to as the L.S.D. test.

In this test, the difference between any two means is declared significant, at the 5% level, say, if it exceeds a so-called least significant difference $\sqrt{2} t_{sm}$ (t being the 5% level significant value from the t distribution), and provided also that the F test for the homogeneity of the n means involved is significant. If the F test is not significant, none of the differences is significant irrespective of its magnitude relative to the least significant difference.²

¹David B. Duncan, "Multiple Range and Multiple F Tests," Biometrics, XI (March, 1955), pp. 1-42.

²Ibid., p. 2.

Findings Related to Personal Backgrounds of Teachers

Two personal background factors, age and father's occupation, yielded significant F values. In both instances the significance was in index of commitment to ability grouping only.

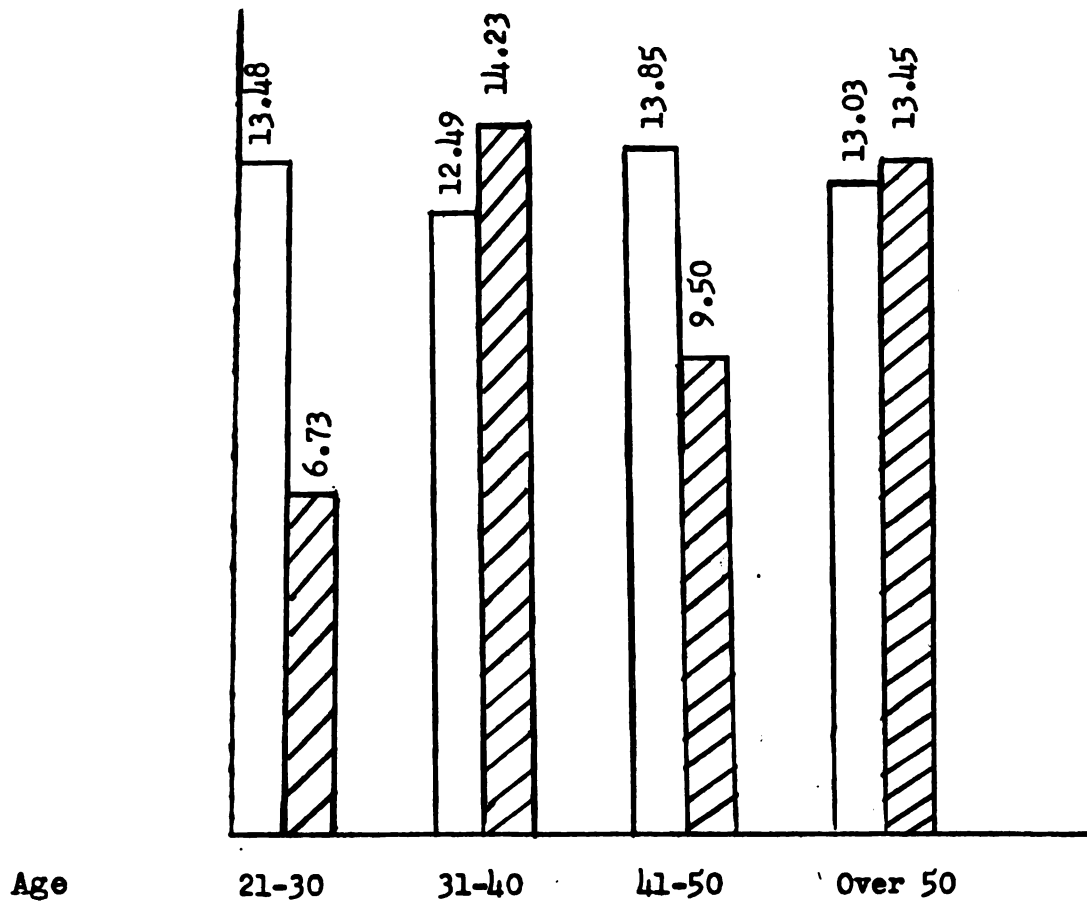
Age.--Obtained index of commitment mean scores and MTAI mean scores for each age sub-category are presented in Figure 1. Also reported in Figure 1 are numbers of respondents respectively for each of the sub-categories of the factor under consideration, and the per cents of total respondents to that factor represented in each of the sub-categories. (It was indicated in Chapter III that index of commitment scores range from 0 to 4 - low, to 16 - high. It should be noted that MTAI norms for experienced secondary teachers at the 50th percentile rank are as follows: academic, four years training, 23; five years training, 45; non-academic, four years training 10; five years training, 33. Norms for elementary teachers are somewhat higher. The pattern for the figure permits visual comparisons of the two indices. The two measures, index of commitment and MTAI, are dissimilar. Therefore, a separate analysis of mean score differences for each measure must be made for each of the factors being considered). This pattern of summarizing the findings will be followed for each of the factors analyzed throughout this chapter.

FIGURE 1

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR AGE OF
RESPONDENTS

□
Index of
Commitment
Mean Scores

▨
MTAI Mean
Scores



No. of respondents	188	145	66	40
Per cent of responses	43	33	15	9

One no-response was recorded for this factor, $N = 439$.* $F = 6.77$ is significant at the .01 level of confidence. Application of the L.S.D. test yielded the following results. Teachers ages 21 to 30 showed significantly greater commitment to ability grouping than teachers ages 31 to 40. Teachers ages 41 to 50 showed a significantly greater commitment to ability grouping than teachers ages 31 to 40 and those over 50 years of age. The numbers of teachers represented in the higher two age classifications are substantially smaller than the numbers in the two lower classifications.

No significant difference in MTAI mean scores for the age groups was found. However, the age 21-30 sub-category yielded the lowest MTAI mean score and the age 31-40 sub-category which yielded the lowest index of commitment mean score also yielded the highest MTAI mean score.

North-Hatt Scale of Occupational Prestige.--

Item 1-F in the questionnaire asked the respondent to indicate his or her father's occupation at the time of his or her entrance into college. The item was designed to obtain some indication of the socio-economic

*Note: N equals the total number of responses analyzed for the factor under consideration. Total N for the sample is 440 respondents. In few instances was a total of 440 responses included in analysis. Those cases not included are either non-respondents for the category or cases in which it was felt the number of respondents in a sub-category was too small to contribute conclusively to the findings.

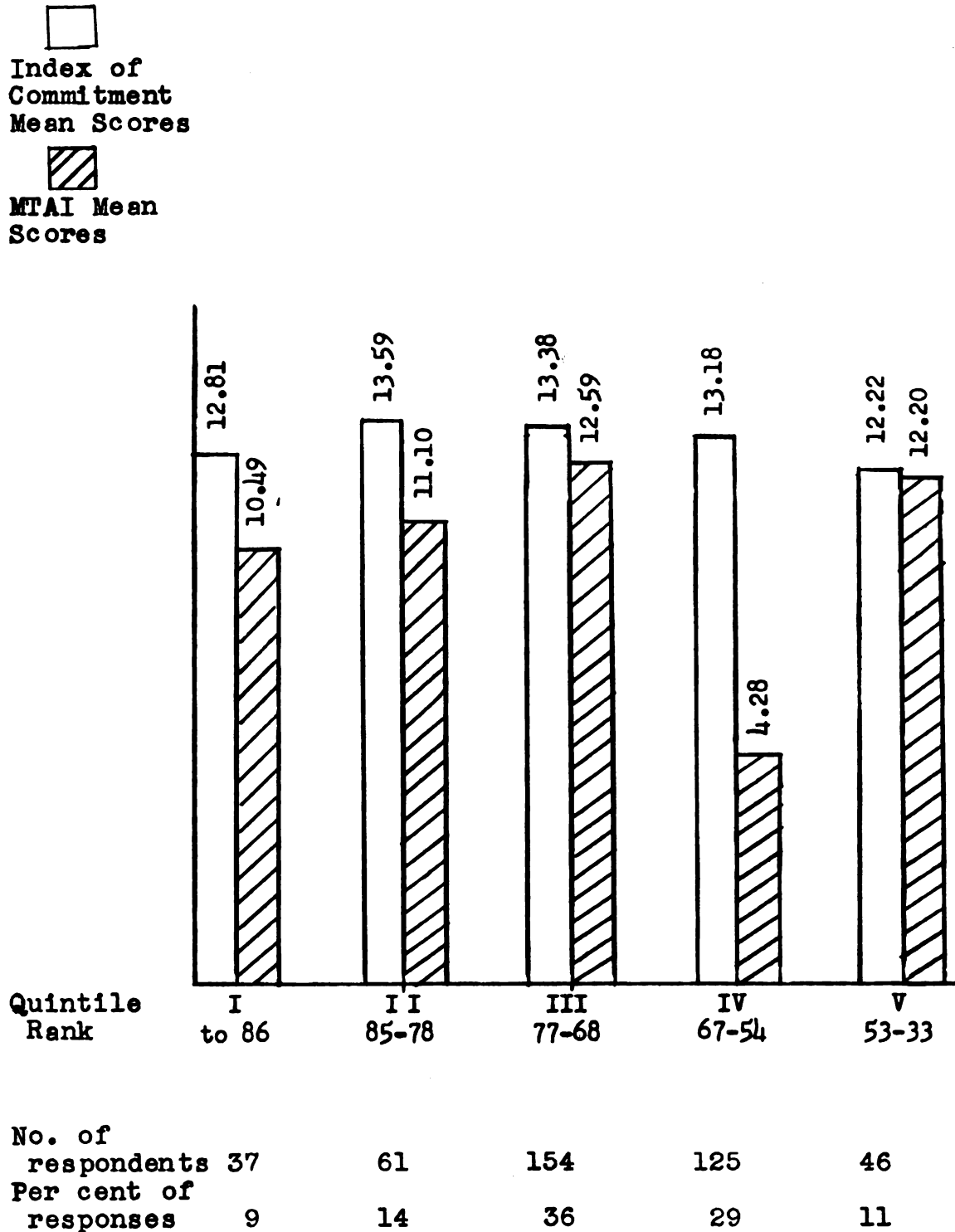
status from which the respondent came. Responses to the item were interpreted into the North-Hatt Scale of Occupational Prestige. Scores obtained from this scale were further ranked on a quintile basis, I, high to V, low. The North-Hatt Scale is reproduced in Appendix VIII. Figure 2 summarizes mean scores on the index of commitment and MTAI obtained for the North-Hatt quintile ranks. Seventeen no-responses were recorded, $N = 423$. $F = 2.92$, significant at the .05 level.

Application of the L.S.D. test determined that respondents representing the lowest and highest socioeconomic levels were least committed to ability grouping. These two groups constituted the smallest numbers of respondents in the sub-categories. Teachers from sub-categories II, III and IV showed significantly greater commitment to ability grouping than teachers in sub-category V. No other significant differences were obtained. No significant differences with respect to MTAI mean scores were obtained. Neither is there an observed consistent pattern of relationship of index of commitment mean scores and MTAI mean scores.

Personal background factors for which mean score differences were found to be not significant.--No other personal background factors yielded significant F values for mean scores obtained on either index of commitment to ability grouping or MTAI. The factors for which

FIGURE 2

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR NORTH-HATT
QUINTILE RANKINGS OF RESPONDENTS



F values were not significant were sex, marital status, size and type communities in which respondents were reared, and attained educational levels of respondents' parents.

Mean scores achieved by respondents for the sub-categories in each of these factors are summarized in Figures 3 through 8. No-responses recorded for these factors were as follows: sex, two, $N = 438$; marital status, seven, $N = 433$; size of community in which reared, none, $N = 440$; type of community in which reared, eight, $N = 432$; father's attained educational level, 16, $N = 424$; and mother's attained educational level, 11, $N = 429$.

Findings Related to Teachers' Educational and Professional Background and Experience

Four factors in this major area yielded significant F values for both index of commitment to ability grouping and MTAI scores. Two factors yielded significant F values for index of commitment to ability grouping only, and two yielded significant F values for MTAI scores only.

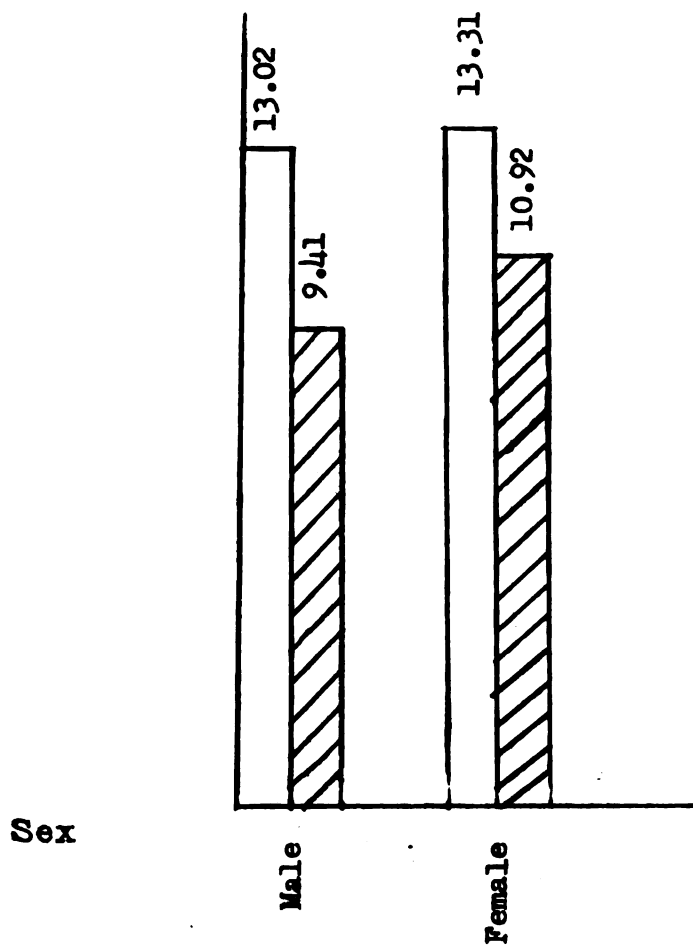
The factors for which significant F values were obtained for mean score differences on both measures were amount of educational training as determined by the number of years of college work completed by the respondents, respondents' major field of study at the undergraduate level, the type institutions in which

FIGURE 3

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR SEX OF
RESPONDENTS

□
Index of
Commitment
Mean Scores

▨
MTAI Mean
Scores



No. of
respondents 212
Per cent of
responses 48

226
52

FIGURE 4

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR MARITAL
STATUS OF RESPONDENTS

□
Index of
Commitment
Mean Scores

▨
MTAI Mean
Scores

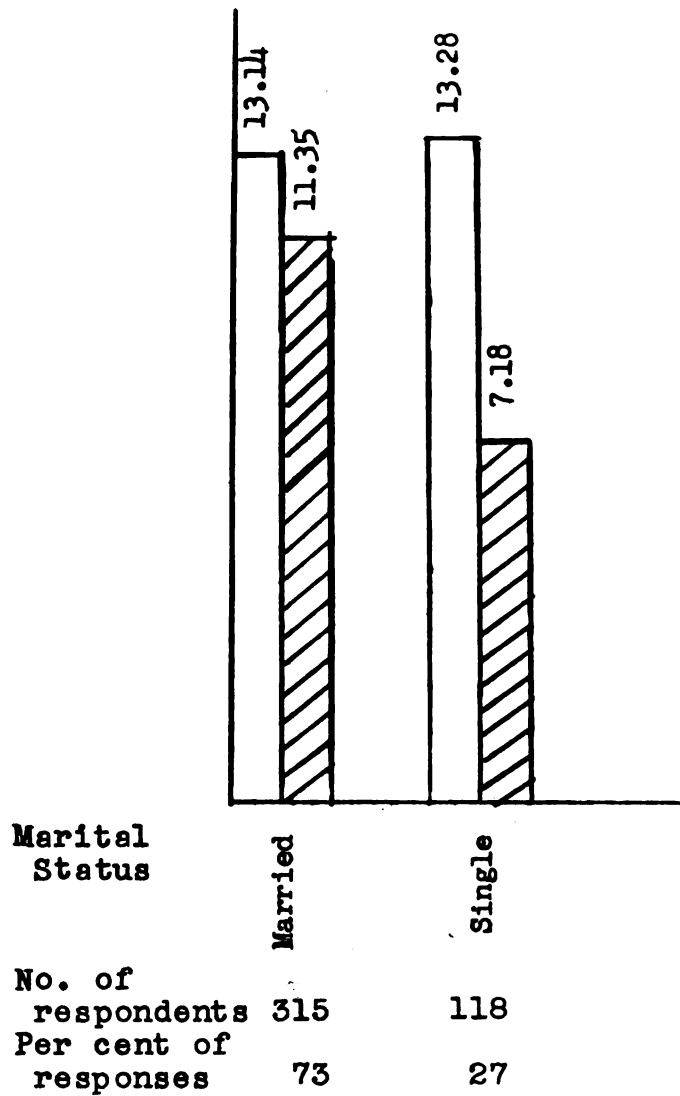


FIGURE 5

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR SIZE OF
COMMUNITIES IN WHICH RE-
SPONDENTS WERE REARED

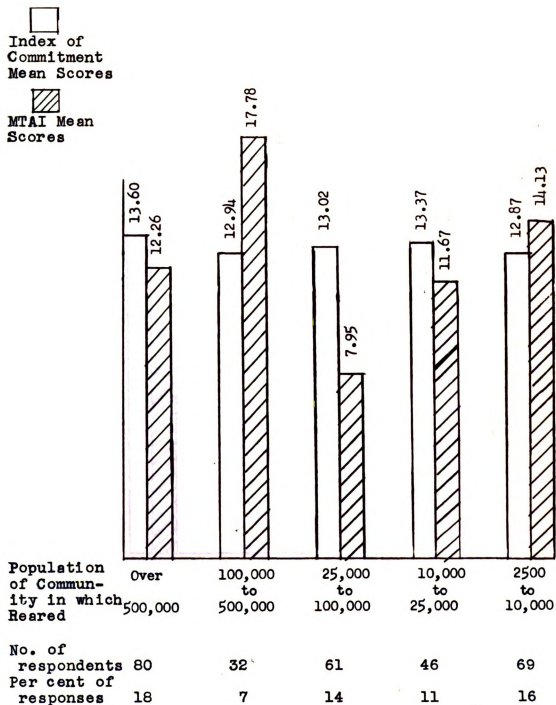


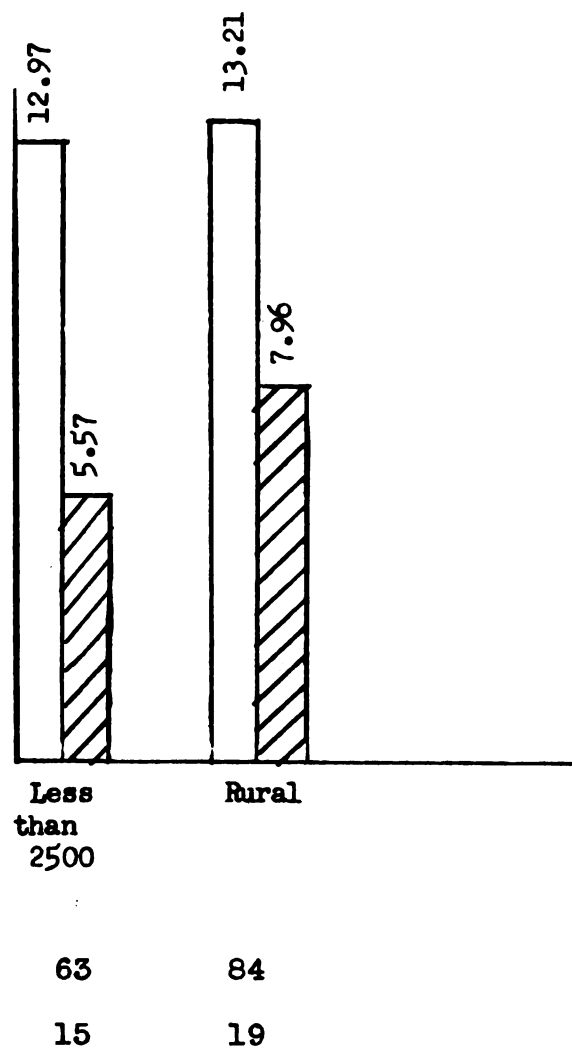
FIGURE 5-Continued

FIGURE 6

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR TYPES OF
COMMUNITIES IN WHICH RESPON-
DENTS WERE REARED

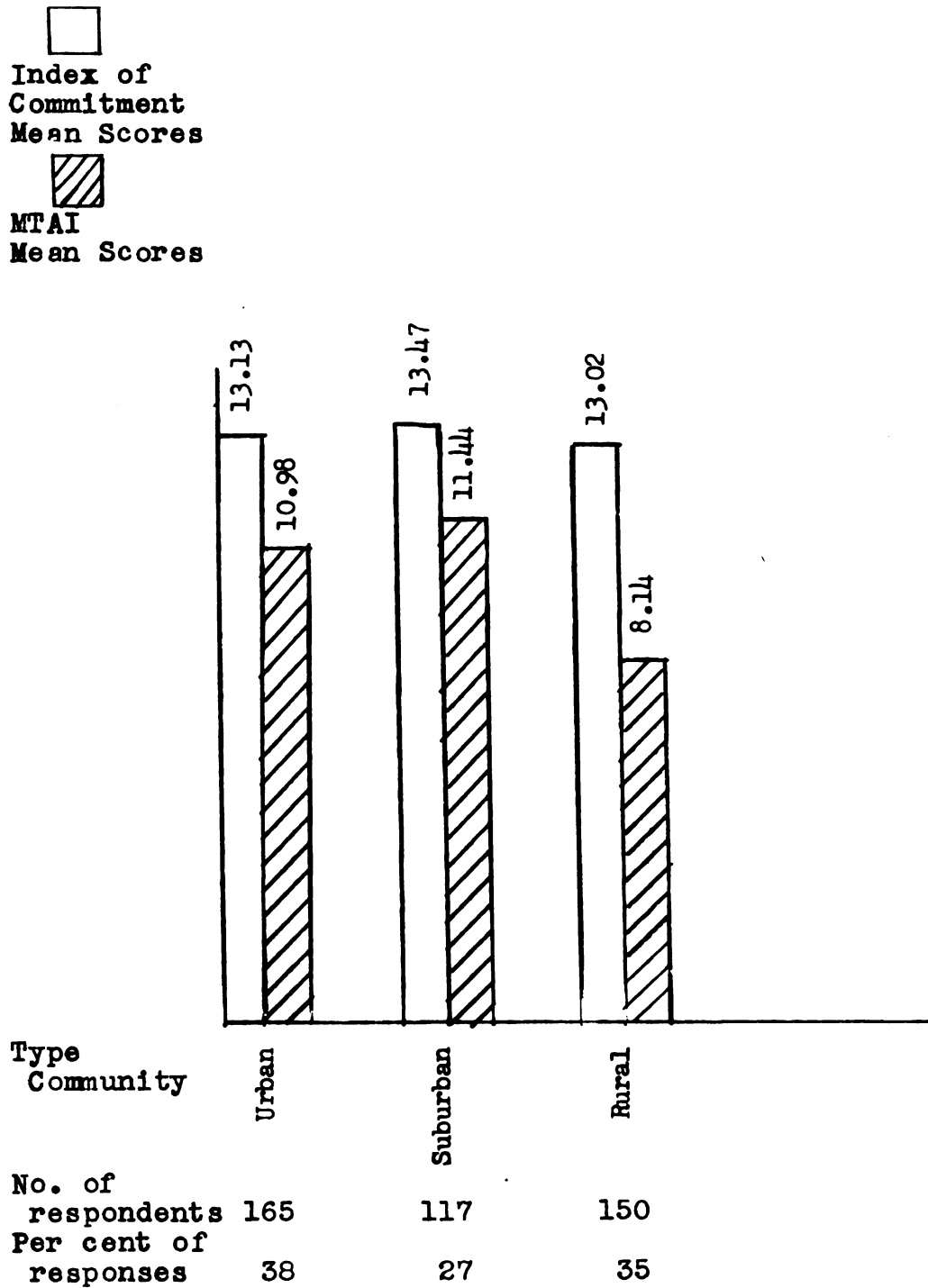
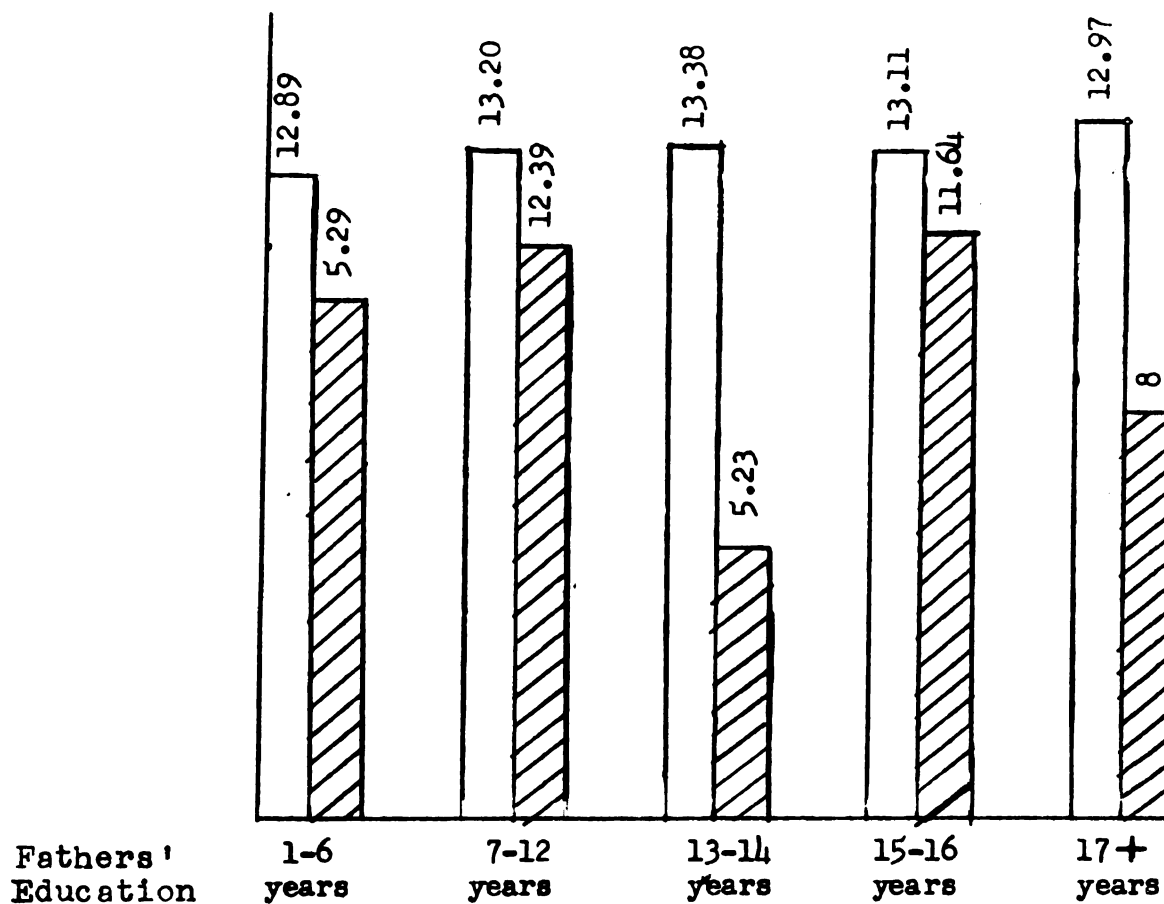


FIGURE 7

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR FATHERS'
ATTAINED EDUCATIONAL LEVEL

□
Index of
Commitment
Mean Scores

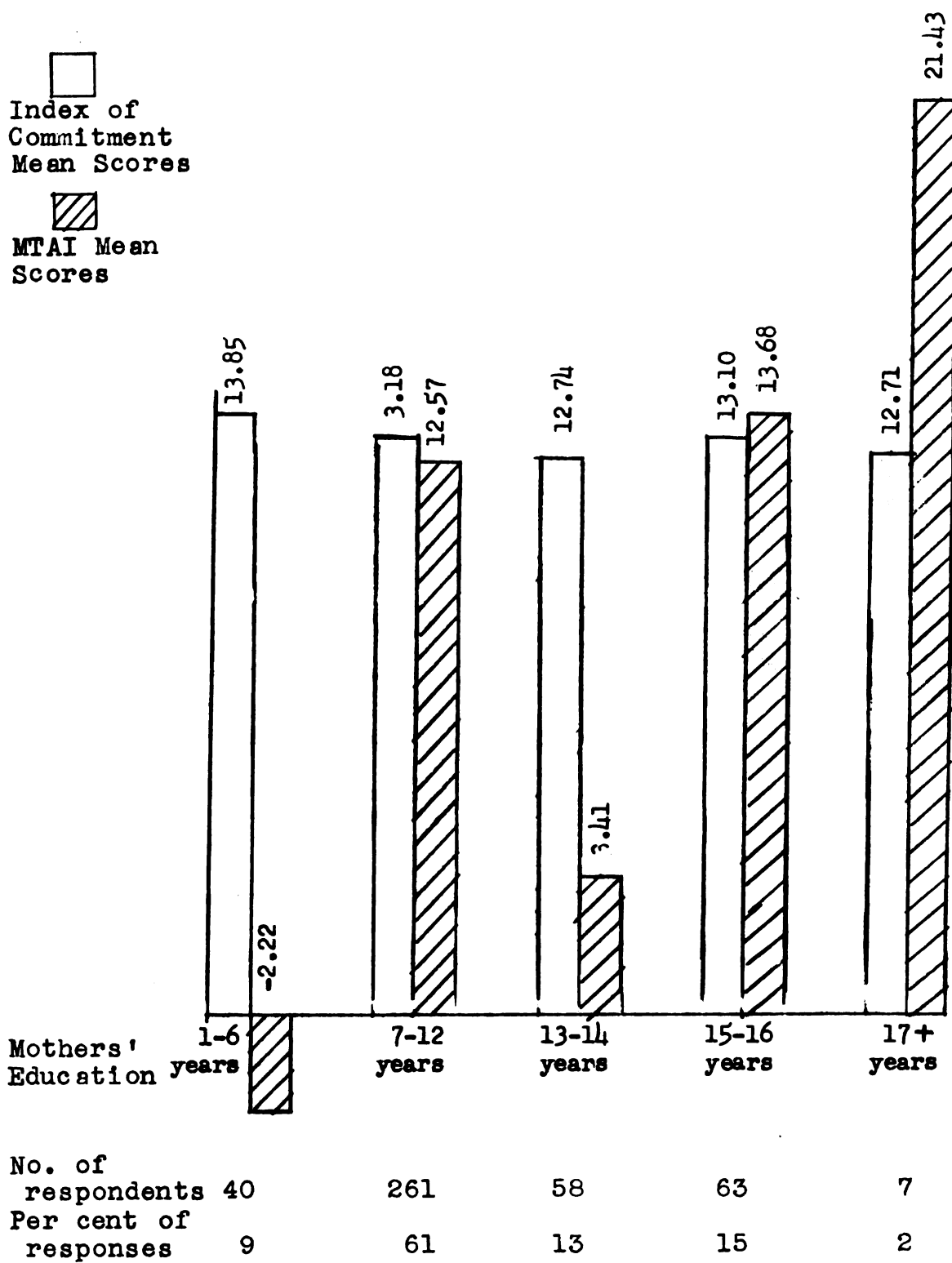
▨
MTAI Mean
Scores



No. of respondents	55	233	39	64	33
Per cent of responses	13	55	9	15	8

FIGURE 8

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR MOTHERS'
ATTAINED EDUCATIONAL LEVEL



respondents matriculated, and respondents stated preferences for the type ability group or groups which they might teach.

Amount of college education.--Findings from item two on the questionnaire, highest year of college completed are summarized in Figure 9. The number of respondents in sub-categories one, two, and three representing, one, two, and three years of college work respectively, were deemed too small to be considered in the analysis, as was the case with one added sub-category, eight, representing more than seven years of college work. One response each was recorded for sub-categories one, two, and eight; four responses for sub-category three; and eight no-responses, $N = 425$.

The F value obtained for index of commitment mean score differences was 5.11 significant at the .01 level. Teachers with four, five, and seven years of college education were significantly greater committed to ability grouping than teachers with six years of college education.

The F value obtained for MTAI mean score differences was 10.70, highly significant at the .01 level. The L.S.D. test showed teachers with five years of college education to have significantly higher MTAI scores than teachers with four or seven years of college education. Teachers with six years of college education scored significantly higher than those teachers with four years of college education. There appears to be an inverse relationship between index of commitment

FIGURE 9

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR YEARS OF
COLLEGE EDUCATION COMPLETED
BY RESPONDENTS

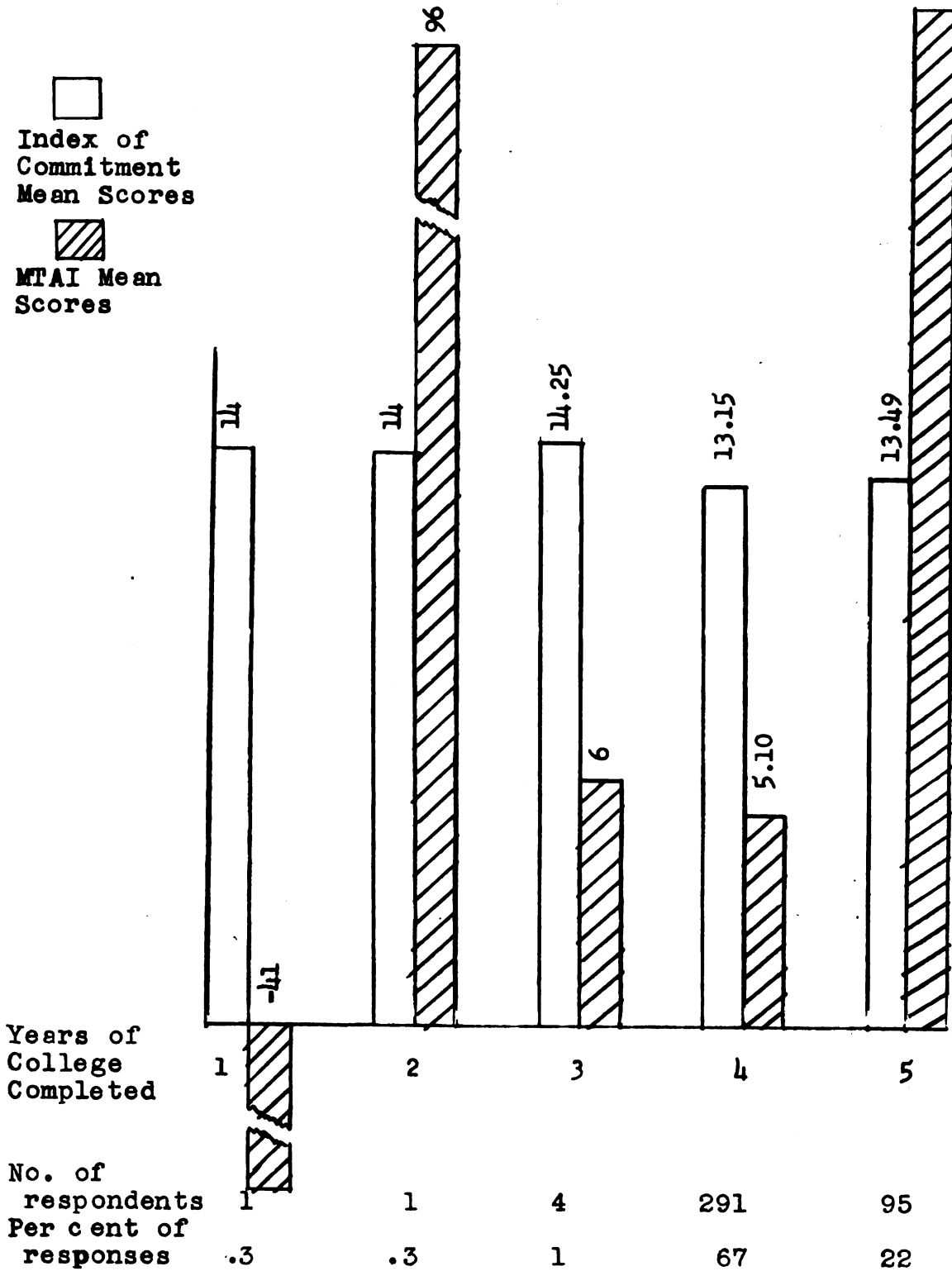
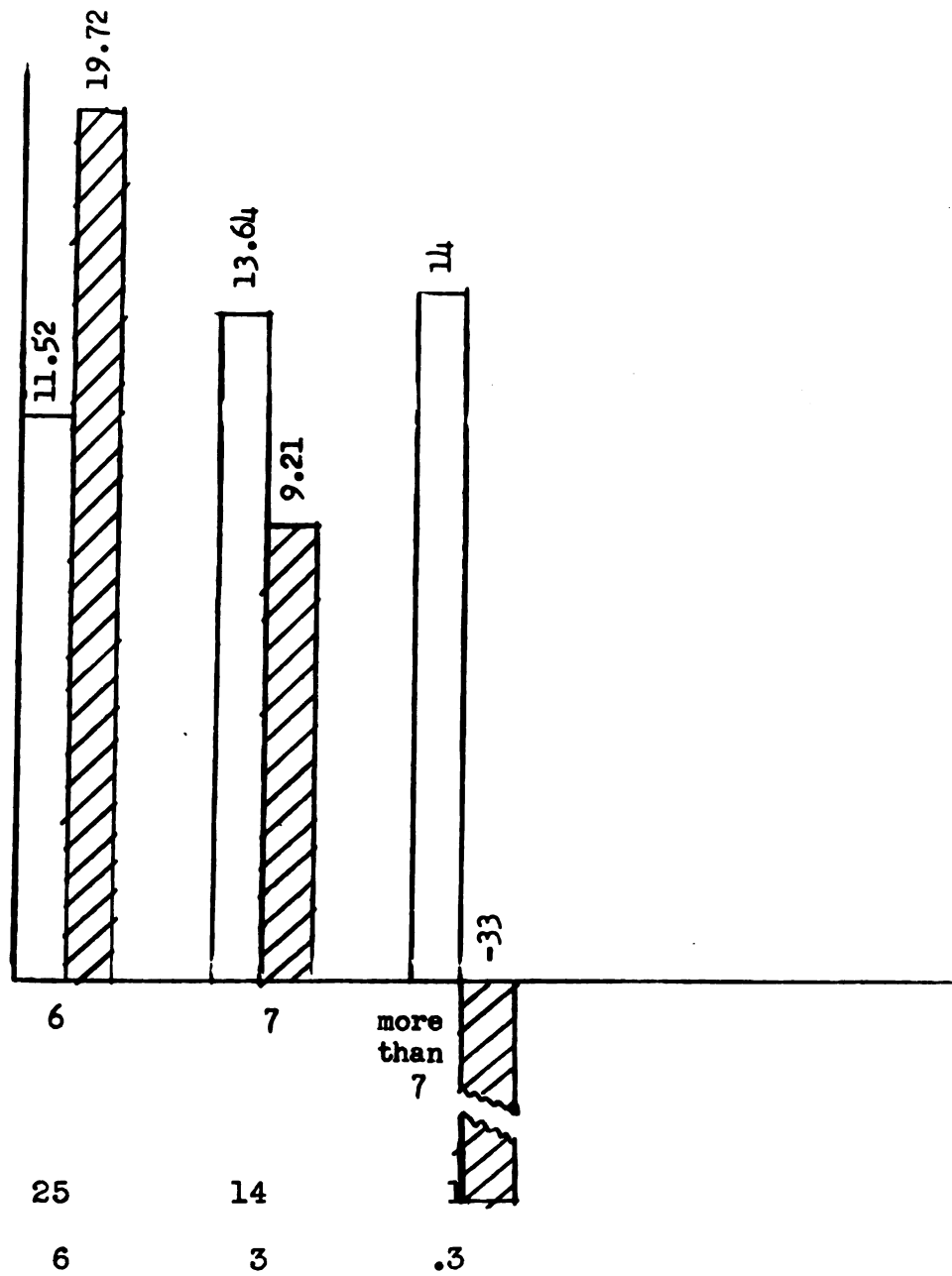


FIGURE 9-Continued



scores and MTAI scores in this dimension.

Major field of study at the undergraduate level.--

In response to items four, six, and eight on the questionnaire respondents indicated subjects, subject combinations, and areas of matriculation at both undergraduate and graduate levels as well as teaching assignments. The following twenty sub-categories evolved:

1. Business and business education
2. Educational administration
3. Elementary education
4. English (including language arts and speech)
5. Fine arts (art and music)
6. Foreign language
7. Guidance
8. Junior high school education
9. Mathematics and mathematics education
10. Physical education
11. Science and science education
12. Social science
13. Special education
14. Vocational education including industrial arts
15. Library science
16. English and social science
17. Core
18. General education
19. Mathematics and science
20. Other

Not all of this list evolved from responses to any one of the three aforementioned questionnaire items.

As noted, this same listing of sub-categories is implemented in the analysis of responses to items four, six, and eight. All sub-categories are not necessarily represented in responses to each of the three items, however. The order of the listing of the sub-categories has no significance - it is the order

in which the sub-categories happened to be tabulated.

For the factor, under consideration, (major field of study at the undergraduate level) no responses were recorded for sub-categories two (educational administration), seven (guidance), 13 (special education) and 17 (core). This would be expected. With the exception of core, which is a teaching area only in Maryland, work in the subject areas cited is generally reserved for graduate study. Two no-responses for the item were recorded.

Responses in sub-categories 15 (library science) and 20 (other) were considered too small for meaningful inclusion in the analysis. Sub-category 15 was represented by two responses and 20 by five responses, $N = 431$. Findings relative to respondents' undergraduate major field are summarized in Figure 10.

The F value obtained for index of commitment mean score differences was 1.74. In that the obtained F value so nearly approaches significance at the .05 level, the L.S.D. test was performed. (Significant F , .05 level, 1.75). The L.S.D. test yielded the following results: combination English and social science majors were least committed to ability grouping, combination mathematics and science majors were most committed to ability grouping. Respondents who reported undergraduate major areas of general education, mathematics, foreign language, social science, junior high

FIGURE 10

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR RESPOND-
ENTS' MAJOR FIELD OF STUDY
AT THE UNDERGRADUATE
LEVEL

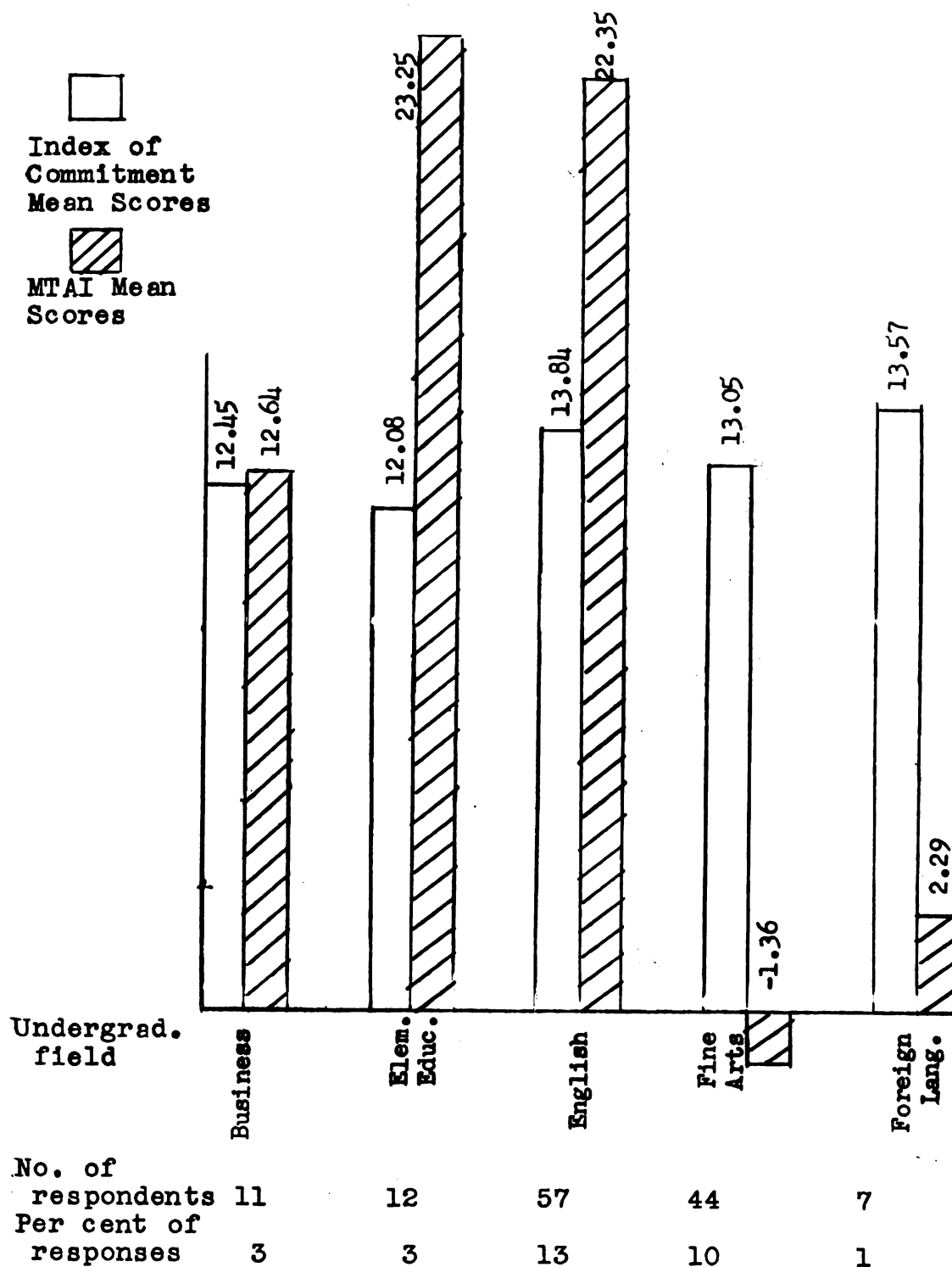


FIGURE 10-Continued

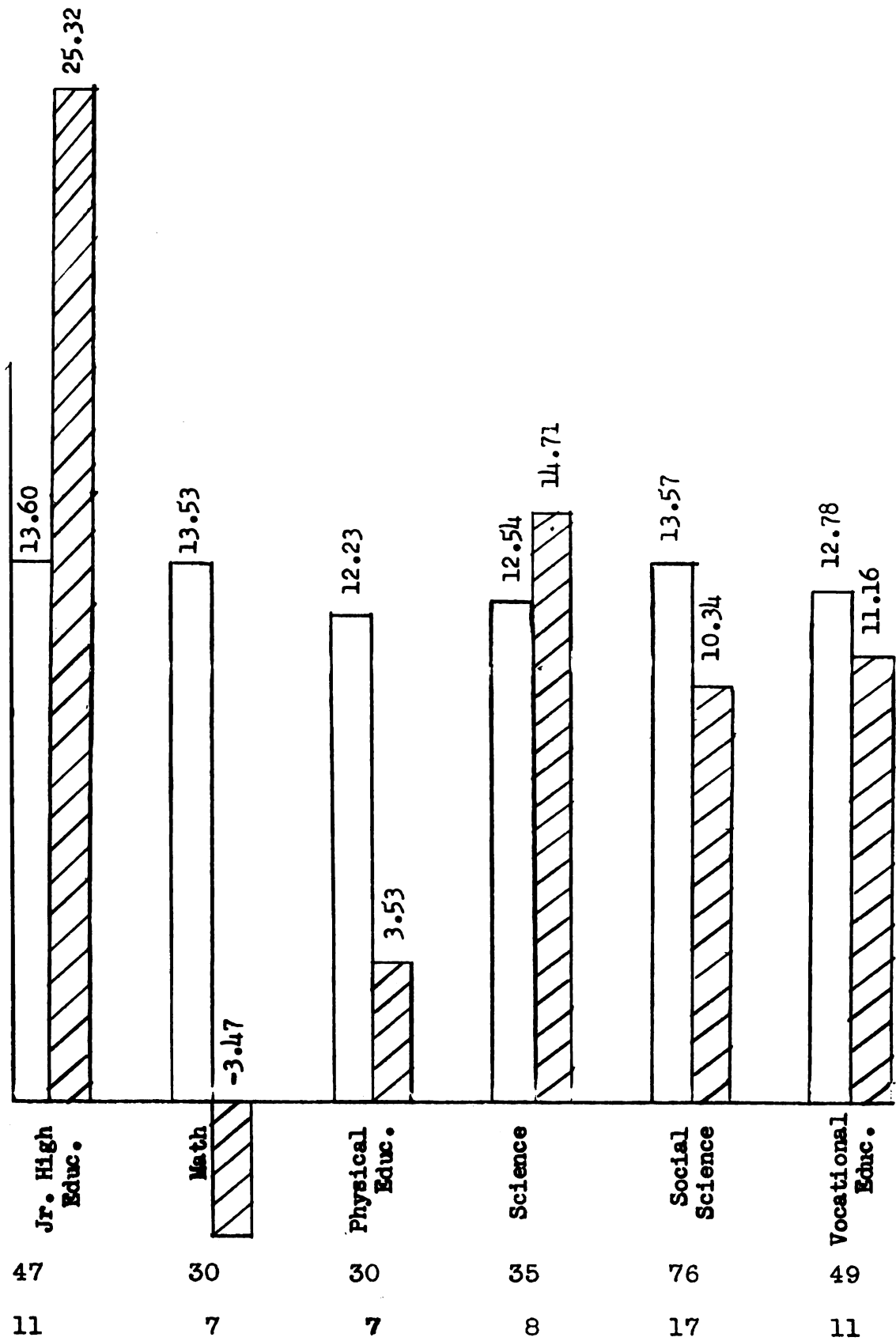
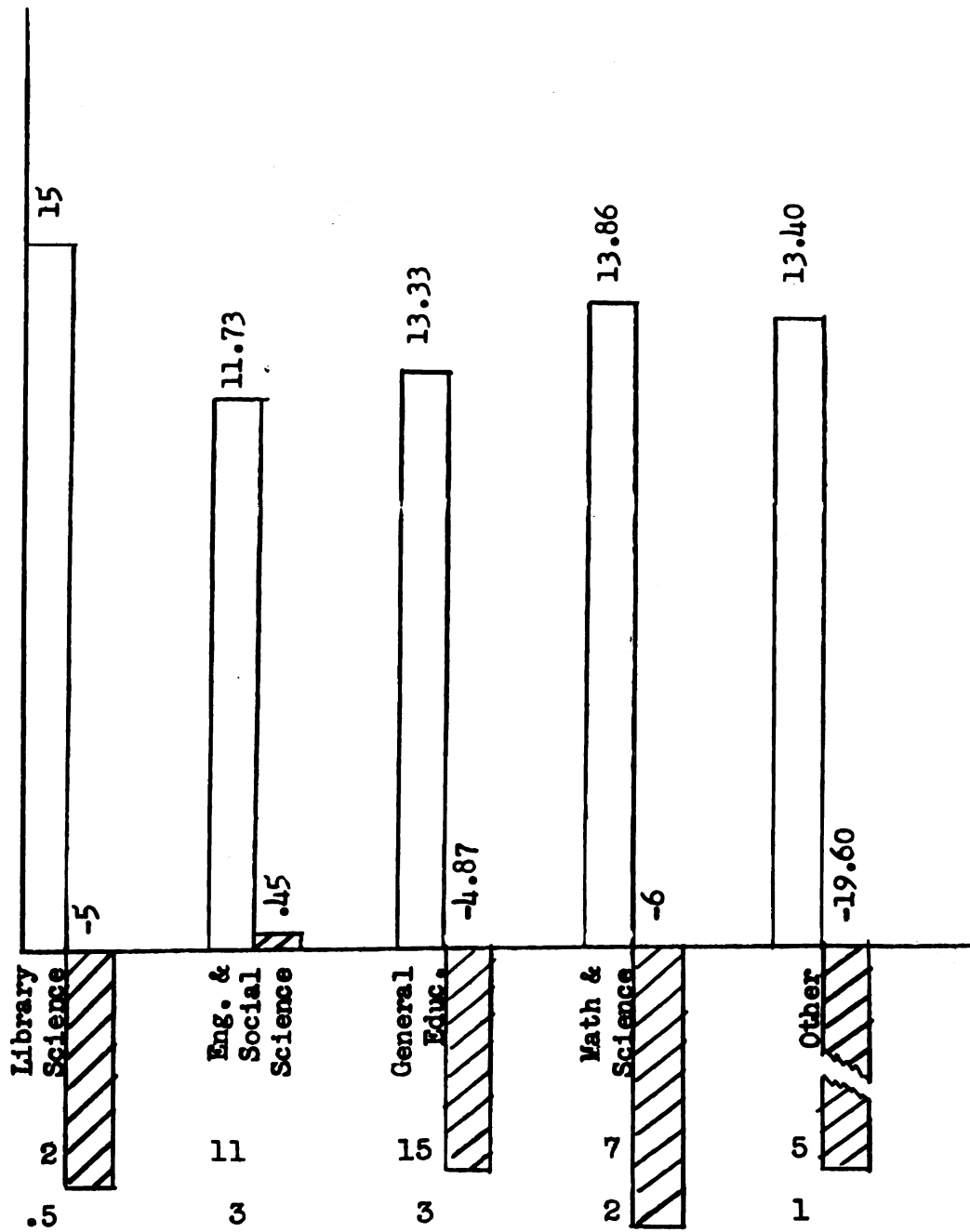


FIGURE 10-Continued



school education, and English showed greater commitment to ability grouping than combination English and social science majors. English and combination mathematics and science majors showed greater commitment to ability grouping than combination English and social science, elementary education, and physical education majors.*

The F value obtained for MTAI mean score differences, 2.73 is significant at the .01 level. Application of the L.S.D. test revealed a variety of significant differences. Sub-categories tended to "group" themselves. Combination mathematics and science majors scored lowest on MTAI, while junior high school education majors scored highest. Other significant differences were found. Fine arts majors scored significantly higher than combination mathematics and science majors. Combination English and social science and foreign language majors scored significantly higher than combination mathematics and science, general education, and mathematics majors. Physical education majors scored significantly higher than the previously mentioned three sub-categories and fine arts majors. Social science, vocational education, and business and business

*Note: Proper distinction of major areas is difficult for this sample. Since 1945 Maryland's teachers colleges have trained teachers for junior high school teaching. Students elect to concentrate in either English and social science or science and mathematics - the major is junior high school education. Those conclusions drawn from these data must be tentative.

education majors scored significantly higher than all the previously mentioned sub-categories (combination mathematics and science, general education, mathematics, fine arts, combination English and social science, foreign language, and physical education majors). Science majors scored significantly higher than the above mentioned group of seven sub-categories and social science majors. Respondents in the three remaining categories (English, elementary education, and junior high school education majors) scored significantly higher on MTAI than respondents in all other sub-categories. No particular pattern of inverse relationship between index of commitment and MTAI scores appears pronounced with respect to major field of study at the undergraduate level.

Type institution in which respondents matriculated at the undergraduate level.--A third factor in which significant differences were found for both index of commitment mean scores and MTAI mean scores were responses to item five on the questionnaire, the type institution in which undergraduate work was taken. Several respondents indicated a combination of types of institutions attended rather than four years attendance at either a teachers college, liberal arts college, or university. Findings relating to this factor are summarized in Figure 11. Three no-responses were recorded, four responses recorded in sub-category five

FIGURE 11

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR TYPES OF
INSTITUTIONS IN WHICH RESPON-
DENTS MATRICULATED AT THE
UNDERGRADUATE LEVEL

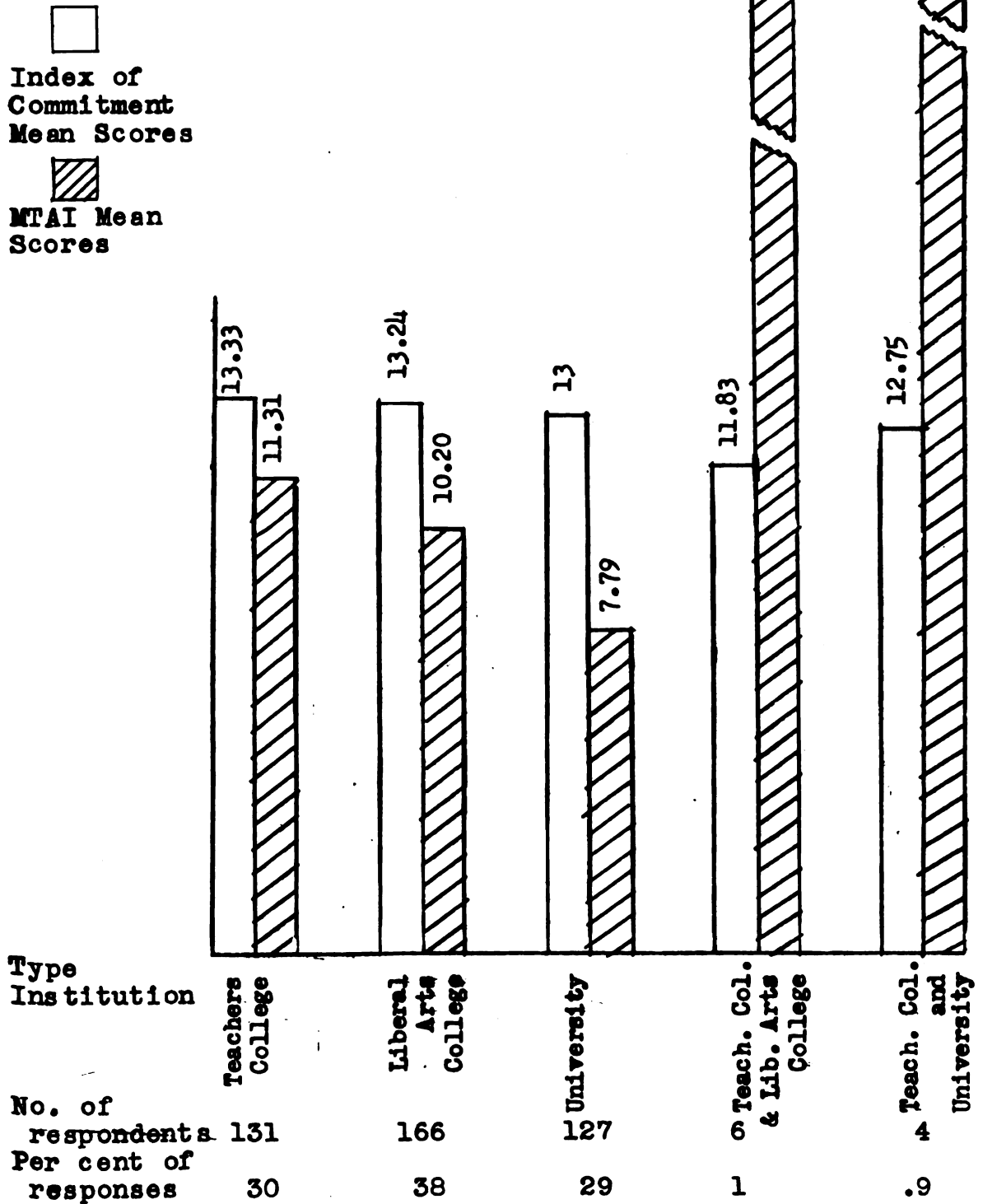
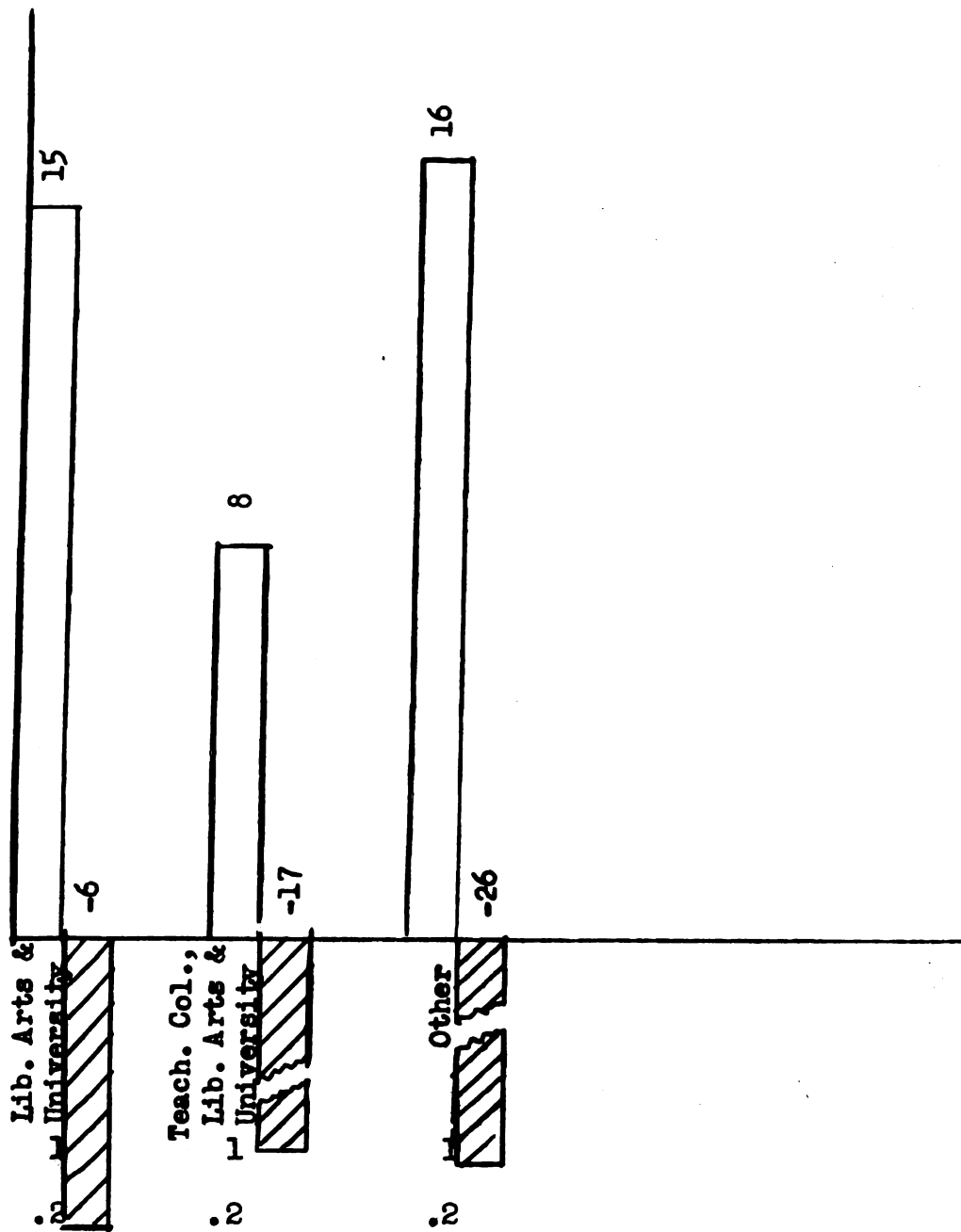


FIGURE 11-Continued



and one each in sub-categories six, seven, and eight were considered too small to include in the analysis, $N = 430$.

The F value obtained for index of commitment mean score differences was 3.49, significant at the .05 level. Application of the L.S.D. test showed those respondents who had attended a university, a liberal arts college, or a teachers college to be significantly more committed to ability grouping than those whose undergraduate work was divided between a teachers college and liberal arts college. The number of respondents in this sub-category however, is quite small in proportion to the numbers of respondents represented in the remaining three sub-categories analyzed.

The F value obtained for MTAI mean score differences was 5.79, significant at the .01 level. Application of the L.S.D. test showed the same group of teachers' scores to be significantly different from those of teachers in the other sub-categories. Teachers who had matriculated in both a teachers college and a liberal arts college obtained significantly higher MTAI scores than teachers who matriculated solely in either a teachers college, liberal arts college, or university.

Grade level taught by respondents.-- Item seven on the questionnaire asked respondents to indicate the junior high school grade level or combination of levels they were currently teaching. Findings for this factor

are summarized in Figure 12. Six no-responses were recorded for this factor, $N = 434$. The F value obtained for mean score differences for this factor was 6.78, significant at the .01 level.

Application of the L.S.D. test showed teachers who taught both eighth and ninth grades and those who taught grade seven to have significantly greater commitment to ability grouping than those teachers least committed to ability grouping, (those who taught all three levels, grades seven, eight and nine). (In many cases, those teachers who teach all three levels are special subject and special area teachers). Those teachers who taught both seventh and ninth grade classes showed significantly greater commitment to ability grouping than those teachers in all other sub-categories. This group is, however, a proportionately smaller group of respondents than is the case in other sub-categories.

No significant differences for MTAI mean scores was found with respect to this factor.

Teachers experience with grouping practices.--

Item ten in the questionnaire asked respondents to indicate past experience with grouping practices. One response in sub-category four, and four responses in sub-category five were recorded. These two sub-categories were considered too small to yield meaningful results in the analysis. Two no-responses were recorded, $N = 433$.

FIGURE 12

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR GRADE LEV-
ELS TAUGHT BY RESPONDENTS

□
Index of
Commitment
Mean Scores

▨
MTAI Mean
Scores

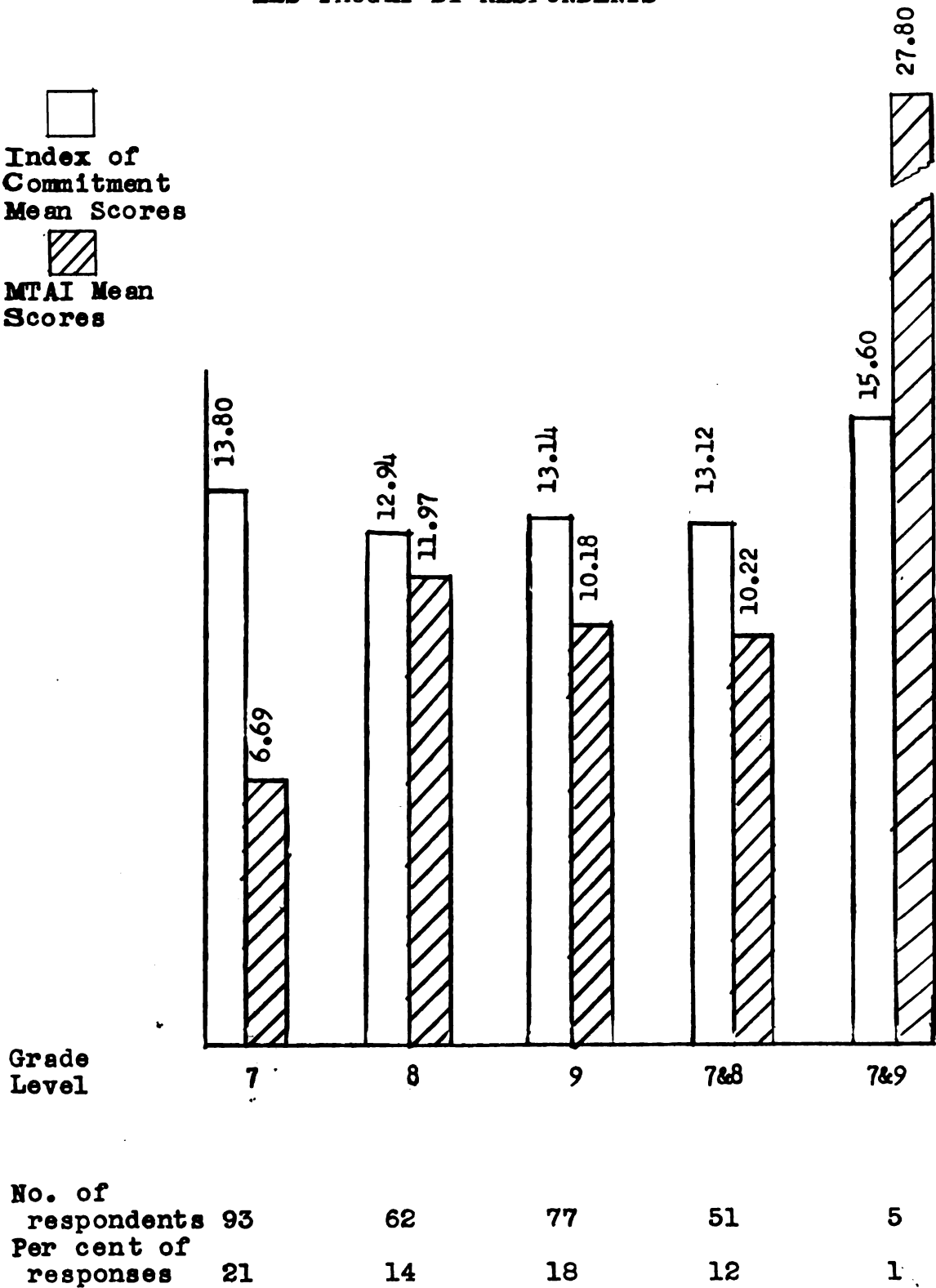
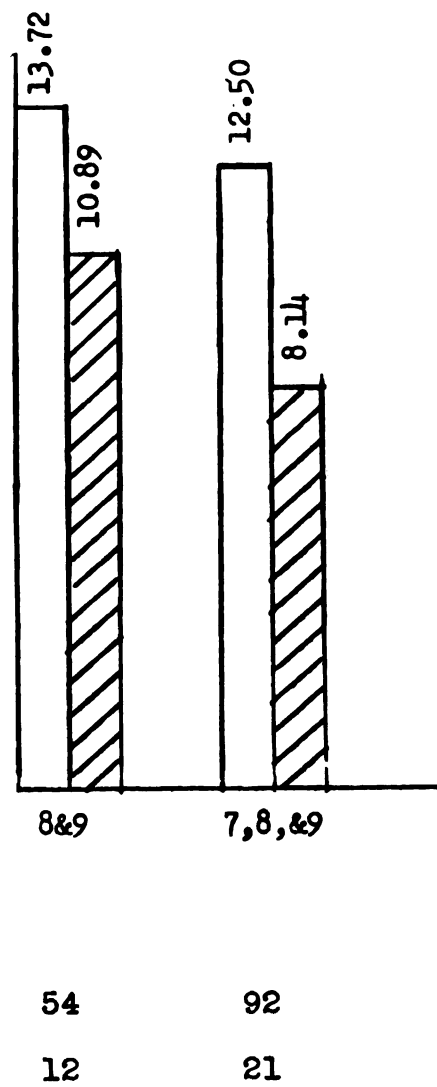


FIGURE 12-Continued

Findings with respect to this factor are summarized in Figure 13. The F value obtained, for mean score differences on index of commitment was 45.13, highly significant at the .01 level. Results of the L.S.D. test showed those respondents who had had experience with heterogeneous groups only, to be significantly least committed to ability grouping, and those who had had experience with homogeneous (ability) grouping only, to be significantly most committed to ability grouping. Those respondents who had had experience with both types of grouping practices showed significantly greater commitment to ability grouping than those who had had experience with heterogeneous grouping only.

No significant difference with respect to MTAI mean scores was found.

Degree held by teachers.--Item three in the questionnaire asked respondents to indicate the highest academic degree held. Findings for this factor are summarized in Figure 14. Three no-responses were recorded for this factor. Two responses recorded for sub-category four, the doctors degree, were considered too few to include in the analysis, N = 435.

No significant differences with respect to index of commitment mean scores were found. However, respondents indicating no-degree status showed the highest commitment to ability grouping, and those with

FIGURE 13

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR RESPON-
DENTS' EXPERIENCE WITH TYPES
OF ABILITY GROUPS

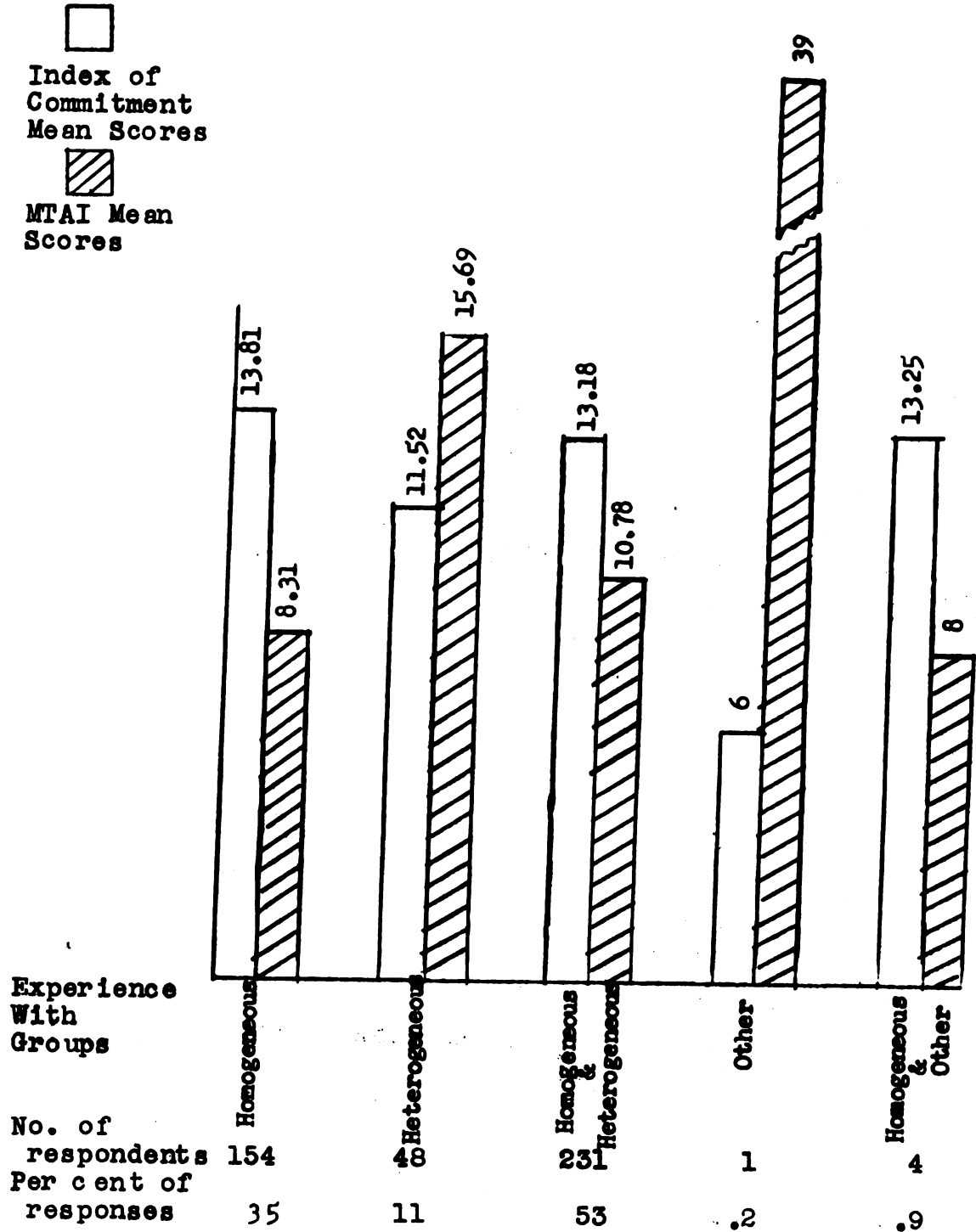
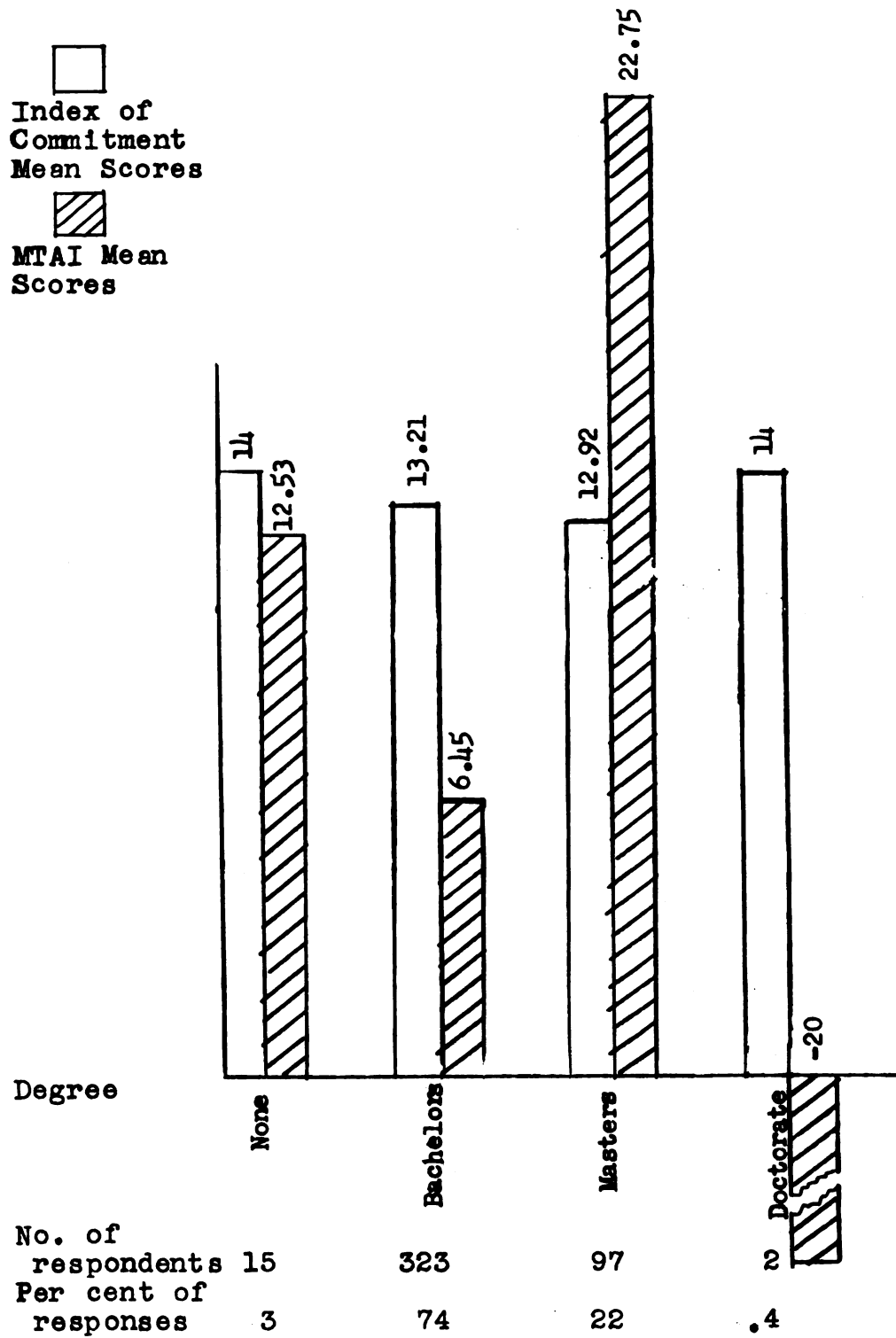


FIGURE 14

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR ACADEMIC
DEGREES HELD BY RESPONDENTS



the masters degree showed the lowest commitment to ability grouping.

MTAI mean score differences were found to be highly significant at the .01 level, the F value obtained was 181.49. Results of the L.S.D. test showed significantly lowest MTAI scores for those respondents holding the bachelors degree, and significantly highest MTAI scores for those respondents holding the masters degree. There appears to be some inverse relationship between index of commitment and MTAI mean scores with respect to this factor.

Subject area taught by respondents.--Item eight in the questionnaire asked respondents to indicate their current teaching areas. Findings on this factor are summarized in Figure 15. One response for sub-category two, administration, was recorded, but not included in the analysis, (one administrator indicated a desire to complete the instruments with the teachers in his school). Two no-responses were recorded for the item, N = 437.

No significances were found in index of commitment mean score differences with respect to this factor.

MTAI mean score differences were found to be significant. The F value obtained was 2.34, significant at the .01 level. Results of the L.S.D. test showed that mean scores obtained by special education, core, and English teachers were significantly higher

FIGURE 15

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR SUBJECT
AREAS TAUGHT BY RESPONDENTS

□
Index of
Commitment
Mean Scores

▨
MTAI Mean
Scores

Subject
Area
Taught

No. of
respondents
Per cent of
responses

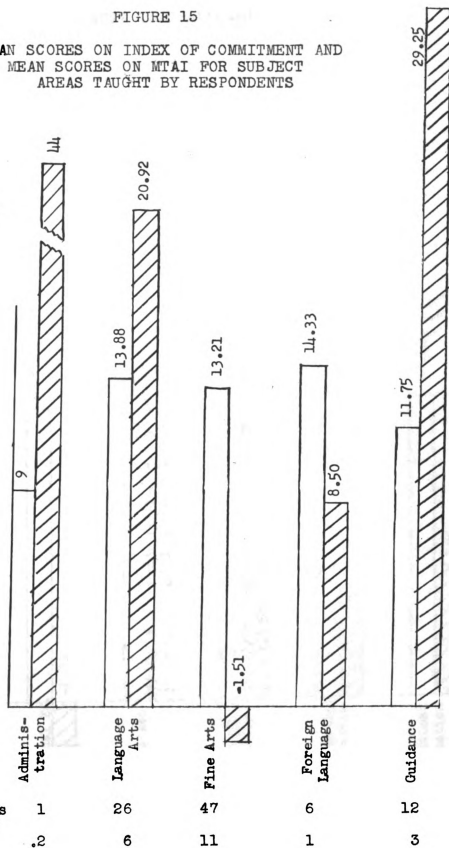


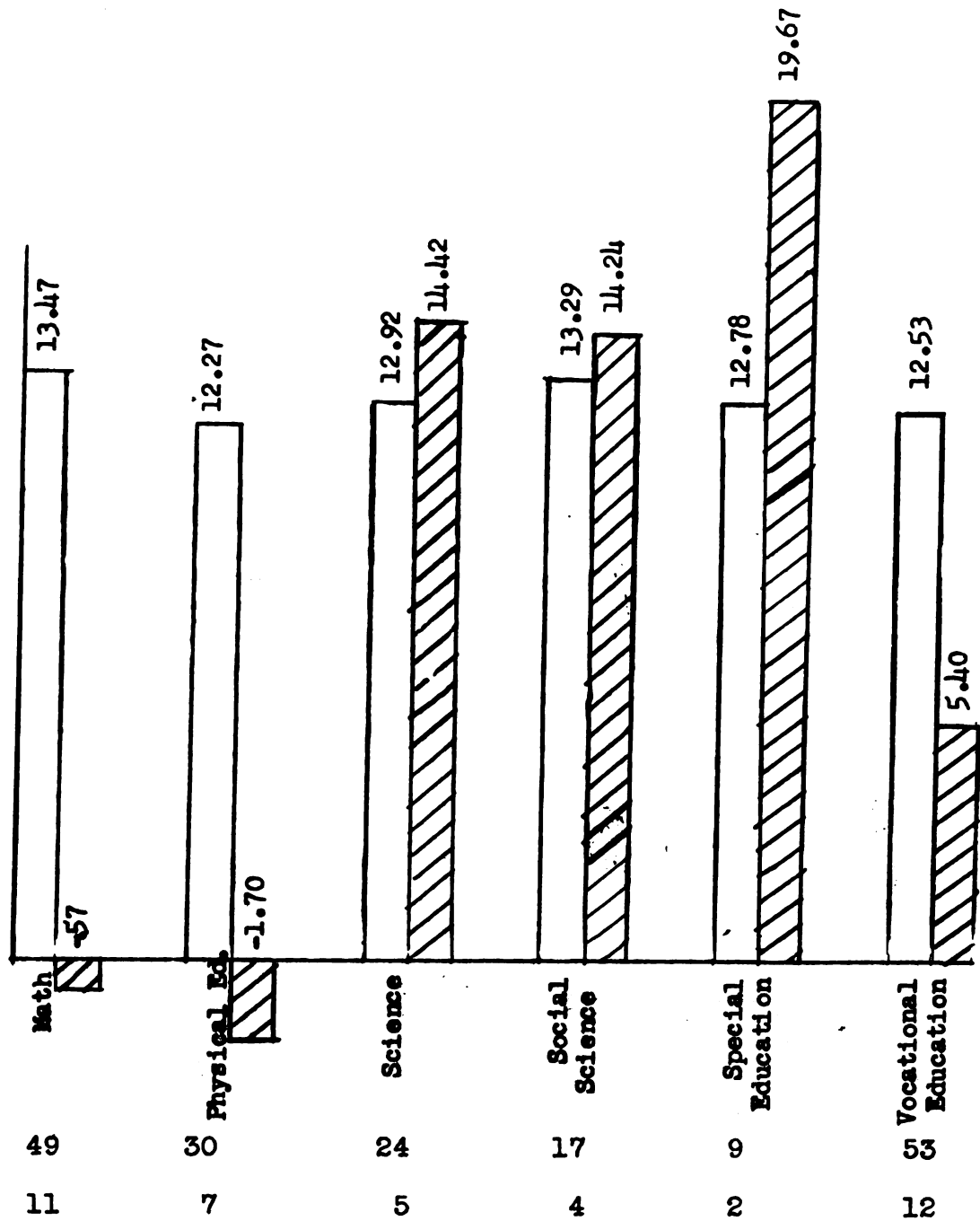
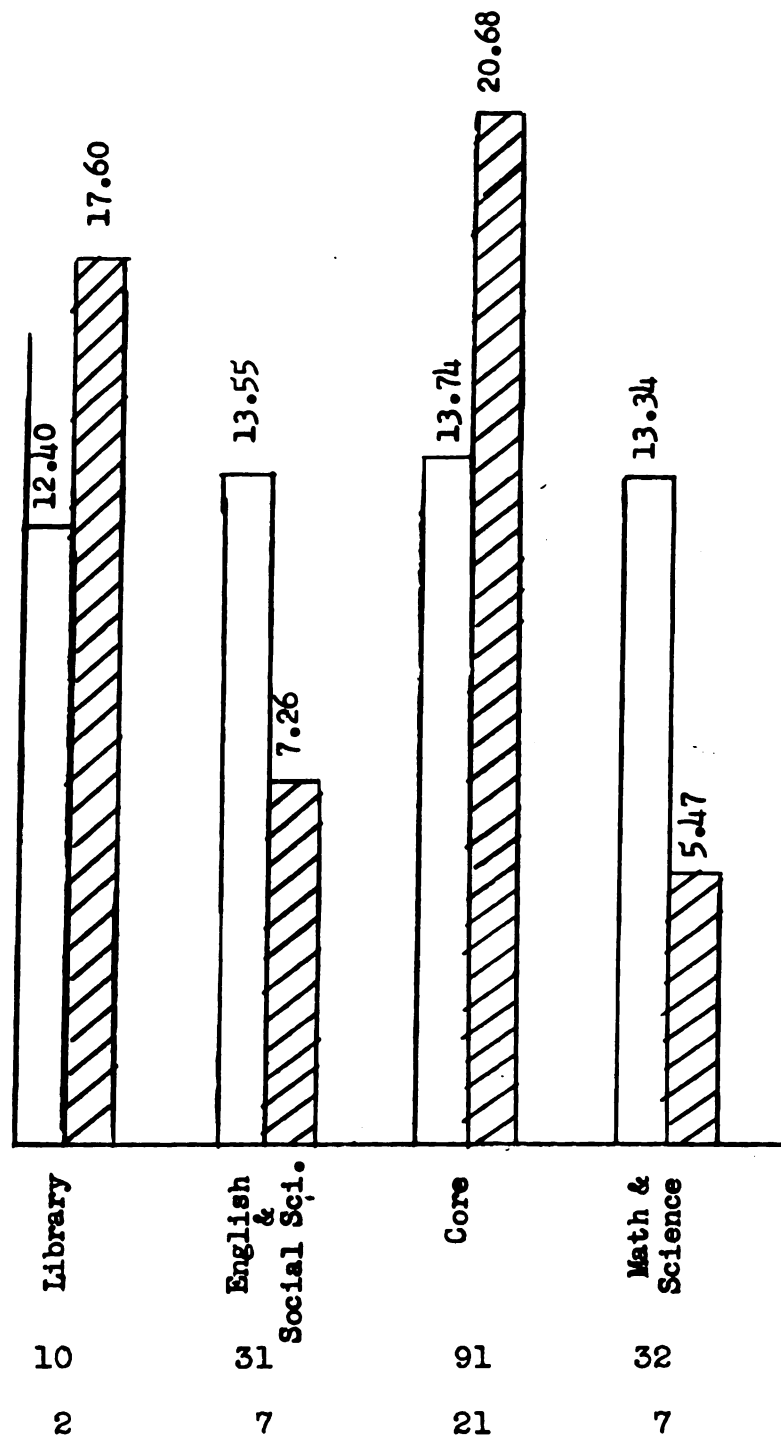
FIGURE 15-Continued

FIGURE 15-Continued

than those mean scores obtained by fine arts, physical education, and mathematics teachers. The mean score for guidance counselors was the highest of all sub-categories, and was significantly higher than mean scores obtained by vocational education, combination mathematics and science, and combination English and social science teachers in addition to those of fine arts, physical education, and mathematics teachers.

Professional background and experience factors found not to be significant.--Two remaining factors in teachers' professional area for purposes of this study were analyzed and found not to yield significant F values. These factors were graduate study and years of experience. The graduate study factor was analyzed in two ways: first in terms of those respondents who had done some graduate study as opposed to those who had done no graduate study, and secondly, in terms of field of matriculation for those who had completed some graduate study. Findings for this factor are summarized in Figures 16 and 17.

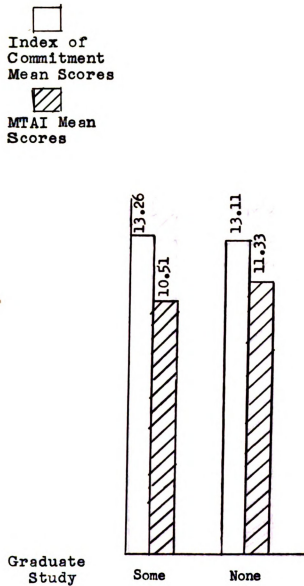
The second remaining factor failing to yield a significant F value was years of experience of respondents. Findings for this factor are summarized in Figure 18.

Differences Between Schools and School Systems

Mean score differences with respect to the

FIGURE 16

MEAN SCORES ON INDEX OF COMMITMENT AND
 MEAN SCORES ON MTAI FOR SOME GRAD-
 UATE STUDY vs NO GRADUATE
 STUDY BY RESPONDENTS



No. of respondents	272	168
Per cent of responses	62	38

FIGURE 17

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR GRADUATE
STUDY BY FIELDS PURSUED BY
RESPONDENTS

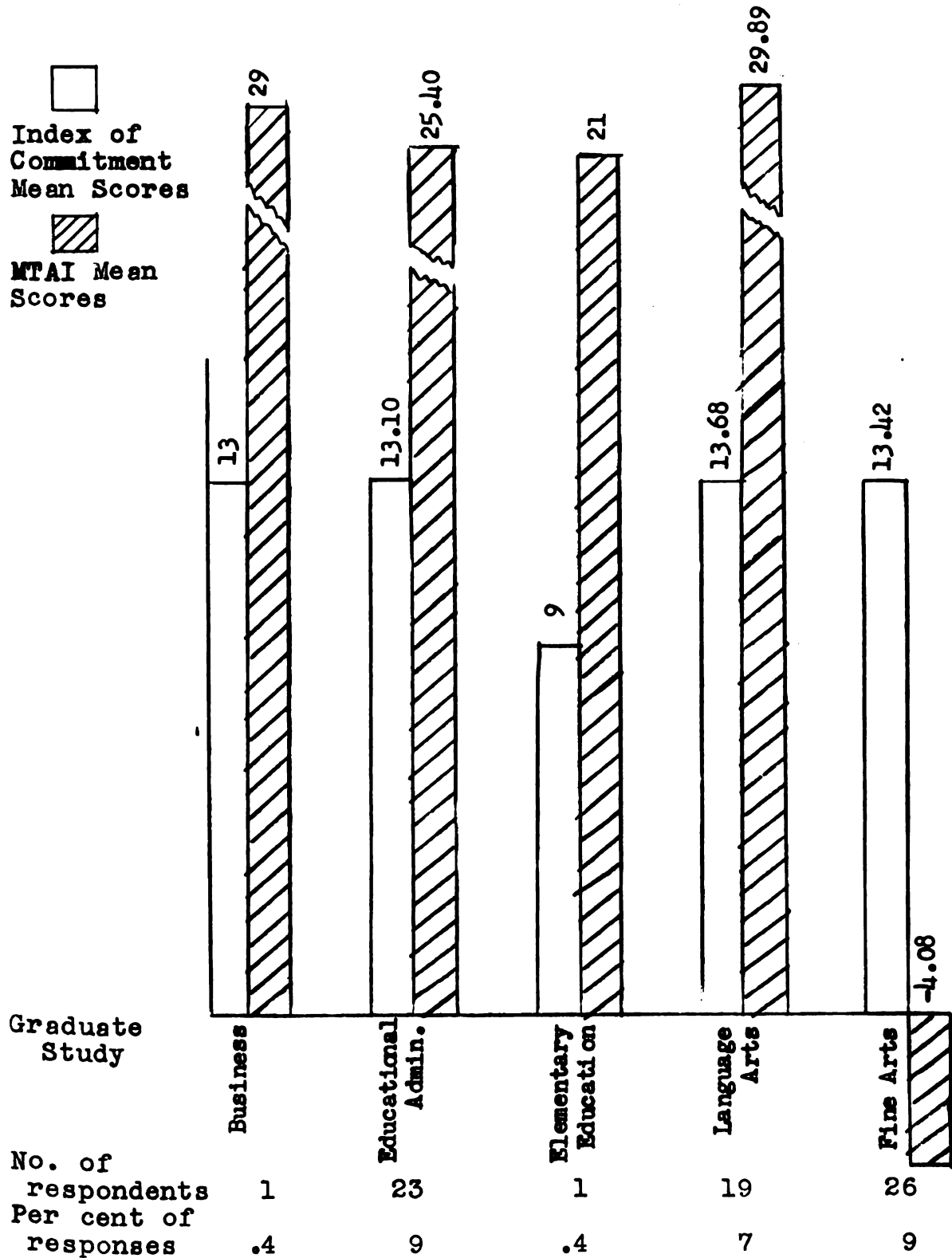


FIGURE 17-Continued

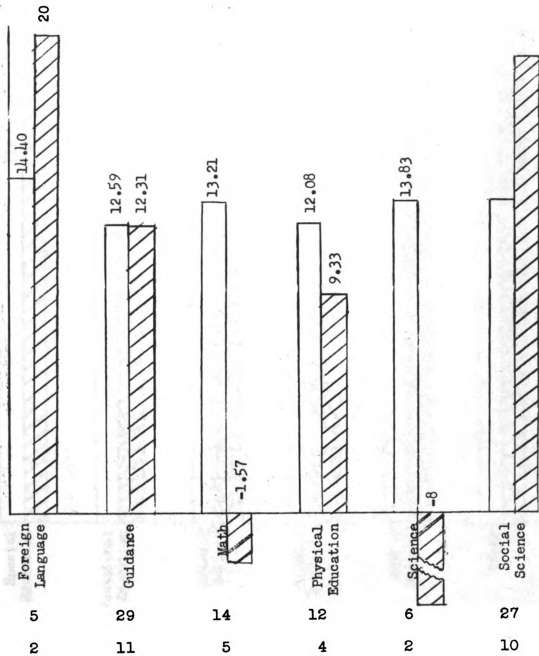


FIGURE 17-Continued

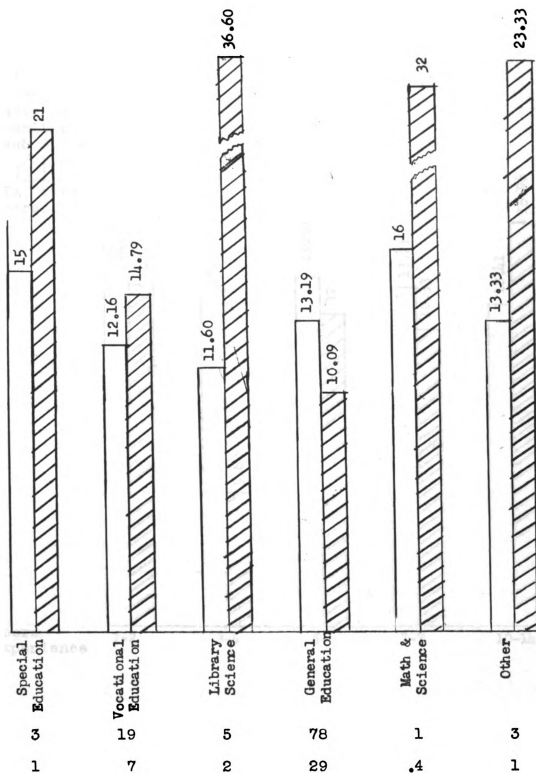


FIGURE 18

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR RESPON-
DENTS' YEARS OF TEACHING
EXPERIENCES

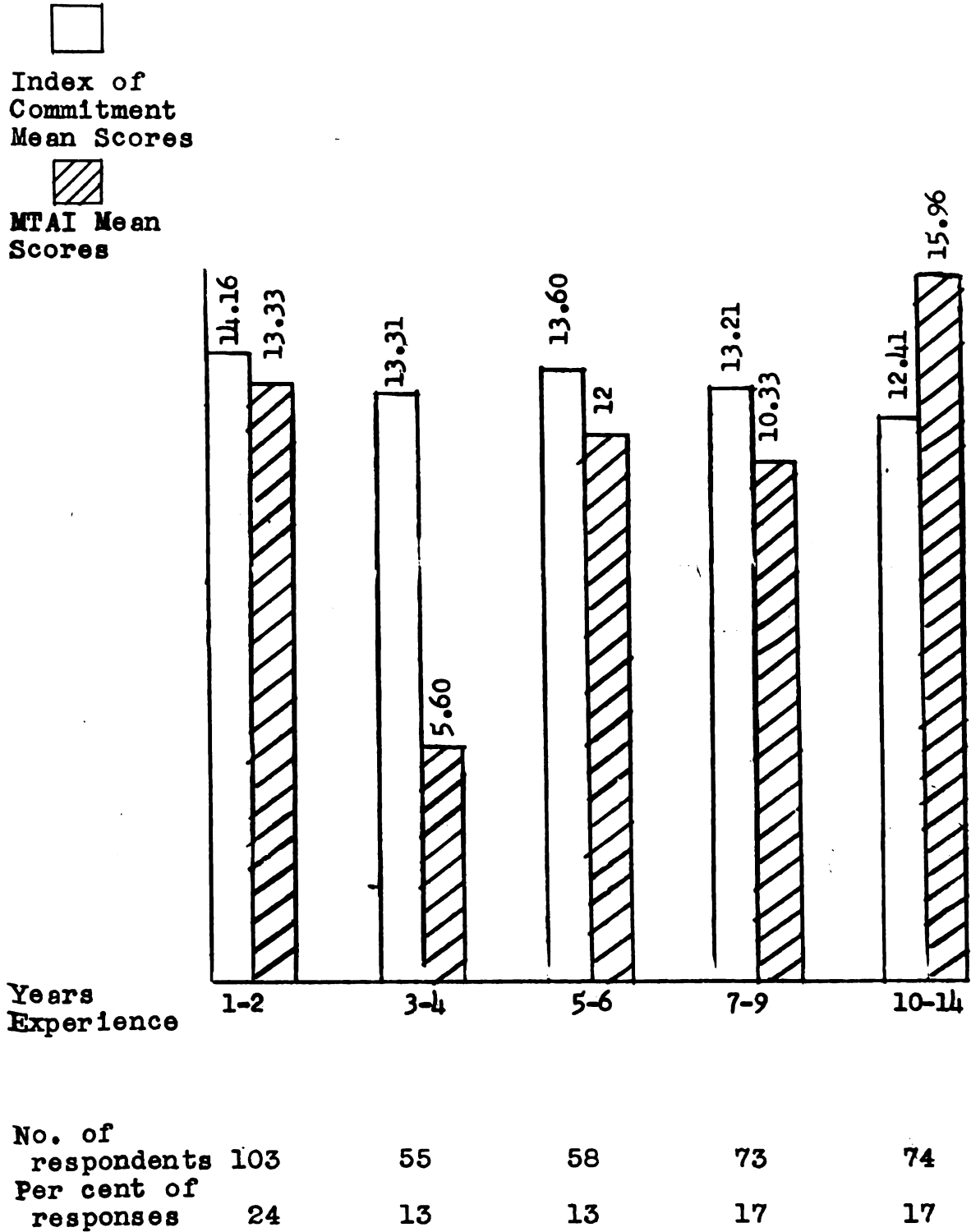
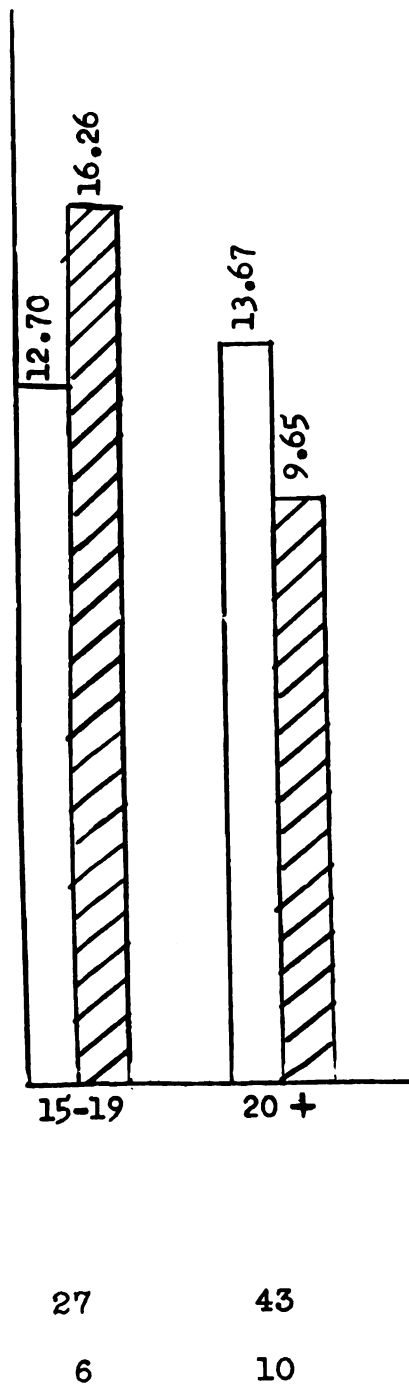


FIGURE 18-Continued

twelve schools represented by the sample and the five county systems failed to yield significant F values for either index of commitment or MTAI scores. Findings for these factors are summarized in Figures 19, 20, and 21. Mean score differences for the schools were analyzed first for the twelve schools and secondly, with respect to school size. Arbitrarily schools 1, 2, and 11 were considered small schools; schools 3, 4, 5, and 12 medium sized schools; and schools 6, 7, 8, 9, and 10 large schools. School populations, both pupil and faculty, were cited earlier in the chapter. Likewise, mean score differences for the five county systems were analyzed.

The inspection of Figure 19 shows that school 6 contributed the lowest index of commitment mean score, 11.13, and the highest MTAI mean score, 17.72; and that school 1 contributed the highest index of commitment mean score, 14.38, and the lowest MTAI mean score, 2.31. Similarly, in the case of the county systems, (Figure 21) county B contributed the lowest index of commitment mean score and the highest MTAI mean score. Again, it appears that there may be some inverse relationship between these two measures operating in some instances.

Teachers' Stated Preferences of Type Ability Group Desirous of Teaching

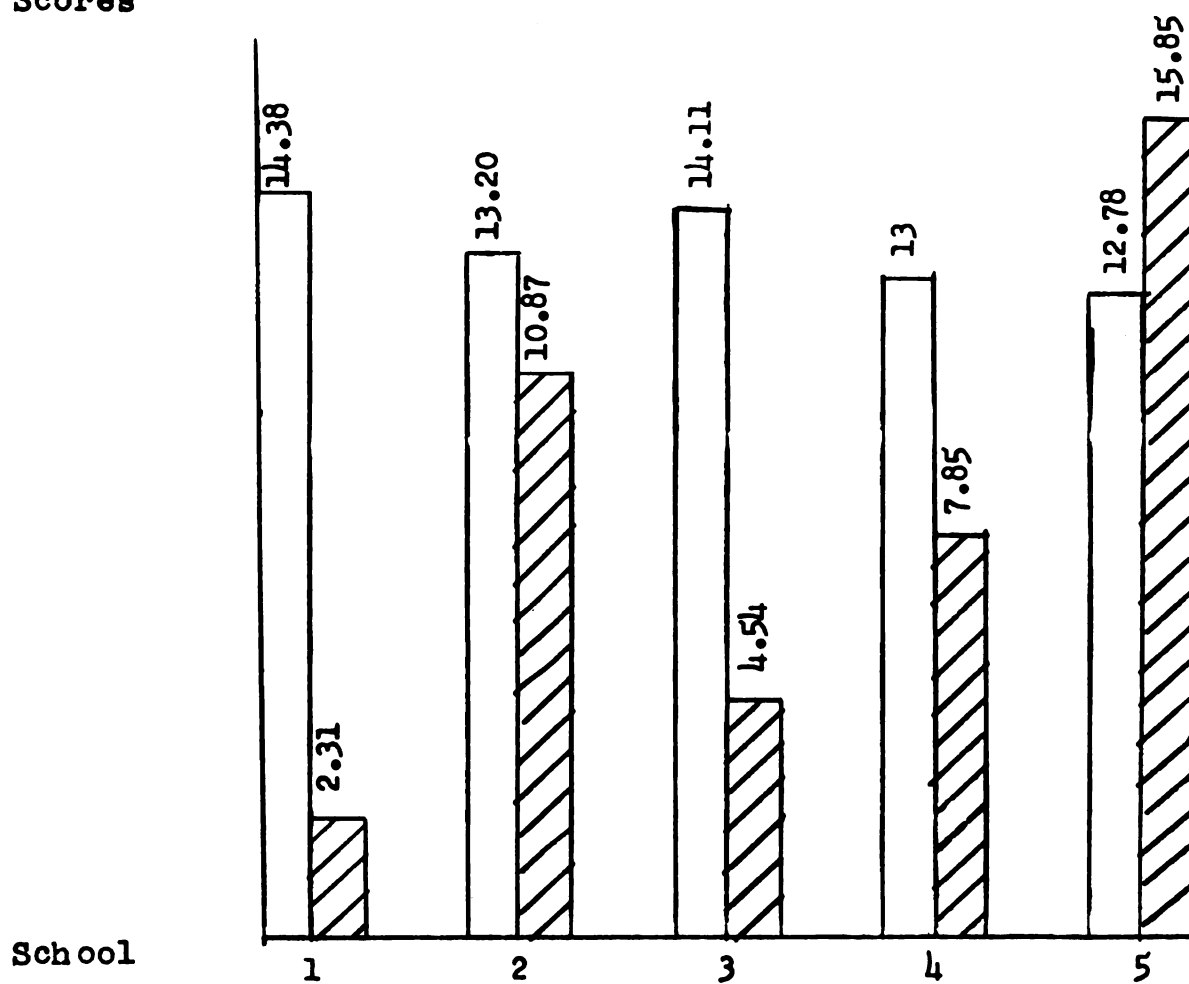
Teachers were asked to respond to item eleven on the questionnaire by checking the type group they

FIGURE 19

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR SCHOOLS
REPRESENTED IN THE SAMPLE

□
Index of
Commitment
Mean Scores

▨
MTAI Mean
Scores



No. of respondents	13	15	28	40	40
Per cent of responses	3	3	6	9	9

FIGURE 19-Continued

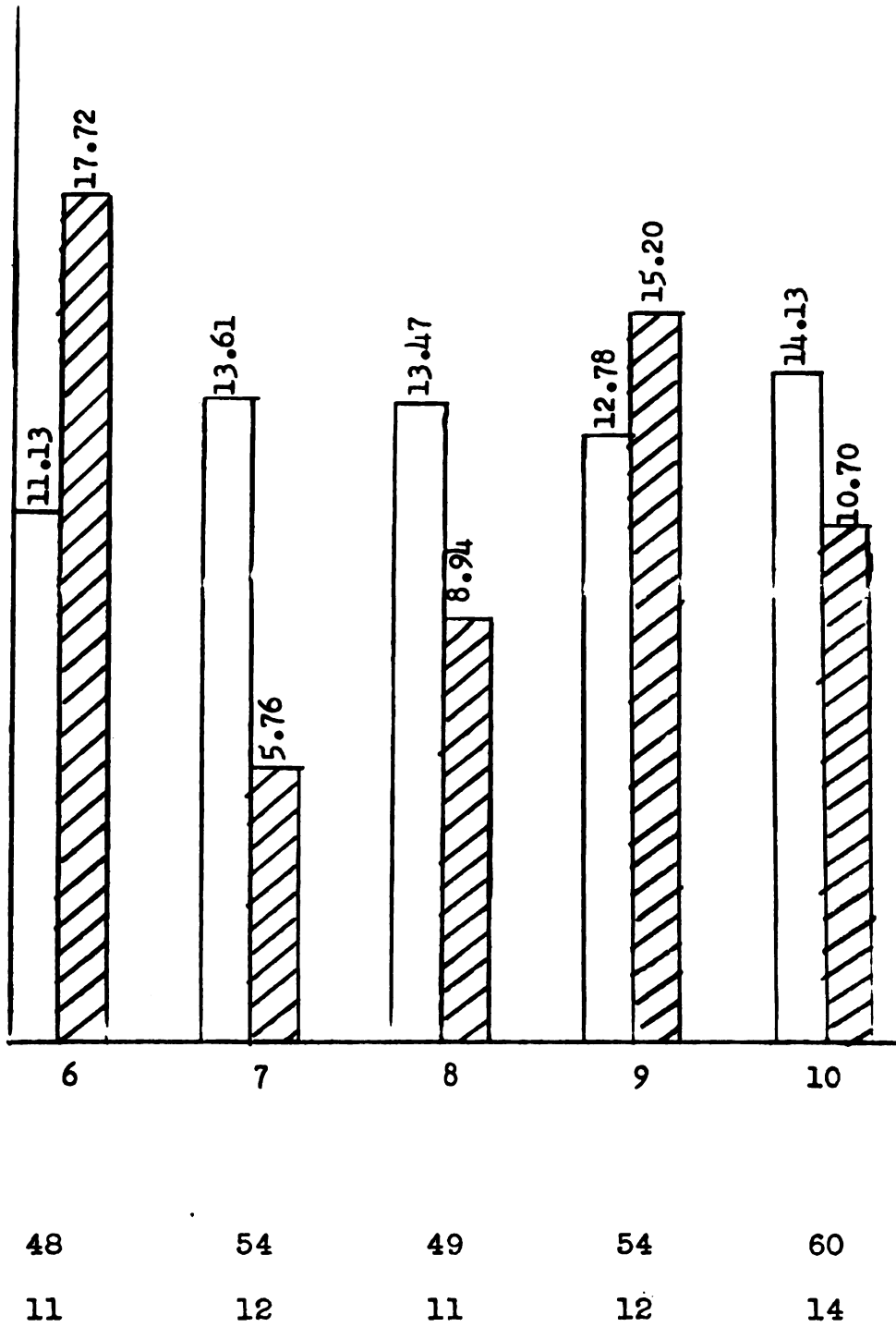
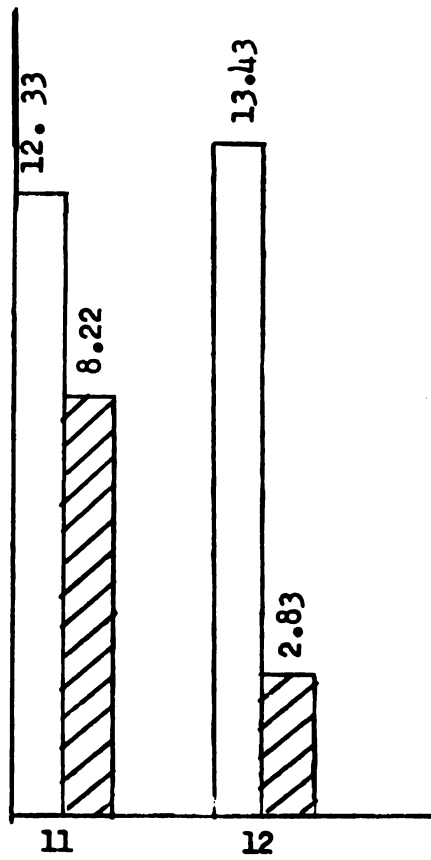


FIGURE 19-Continued

9 30

2 7

FIGURE 20

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR SCHOOL
SIZES REPRESENTED IN THE
SAMPLE

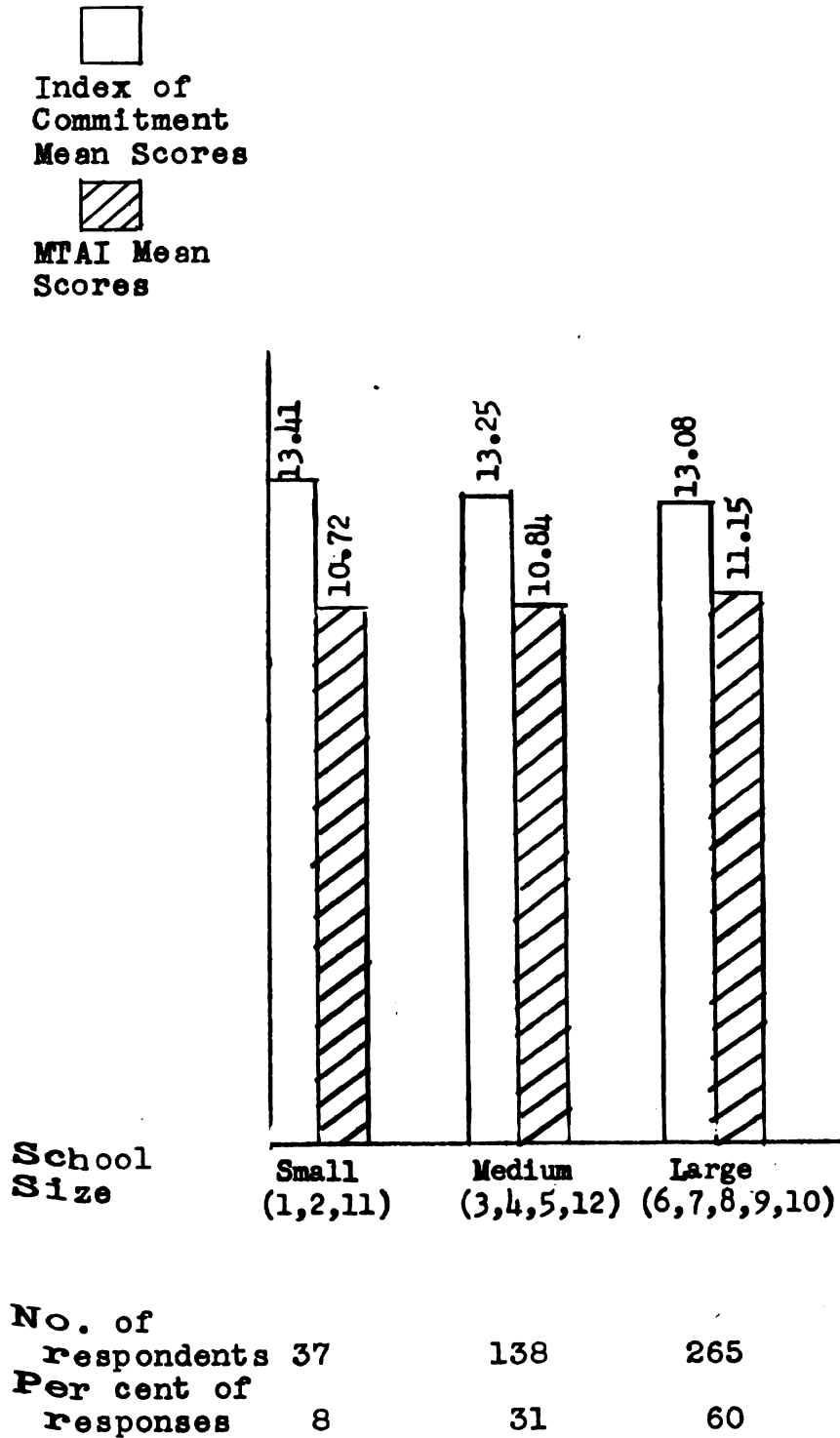
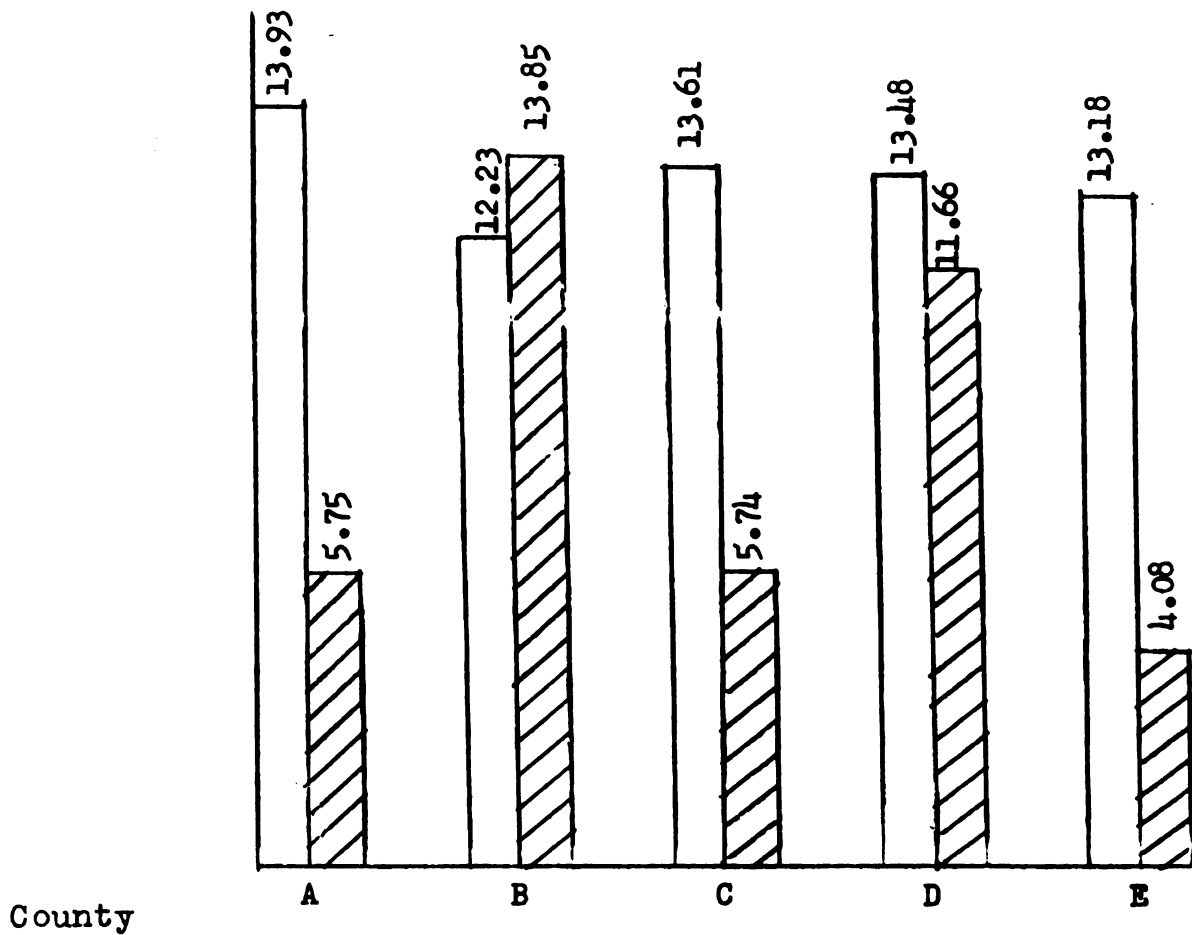


FIGURE 21

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR COUNTY
SCHOOL SYSTEMS REPRESENTED
IN THE SAMPLE

□
Index of
Commitment
Mean Scores

▨
MTAI Mean
Scores



No. of respondents	56	128	54	163	39
Per cent of responses	13	29	12	37	9

would prefer to teach if they had a choice, high ability, average ability, low ability, mixed ability, or no preference. Findings for this factor are summarized in Figure 22. Sub-categories eight through 13 (various combinations of types of groups preferred) accounted for only ten responses. These were considered too small to contribute meaningfully to the analysis and two no-responses were recorded, $N = 428$. As with all other factors, per cents of respondents represented in each sub-category are reported in the figures, it is deemed worthy of restating these findings for this factor. Forty-one per cent of the respondents indicated a preference for teaching high ability groups, 32 per cent average ability groups, three per cent low ability groups, six per cent mixed ability or heterogeneous groups, nine per cent had no preference, five per cent indicated a preference for a combination of high and average ability in teaching groups, one per cent preferred a combination of high and low, the remaining three per cent indicated preference for varying combinations. In other words, 78 per cent of the teachers in this sample state a preference to teach youngsters with average or above average ability, and 15 per cent of the sample states either a preference for teaching heterogeneous groups or has no preference for the type ability group to teach.

With respect to index of commitment mean score

FIGURE 22

MEAN SCORES ON INDEX OF COMMITMENT AND
MEAN SCORES ON MTAI FOR RESPON-
DENTS' PREFERRED TYPES OF
ABILITY GROUPS FOR
TEACHING

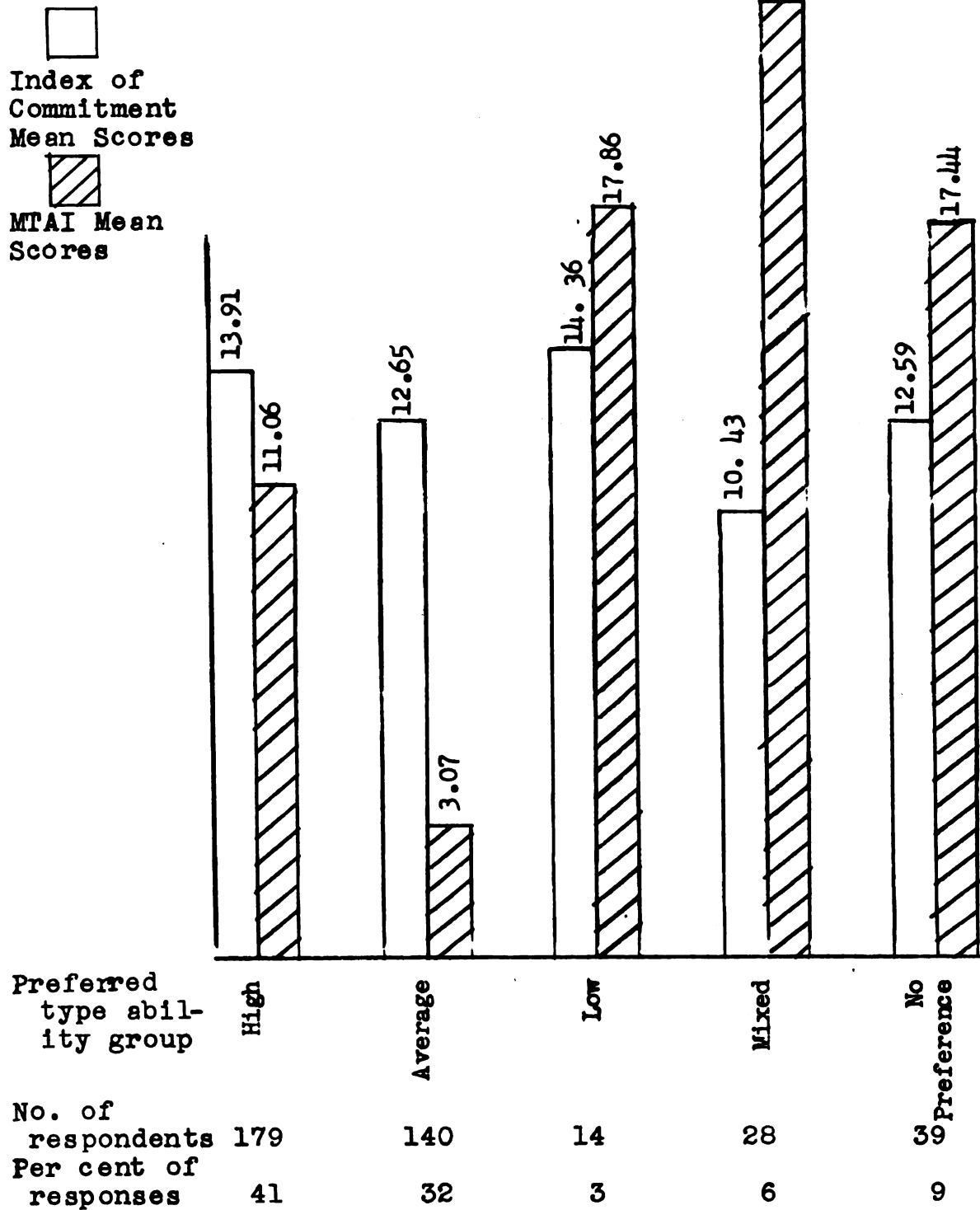


FIGURE 22-Continued

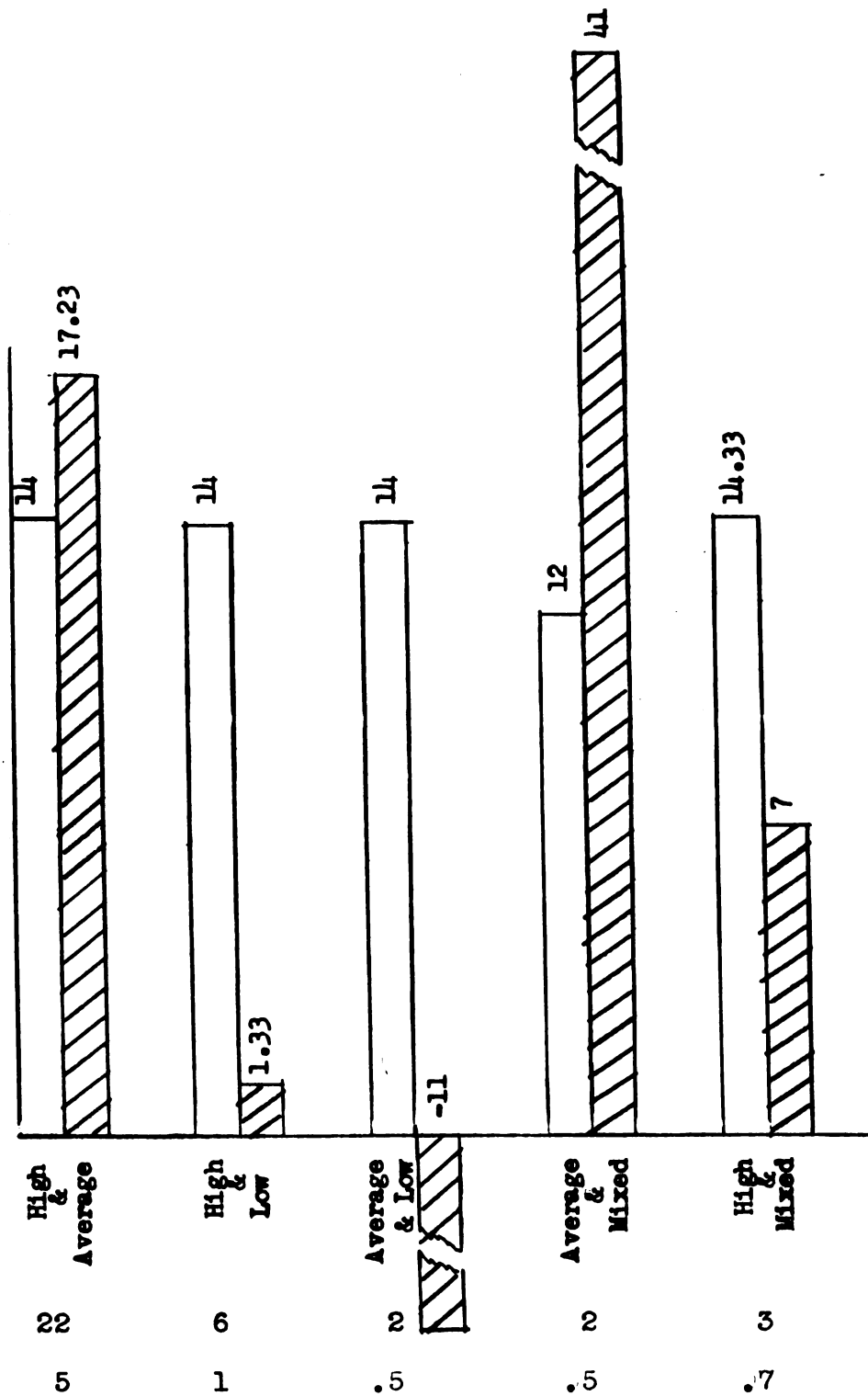
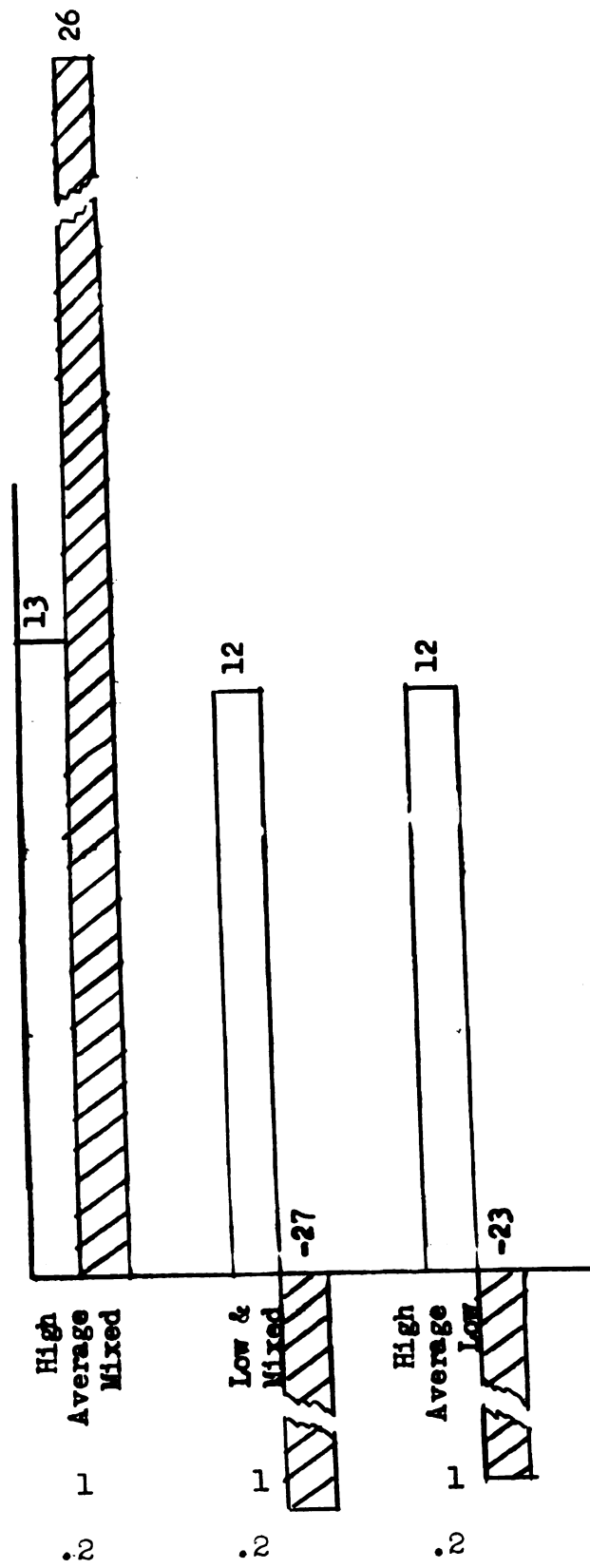


FIGURE 22-Continued



differences, the F value obtained was 16.12, highly significant at the .01 level. Application of the L.S.D. test yielded the following results. Teachers who preferred to teach mixed ability (heterogeneous) groups were significantly less committed to ability grouping than those represented in all other sub-categories. Teachers who indicated a preference for teaching high ability groups, groups composed of pupils with high and average ability and high and low ability showed significantly greater commitment to ability grouping than those who indicated a preference for teaching mixed ability groups, average ability groups, or had no preference for the type group they would teach. (These findings appear to further substantiate the validity of the items comprising the index of commitment to ability grouping).

With respect to MTAI mean score differences for this factor, the F value obtained was 2.55, significant at the .01 level. Application of the L.S.D. test indicated that respondents who preferred to teach mixed ability groups scored significantly higher on MTAI than those teachers who indicated a preference for teaching groups with average ability or high and low ability. Those who indicated a preference for teaching groups composed of pupils with high and average ability, had no preference, or preferred low ability groups had significantly higher MTAI scores than those who pre-

ferred to teach groups composed of pupils with high and low abilities.

There appears to be some inverse relationship in this factor between index of commitment and MTAI mean scores. The sub-category of respondents obtaining the significantly lowest index of commitment scores also obtained the significantly highest MTAI scores.

Reporting findings of a slightly different nature was deemed desirable for this factor, the preferences of teachers concerning groups and grouping. From the data collected it was possible to ascertain with respect to personal and professional background factors, the sources of those responses in each of the sub-categories. These findings are summarized in Table 5.* The selected factors for which responses within sub-categories were tabulated were as follows: school, county, age, sex, marital status, years of experience, size and type community in which reared, North-Hatt index, parents' attained educational level, amount of educational training, degree held, graduate study, experience with grouping, and type institution of undergraduate matriculation.

*Note: Table 5 is a two-way table. It is designed to be read both horizontally and vertically. Three values for each sub-category of responses to preference for type groups are listed horizontally: N = number of responses for the sub-category, per cent "1" represents the per cent of responses within that sub-category of preference obtained from the total responses to sub-category of sources (listed vertically in the left-hand margin). Per cent "2" represents that per cent of total responses

TABLE 5

SUMMARY OF RESPONDENTS' STATED PREFERENCES FOR TYPE ABILITY GROUPS TO
TEACH BY PER CENTS FOR SELECTED FACTORS IN PERSONAL AND
PROFESSIONAL BACKGROUNDS

Type Group	High		Average		Low		Mixed		No Preference		High & Average		High & Low		No Response	
	N	%1 %2	N	%1 %2	N	%1 %2	N	%1 %2	N	%1 %2	N	%1 %2	N	%1 %2	N	%1 %2
School																
1	5	38	3	15	1	8	3	1	8	3	3	23	14	1	8	17
2	4	27	2	7	4	5	-	1	7	3	3	20	14	-	-	-
3	13	46	7	21	1	4	3	1	11	8	3	11	14	-	-	-
4	19	47	11	30	1	3	3	1	15	15	-	-	-	-	1	3
5	17	42	9	20	1	3	7	2	22	23	1	3	4	-	2	5
6	2	4	1	53	1	2	43	12	4	5	1	2	4	-	4	8
7	19	35	11	20	5	9	11	3	13	18	4	7	18	-	2	33
8	23	47	13	43	-	-	-	8	6	8	1	2	4	-	3	6
9	23	43	13	31	1	2	29	-	7	10	-	-	-	-	1	2
10	37	62	21	21	3	5	-	8	4	3	3	5	14	-	1	2
11	5	56	3	44	-	-	-	-	2	3	5	-	-	-	1	8
12	12	40	7	43	1	3	-	-	-	-	-	10	14	-	-	-
N	179			140	14	28		39		22	6			12		140
County																
A	22	39	12	15	1	2	7	2	5	13	9	16	41	2	4	33
B	38	30	21	27	3	2	21	15	17	43	2	2	9	-	-	-
C	19	35	11	36	5	9	36	3	7	18	4	7	18	2	4	33
D	83	51	46	31	4	2	28	8	9	6	4	2	18	2	1	33
E	17	43	9	43	1	3	7	-	1	3	3	8	14	-	-	-
N	179			140	14	28		39		22	6			12		140

56
128
54
163
39

TABLE 5-Continued

Type Group	High		Average		Low		Mixed		No Preference		High & Average		High & Low		No Response											
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%										
Age																										
21-30	95	50	53	51	27	37	6	3	43	7	4	25	15	8	38	9	5	41	1	5	17	4	2	33	188	
31-40	51	35	28	47	32	34	1	7	7	16	11	57	15	10	38	5	3	23	4	3	66	6	4	50	145	
41-50	20	30	11	25	38	18	6	9	43	4	6	14	4	6	10	5	7	23	1	2	17	1	2	8	66	
Over 50	13	33	7	16	40	11	1	2	7	1	2	4	5	13	13	3	8	14	-	-	-	1	2	8	40	
N	179			139			14			28			39			22			6			12				439
Sex																										
Male	95	45	53	61	29	44	2	9	14	14	7	50	20	9	51	11	5	50	5	2	83	4	2	33	212	
Female	84	37	47	77	34	56	12	5	86	14	6	50	19	8	49	11	5	50	1	4	17	8	4	67	226	
N	179			138			14			28			39			22			6			12				438
Marital Status																										
Married	123	39	69	102	32	74	8	3	62	22	7	81	32	10	82	17	5	77	4	1	67	7	2	70	315	
Single	55	47	31	36	30	26	5	4	38	5	4	19	7	6	18	5	4	23	2	2	33	3	3	30	118	
N	178			138			13			27			39			22			6			10				433
Years of Experience																										
1-2	47	46	27	32	31	23	4	4	28	4	4	14	6	6	16	7	7	32	-	-	-	3	3	25	103	
3-4	33	60	19	13	24	9	-	-	-	1	2	4	5	9	13	1	2	4	2	3	33	-	-	-	55	
5-6	25	43	14	16	28	12	4	7	28	3	5	11	7	12	18	2	3	9	1	1	17	-	-	-	58	
7-9	27	37	15	24	33	18	1	1	7	6	8	21	6	10	18	3	4	14	1	1	17	4	5	33	73	
10-14	23	31	13	28	38	21	-	-	-	10	13	36	5	8	16	5	7	23	-	-	-	2	3	17	74	
15-19	15	26	4	9	33	7	-	-	-	2	7	7	3	5	13	2	7	9	1	4	17	1	4	8	27	
20+	15	35	8	14	32	10	5	12	36	2	5	7	2	5	5	2	5	9	1	2	17	2	5	17	43	
N	177			136			14			28			38			22			6			12				433

TABLE 5-Continued

[illegible]

TABLE 5-Continued

Type Group	High	Average	Low	Mixed	No Preference	High & Average	High & Low	No Response										
	N	\$1	\$2	N	\$1	\$2	N	\$1	\$2	N	\$1	\$2	N	\$1	\$2	N		
Fathers																		
Education																		
1-6	19	35	11	2	7	6	11	21	3	5	8	4	7	18	1	2	17	55
7-12	97	42	57	8	57	15	6	54	23	10	61	11	5	50	3	1	50	233
13-14	18	46	11	1	7	1	3	4	3	8	8	1	3	5	-	-	-	39
15-16	23	36	13	3	21	4	6	14	5	8	13	4	6	18	1	1	17	64
17+	14	42	8	1	7	2	6	7	4	12	10	2	6	9	1	3	17	33
N	171			14		28			38			22			6			424
Mothers																		
Education																		
1-6	19	47	11	1	7	2	5	7	4	10	11	1	3	5	2	5	33	40
7-12	110	42	64	7	50	19	7	68	22	8	58	10	4	45	2	8	33	261
13-14	18	31	10	3	21	1	2	4	5	9	13	3	5	14	2	3	33	58
15-16	19	30	11	3	21	6	9	21	7	11	18	8	13	36	-	-	-	63
17+	6	86	3	-	-	-	-	-	-	-	-	-	-	-	-	1	14	7
N	172			14		28			38			22			6			429
Years Educ. Training																		
1	1	100	06	-	-	-	-	-	-	1	100	3	-	-	-	-	-	1
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3	-	-	-	1	25	7	1	4	-	-	-	-	-	-	-	-	-	4
4	118	41	67	10	71	17	6	61	26	9	70	14	5	64	1	3	17	291
5	44	46	25	3	21	4	4	14	7	7	19	7	7	32	2	2	17	95
6	8	32	4	-	-	4	16	14	2	8	5	1	4	4	2	8	33	25
7	6	43	3	-	-	2	14	7	1	7	3	-	-	-	-	-	-	14
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	100	17	1
N	177			14		28			37			22			6			432

TABLE 5-Continued

Type Group	High	Average	Low	Mixed	No Preference	High & Average	High & Low	No Response	N
	\$1 \$2	\$1 \$2	\$1 \$2	\$1 \$2	\$1 \$2	\$1 \$2	\$1 \$2	\$1 \$2	
Degree									
None	6 40 3	3 20 2	1 7 7	2 13 7	3 20 8	- - -	- - -	- - -	15
Bachelors	129 40 72	107 33 78	13 4 93	18 6 64	28 9 72	18 6 82	2 6 33	8 2 67	323
Masters	43 44 24	27 28 20	- - -	8 8 29	8 8 20	4 4 18	3 3 50	4 4 33	97
Doctors	1 50 .5	- - -	- - -	- - -	- - -	- - -	1 50 17	- - -	2
N	179	137	14	28	39	22	6	12	437
Graduate Work									
Some	110 40 61	86 32 61	5 2 36	17 6 61	26 10 67	16 6 73	6 2 100	6 2 50	272
None	69 41 39	54 32 39	9 5 64	11 6 39	13 8 33	6 4 27	- - -	6 4 50	168
N	179	140	14	28	39	22	6	12	440
Experience with Group									
Homo.	75 49 42	46 30 33	6 4 43	7 4 25	12 8 31	5 3 23	1 6 17	2 1 18	154
Hetero.	11 23 6	24 50 17	1 2 7	7 15 25	3 6 8	- - -	- - -	2 4 18	48
Homo.&Hetero.	91 39 51	68 29 49	7 3 50	14 6 50	24 10 61	15 6 68	5 2 83	7 3 64	231
Other	- - -	1 100 07	- - -	- - -	- - -	- - -	- - -	- - -	1
Homo.&Other	2 50 1	- - -	- - -	- - -	- - -	2 50 9	- - -	- - -	4
N	179	139	14	28	39	22	6	11	438
Type Instit.									
Teachers Col.	59 45 33	40 30 29	5 4 36	7 5 25	9 7 24	6 5 27	1 8 17	4 3 36	131
Liberal Arts									
College	64 39 36	54 33 39	5 3 36	12 7 43	13 8 34	12 7 55	4 2 67	2 1 18	166
University	50 39 28	43 34 31	4 3 28	7 6 25	13 10 34	4 3 18	1 8 17	5 4 45	127
Teachers Col.									
& Liberal Arts	1 17 .5	1 17 .7	- - -	1 17 4	3 50 8	- - -	- - -	- - -	6

TABLE 5-Continued

Type Group	High		Average		Low		Mixed		No Preference		High & Average		High & Low		No Response	
	N	\$1 \$2	N	\$1 \$2	N	\$1 \$2	N	\$1 \$2	N	\$1 \$2	N	\$1 \$2	N	\$1 \$2	N	\$1 \$2
Teachers Col. & University	3	75	2	1	25	.7	-	-	-	-	-	-	-	-	-	6
Liberal Arts & University	1	100	.5	-	-	-	-	-	-	-	-	-	-	-	-	1
Teachers Col. Lib. Arts & University	-	-	-	-	-	-	1	100	4	-	-	-	-	-	-	1
Other	1	100	.5	-	-	-	-	-	-	-	-	-	-	-	-	1
N	179		139		14		28		38		22		6		11	<u>437</u>

Teachers' Beliefs About Grouping Practices

As previously stated in Chapter III, seven items about grouping practices and procedures were included in the questionnaire. Four of these items comprised the index of commitment to ability grouping on which much of the foregoing analysis was based. Items three, five, and six in this part of the questionnaire (see Appendix II) have therefore not previously been accounted for.

Responses to all seven of these items are summarized in Table 6; N = number of responses in each category for each item, "A" being the most positive

for the sub-category of preference represented by the particular sub-category of source. For example: To read the table for County D - County is the factor of source of responses, "D" the sub-category of source of responses. N = 83 indicates that 83 out of a total of 163 respondents from County D stated a preference for teaching high ability groups. %1 = 51 indicates that this is 51 per cent of all the respondents from County D. %2 = 46 indicates that these respondents from this county contributed 46 per cent of the total 179 respondents in the sub-category of preference who indicated a preference for teaching high ability groups, and so forth across the table. It will be noted that total N's in the right-hand column do not always total 440 (the total number of teachers in the sample). This figure subtracted from 440 will indicate the number of respondents who failed to respond to that particular item. For example, total N for Age = 439, one respondent failed to indicate his or her age, therefore could not be included in the summary of the findings. The sub-category titled "No Response" indicates sources of non-responses or responses eliminated from the analysis as indicated on pp. 33-34.

Investigation of teachers' preference for types of ability groups to teach is not a major part of this study. Due to the size of the sample, sub-categories for the several preferences represent relatively small numbers of respondents in many cases. The findings, as summarized in Table 5, are informative, but do not provide sufficiently valid bases from which to draw conclusions and recommendations.

TABLE 6
SUMMARY OF RESPONSES TO ITEMS ABOUT
GROUPING BY NUMBERS AND PER CENTS

Response	A		B		C		D		No Response	
	N	%	N	%	N	%	N	%	N	%
Item										
I	295	67	110	25	24	5	7	2	4	.9
II	248	56	119	27	55	12	16	4	2	.5
III	87	20	230	52	81	18	42	10	. .	. .
IV	92	21	236	54	92	21	19	4	1	.2
V	172	39	198	45	50	11	20	5	. .	. .
VI	217	49	170	39	37	8	16	4	. .	. .
VII	195	44	208	47	30	7	5	1	2	.5

response to the item and "D" the least positive response. Observation of responses to all items indicate a highly positive belief in the merits of ability grouping with respect to these items. In response to item three, 75 per cent of the sample indicated a highly positive attitude toward the importance of academic achievement as a result of pupils' school experience.

In response to item five, 84 per cent of the respondents indicated belief in a high degree of relationship between ability grouping and the utilization and development of individual pupils' potential. In response to item six, 88 per cent of the respondents indicated the belief that ability grouping facilitated classroom management.

A second approach to determining the relationship between responses to these items and those comprising the index of commitment was undertaken. A total score was obtained on the basis of response to all seven items. A coefficient of correlation was then obtained to determine the degree of correlation of these total scores with the previously obtained index of commitment scores. The formula for using raw score data is:

$$r = \frac{xy - \frac{(x)(y)}{N}}{\sqrt{\left(x^2 - \frac{(x)^2}{N}\right)\left(y^2 - \frac{(y)^2}{N}\right)}}$$

In this case $r = .95$. A significantly high degree of correlation was found, thus substantiating a high degree of relationship between teachers responses to these three items and their responses to the items comprising the index of commitment.

It will be noted that in the instructions for responding to the seven items on grouping, the teachers were asked to make any comments if they so desired. Less than ten respondents availed themselves of this opportunity. In the majority of these cases, the comments tended to reinforce the positive or negative direction of the respondent's choice of answer. The paucity of these comments tends to negate any particular value which might be derived from their inclusion.

Correlation of Commitment to Ability Grouping and Teacher-Pupil Rapport

A basic assumption underlying the working hypothesis for this investigation was that there may be an inverse relationship between a teacher's commitment to ability grouping and his or her ability to establish rapport with pupils. The measure of the rapport factor used was the MTAI.

Throughout the previously cited findings there have appeared suggestions of inverse relationships of the above stated type. A single entry analysis of variance test such as used for previous analysis was

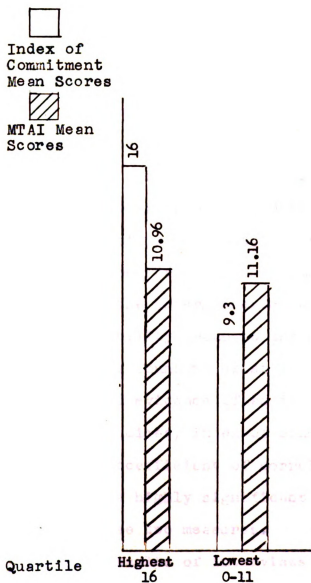
performed to test for significant MTAI mean score differences with respect to those groups of teachers who scored high and low on the Index of Commitment. The upper and lower quartiles of respondents provided the basis. These findings are summarized in Figure 23. Some inverse relationship between the two measures is observed, however, the differences do not produce a significant F value. A second approach to testing the relationship of these two variables is to obtain a coefficient of correlation. The formula is as shown on page 171. In the case of an inverse relationship, a significant correlation would be a negative correlation between index of commitment and MTAI scores. $r = -.0065$. While the obtained r is negative it is too small to be more than slightly significant. A second r was obtained. In this instance total scores (obtained from the seven items about grouping) and MTAI scores were correlated; $r = -.0094$, leading to a conclusion similar to the previous finding.

Summary

The principle findings from the sample for this study tend to indicate a significant relationship between factors in teachers personal and professional backgrounds and their commitment to ability grouping as a means for meeting individual differences in junior high school grades. Factors for which significant relationships to

FIGURE 23

MEAN SCORES ON INDEX OF COMMITMENT AND
 MEAN SCORES ON MTAI FOR HIGHEST
 AND LOWEST QUARTILES OF RE-
 SPONDENTS' ON INDEX OF
 COMMITMENT



No. of respondents	72	93
Per cent of responses	16	21

index of commitment only were found were: age of teachers, North-Hatt scale of occupational prestige, grade level taught by respondents, and past experience respondents had had with grouping practices.

Results of obtained scores on the MTAI (the index of a teachers' ability to establish rapport with learners) revealed two instances of relationship to teachers' personal and professional background factors for this measure only. These factors were: degree held by respondents and subject area in which respondents were currently teaching.

For four of the factors; amount of college training of respondents, major field of undergraduate study, type institution in which respondents matriculated at the undergraduate level, and stated preference of type ability group to teach, significant relationships were found to exist for both the measures. There is limited evidence of an inverse relationship between the two indices, index of commitment and MTAI. The obtained coefficient of correlation ($-.0065$) does not indicate a highly significant inverse relationship between these two measures.

Results of interviews with principals of the schools whose teachers comprise the sample indicated varying philosophies about grouping practices and procedures, some variety in the organization of the school program, and varying sources of grouping policy. The

sources of grouping policy ranged from system-wide policy and entirely principals' decisions to that of policy decision by the total school staff.

In schools where principals appeared to assume sole responsibility for policy decisions, teachers tended to reflect lower mean MTAI scores and higher commitments to ability grouping than was found in those schools where more staff members were involved in grouping policy making decisions. System-wise, Counties A, C, and E reflected lower MTAI scores than did Counties B and D. Counties A and E are the more rural counties in the sample. County C, while primarily suburban was represented by only one school. County B appeared to be most flexible in all its policy making practices - teachers' MTAI mean score was higher than those MTAI mean scores recorded for teachers in other counties. Conversely, these teachers' index of commitment to ability grouping mean score was lower than those index of commitment mean scores for all other counties.

Table 5 illustrates that by far, the largest proportion of teachers in the sample indicated a preference for teaching classes of pupils with average or above abilities. There appear to be some observable patterns of preferences for type ability groups teachers wish to teach and factors in the teachers' personal and professional backgrounds.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Within the limitations of the sample represented in the findings in this study, it can be concluded that: 1) there are some characteristic differences among junior high school teachers with respect to their degree of commitment to ability grouping as a means of providing for individual differences, and 2) these differences appear to be related to factors in their personal and professional backgrounds.

Commitment to Ability Grouping and Teacher-Pupil Rapport

On the basis of the findings in this study, there is no conclusive evidence of a high degree of relationship between junior high school teachers' commitment to ability grouping as a means of sectioning pupils into class groups and their ability to establish rapport with children as measured by the MTAI.*

*Note: Obtained MTAI mean scores for this sample tended to fall just below the 50th percentile rank for experienced teacher norm groups. The Manual for the MTAI lists norms for academic and non-academic secondary teachers with four and five years of training. Collectively, academic and non-academic teachers in the sample tended to fall around the 40th percentile for both these groups of secondary teachers. No norms are presented for junior high school teachers.

In several instances, the findings suggest the possibility of a negative relationship. Yet, the obtained coefficient of correlation for the two measures $-.0065$, while slightly negative, is too small to be considered significant.

It appears reasonable to conclude, with respect to the relationship of these two factors, that there may be other variables in a teacher's personal and professional background which operate to effect both the above indices. The effects of these variables, may in some instances, produce a negative relationship.

Commitment to Ability Grouping As Related to Other Variables

Significant results were found for relationships between teachers' commitment to ability grouping and the following factors in their backgrounds: age, father's occupation at time of college entrance, number of years of college education, major field of study at the undergraduate level, type institution in which matriculated at the undergraduate level, grade level teaching, experience with grouping practices, and stated preferences for type ability groups to teach. It may be that a teacher's commitment to ability grouping is an attitude in itself, a product of the several above cited factors; or a product of attitudes formed from experiences within these several factors.

Personal Background Factors

Age.--Junior high school teachers in the age category thirty-one to forty tend to be least committed to ability grouping as a means of meeting individual differences than do junior high school teachers in other age categories. Within the limitations of the sample, it appears that junior high school teachers are least committed to ability grouping during the period of time in their professional life that they are likely to be professionally well established. An implication may be that this period of time, from thirty to forty, represents the period of greatest mobility to professional responsibilities other and "higher" than classroom teaching at the junior high school level. The basis for such a conclusion is in part because of the greater proportion of younger teachers found in the sample. Therefore, some professional qualities resulting in a more tentative attitude toward the results of an administrative device such as ability grouping may play a part in selection for professional mobility.

North-Hatt Scale of Occupational Prestige.--

Results of inquiry into the socio-economic backgrounds of respondents comprising the sample lead to the conclusion, within the limitations of the study, that teachers who come from the extremes, high and low socio-economic backgrounds as indicated by the North-Hatt scale, are likely to be less committed to ability

grouping than those who come from middle class homes. It appears that those teachers whose fathers were unskilled workers express greater reaction against ability grouping as a means of meeting individual differences. Other socio-economic background factors, size and type community in which reared, and parents' attained educational level, investigated in this study appear not to be related to junior high school teachers' commitment to ability grouping.

Professional Background Factors

Number of years of college education.--There appears to be a pronounced relationship between the amount of college education completed by junior high school teachers and commitment to ability grouping. Those teachers who had completed six years of college study, the equivalent of one year beyond the masters degree, were statistically significantly less committed to ability grouping than groups of teachers representing all other categories. In that there is no significant difference between teachers who have completed either four or five years of college, study beyond the equivalent of the masters degree may contribute to an attitude of questioning the efficacy of administrative arrangements such as ability grouping.

On the basis of MTAI scores, teachers who hold the masters degree indicate a better ability to create

teacher-pupil rapport in the classroom than other groups of teachers in the sample. Since this group would include the largest majority of the previously mentioned group (six years of completed college work), it seems feasible to conclude that there may be a substantial relationship between higher education and attitudes toward pupils and administrative practices. It is suggested that teachers who have a high degree of concern for pupils tend to examine administrative policies in light of ultimate results on classroom climate. An alternative conclusion may be that teachers who have completed the masters degree or its equivalent are better teachers (on the basis of MTAI scores) than teachers with less education, regardless of administrative arrangements within which they work.

Major field of study at the undergraduate level.—

The findings in the study have indicated that there is probably a relationship between junior high school teachers' major fields of study at the undergraduate level and their commitment to ability grouping. Those who majored in the more technical subject areas, fine arts, science, mathematics, foreign languages, English and social science, were more highly committed to ability grouping than those who majored in such areas as a combination of English and social science, elementary education, and physical education.

Conversely, those groups of teachers who were

least committed to ability grouping obtained significantly higher MTAI mean scores, and those most committed to ability grouping obtained significantly lower MTAI mean scores. It appears that those teachers who have a strong allegiance to their chosen field of study believe that an administrative device such as ability grouping might enhance their teaching effectiveness.

Type institution of undergraduate matriculation.--

Statistically, those junior high school teachers who matriculated in both a liberal arts college and a teachers college at the undergraduate level, were significantly less committed to ability grouping. This group also was more concerned about pupils, as indicated by MTAI scores, than other groups of teachers.

Since this group of teachers is proportionately small, it seems reasonable to conclude that there may be other factors operating to produce the observed differences. There is, therefore, probably little relationship between the type institution in which the teachers pursued undergraduate studies and commitment to ability grouping.

Grade level.--Junior high school teachers who taught all three grade levels,(seven, eight, and nine,) were found to be significantly less committed to ability grouping than teachers who taught single grade levels, or other combinations. However, these teachers would most likely be those who taught special subjects such as

art, music, vocational subjects, etc., to all three grade levels. This conclusion is somewhat substantiated by the findings with respect to subject area taught. While no statistical differences between index of commitment mean scores were found for this latter variable, teachers of vocational subjects, physical education, fine arts, special education, and guidance counselors were among those groups of teachers for whom low index of commitment scores were obtained. Within the limits of this sample, teachers who teach "special subject areas" to all three grade levels in the junior high school tend to be less committed to ability grouping than teachers responsible for teaching one of the more "academic" subjects to one grade level only.

Experience with grouping.--There is a high degree of relationship between teachers' experience with types of ability groups and their commitment to ability grouping for this sample. For the teachers in this sample it can be concluded that: teachers who have had experience with heterogeneous grouping only are least committed to ability grouping, while teachers who have had experience with homogeneous (ability) grouping only are most committed to ability grouping. Those teachers who have had experience with both types of grouping practices fall in the middle, reflecting a significantly higher commitment to ability grouping than those teachers whose experience has been limited

to heterogeneous groups, and a significantly lower commitment to ability grouping than teachers who have had experience with homogeneous (ability groups) only. There appears to be a clear relationship between teachers' experience with grouping practices and their degree of commitment to ability grouping.

Teachers' Preferences for Type Ability Groups to Teach

The findings tend to indicate rather conclusively that there is a relationship between junior high school teachers' preferences for types of ability groups to teach and degree of commitment to ability grouping. As it would be expected to follow, teachers who prefer groups with mixed abilities (heterogeneous) are least committed to ability grouping. Teachers who prefer to teach low ability groups are most committed to ability grouping, followed by those who prefer to teach high ability groups and average ability groups. (Higher index of commitment mean scores were reported for other sub-categories, but represent small, scattered numbers of respondents).

On the basis of MTAI scores obtained, it is concluded that there is a relationship between teachers' preferences for types of ability groups to teach and their ability to establish a classroom climate conducive to maximum teacher-pupil rapport. On the basis of the MTAI, teachers who prefer heterogeneous

groups, low ability groups or have no preference are likely to establish a higher degree of teacher-pupil rapport than teachers who prefer to teach average ability groups, followed by those who prefer to teach high ability groups.

Factors Not Related to Commitment to Ability Grouping

On the basis of the data presented in this study, statistically significant relationships were not found for the following factors in teachers' personal and professional backgrounds:

1. Sex
2. Marital status
3. Size and type communities in which reared
4. Parents' attained educational level
5. Academic degree held
6. Completion of some graduate study vs. no study beyond the bachelors degree
7. Major field of study at the graduate level for teachers who had completed some graduate work
8. Years of teaching experience

Since index of commitment mean score differences were not found significant for the above eight factors, it is concluded, within the limitations of this study, that there is no substantial relationship between these factors and junior high school teachers' commitment to ability grouping.

Teachers Described in Relation to Degree of Commitment to Ability Grouping

Teachers within the sample for this study found to be most highly committed to ability grouping may be

characterized as follows:

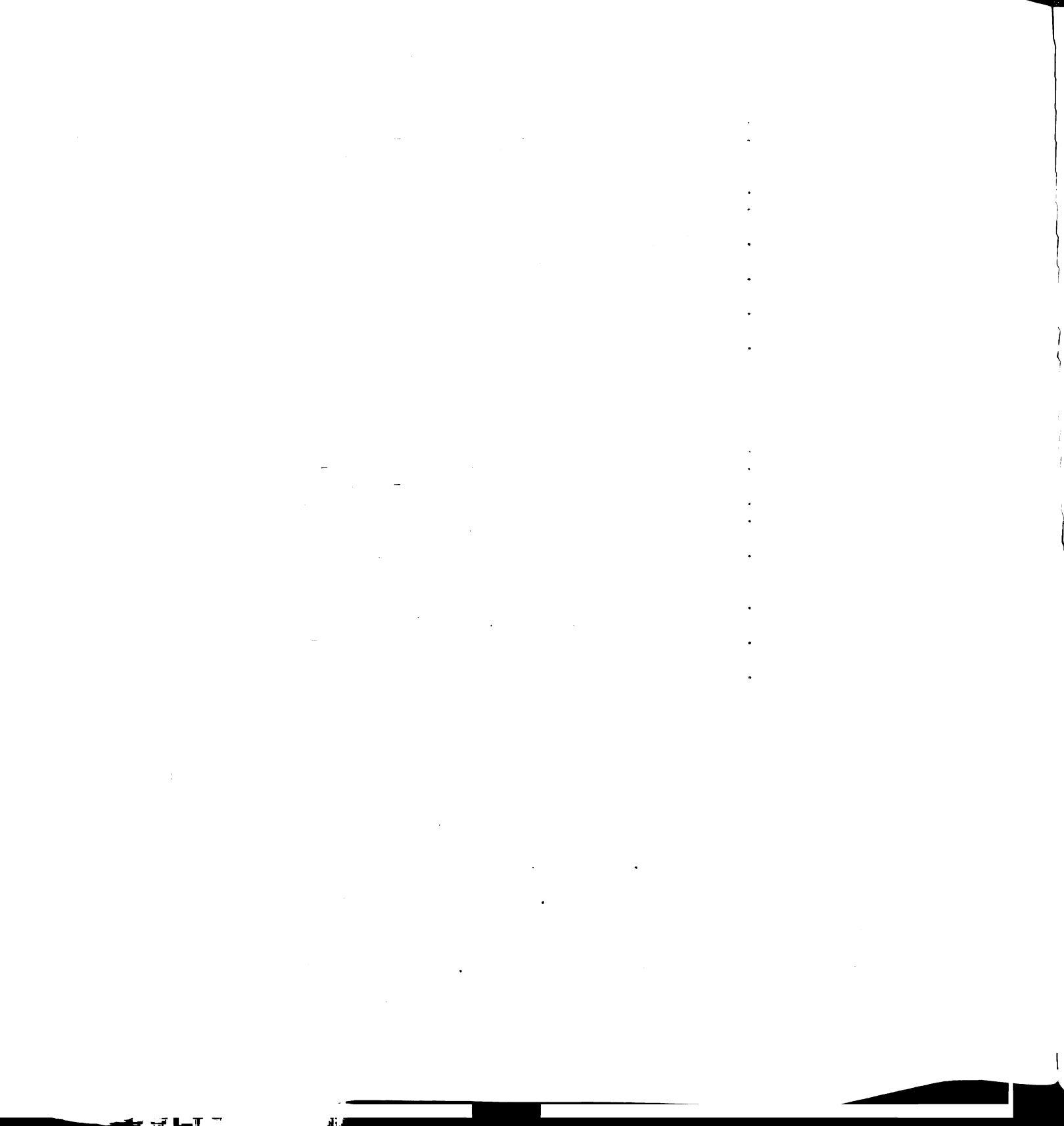
1. Fall within the age range 41 to 50
2. Reflect upper middle-class socio-economic backgrounds (second quintile on North-Hatt scale)
3. Have completed five years of college education
4. Majored in both mathematics and science at the undergraduate level
5. Matriculated in a teachers college at the undergraduate level
6. Teach either seventh or both seventh and ninth grades
7. Have had experience teaching only homogeneous (ability) groups
8. Prefer to teach low ability groups

Teachers found to be least committed to ability grouping may be characterized as follows:

1. Fall within the age range 31 to 40
2. Reflect lower class socio-economic backgrounds (fifth quintile on North-Hatt scale)
3. Have completed six years of college education
4. Majored in both English and social science at the undergraduate level
5. Matriculated in both a liberal arts college and a teachers college at the undergraduate level
6. Teach all three junior high school grade levels (seventh, eighth, and ninth grades)
7. Have had experience teaching only heterogeneous groups
8. Prefer to teach heterogeneous groups

Relationships of Factors to Schools and Systems

No significant differences among either index of commitment mean scores and MTAI mean scores were found to exist for the schools or counties from which the sample was drawn. However, limited possible patterns of relationships are apparent. Those schools for which lower index of commitment mean scores were found tended to supply the higher MTAI mean scores. The sharpness



of contrast was not found to be true of the counties.

It seems reasonable to conclude that there is a relationship between the degree to which a school staff is involved in policy making decisions on such issues as ability grouping and degree of commitment to ability grouping and MTAI scores. The greater the involvement of the staff, the lower the commitment to ability grouping and the higher the MTAI scores. Several findings tend to support this conclusion.

The case of County B.--County B was deemed to have the more flexible policy-making arrangements at both the county and local school levels of the counties represented by the sample. Schools 5 and 6 reflected substantially more staff involvement in policy making than school 4. These two schools contributed the lowest index of commitment mean scores and the highest MTAI mean scores of schools represented by the sample. These two schools also contributed the largest per cents of teachers who preferred to teach either heterogeneous groups or had no preference for those sub-categories. Policy making in school 4, on the other hand, was decidedly the province of the principal. Though a part of the same county system, and about the same size as the other two schools in the county, it showed a higher degree of commitment to ability grouping and markedly lower MTAI mean scores. Seventy-seven per cent of the teachers in this school indicated a preference for

teaching high and average ability groups as opposed to 62 per cent of the respondents from school 6. Schools 5 and 6 also reported more grouping of the heterogeneous type than other schools represented in the sample.

The case of County A.--County A leaves policy making on issues such as ability grouping primarily to the principals. In schools 1 and 3 the principal appeared to retain this responsibility for himself. In school 2 the principal tended to place the responsibility on his faculty. Index of commitment mean scores were higher and MTAI mean scores substantially lower in schools 1 and 3 than they were in school 2. School 12 in County E tended to reflect results similar to that of schools 1 and 3 in County A.

Corroboration of Earlier Findings

Several conclusions made on the basis of the data presented in this study tend to corroborate certain earlier findings and suggestions about grouping practices and teacher-pupil rapport which have been cited in Chapter II. Among these findings in this study, it is re-affirmed that teachers tend to prefer homogeneous (ability) grouping. Eighty-five per cent of the respondents in this sample indicated a preference for some kind of ability grouping. It is further concluded that the large majority of this group believe it more

desirable to teach high and average ability groups. Forty-one per cent of the sample indicated a preference for teaching high ability groups, and 32 per cent a preference for teaching average ability groups. In other words, the remaining 12 per cent of the respondents in this sample indicating a preference for ability grouping preferred either low ability groups or some combination of types of abilities in teaching groups. This suggests that teachers who are highly committed to ability grouping may be so because they, the teachers, believe it more desirable to teach high ability groups.

The efficacy of ability grouping.--As reported by Billett, 1929¹, Martin concluded that ability grouping benefited slow pupils most, and average pupils least. Billett, 1929², suggested that the teacher was a more potent influence on pupils' learning than the factor of grouping. The findings in the current study suggest that Martin's and Billett's conclusions may be so, if teachers have some choice in the groups they teach. Teachers who stated a preference for teaching low ability groups, it will be recalled, possessed a higher MTAI mean score, and those who indicated a preference for

¹Roy Oren Billett, "The Administration of Homogeneous Grouping." (Unpublished doctoral dissertation, Ohio State University, 1929).

²Ibid.

teaching average ability groups, a substantially lower MTAI mean score. The obtained MTAI mean score for those teachers indicating a preference for teaching high ability groups fell about midway between those mean scores for the other two groups.

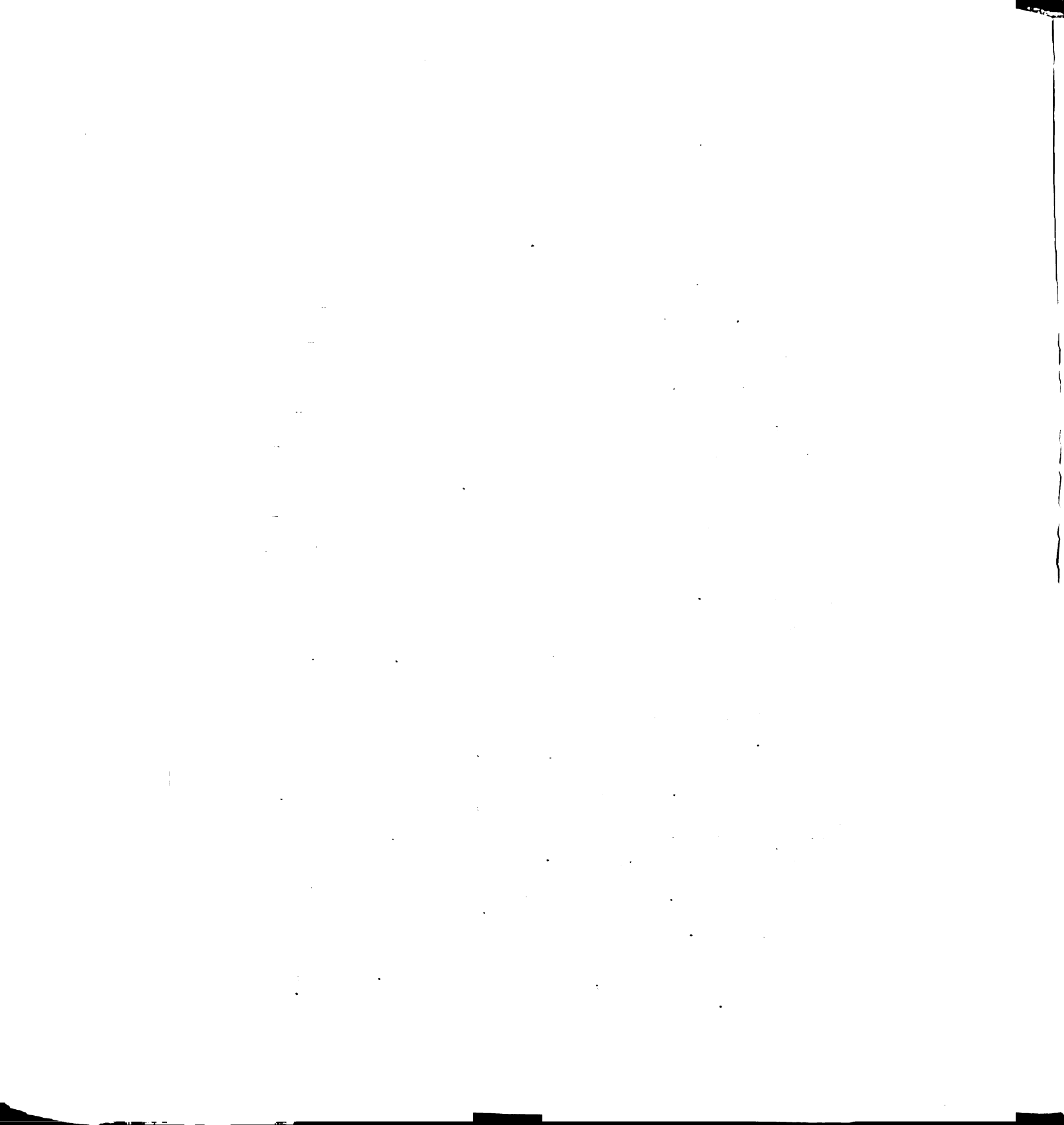
Keliher, 1931¹, Cornell, 1936², Monroe, 1950³, and Goodlad, 1960⁴, have each contended that the important factor to be considered is the philosophy behind the grouping, the attitudes and methods of the teacher, not the fact of the grouping itself which determines the effectiveness with which individual differences are met in classroom situations. Keliher further indicated that unless carefully directed, ability grouping may tend to dull the teacher's alertness to individual differences. Findings in this investigation tend in part to corroborate the above contentions if the MTAI is a valid indicator of quality of teaching. Ryans,

¹Alice Keliher, A Critical Study of Homogeneous Grouping. (New York: Bureau of Publications, Teachers College, Columbia University, 1931).

²Ethel L. Cornell, "Effects of Ability Grouping Determinable From Published Studies," Part I The Grouping of Pupils, National Society for the Study of Education, Thirty-fifth Yearbook, (Bloomington, Ill: Public School Publishing Co., 1936).

³Henry J. Otto, editor. Encyclopedia of Educational Research, Revised edition. (New York: Macmillan Company, 1950).

⁴John Goodlad, "Ability Grouping," Encyclopedia of Educational Research, edited by Chester W. Harris, 3rd edition. (New York: The Macmillan Company, 1960).



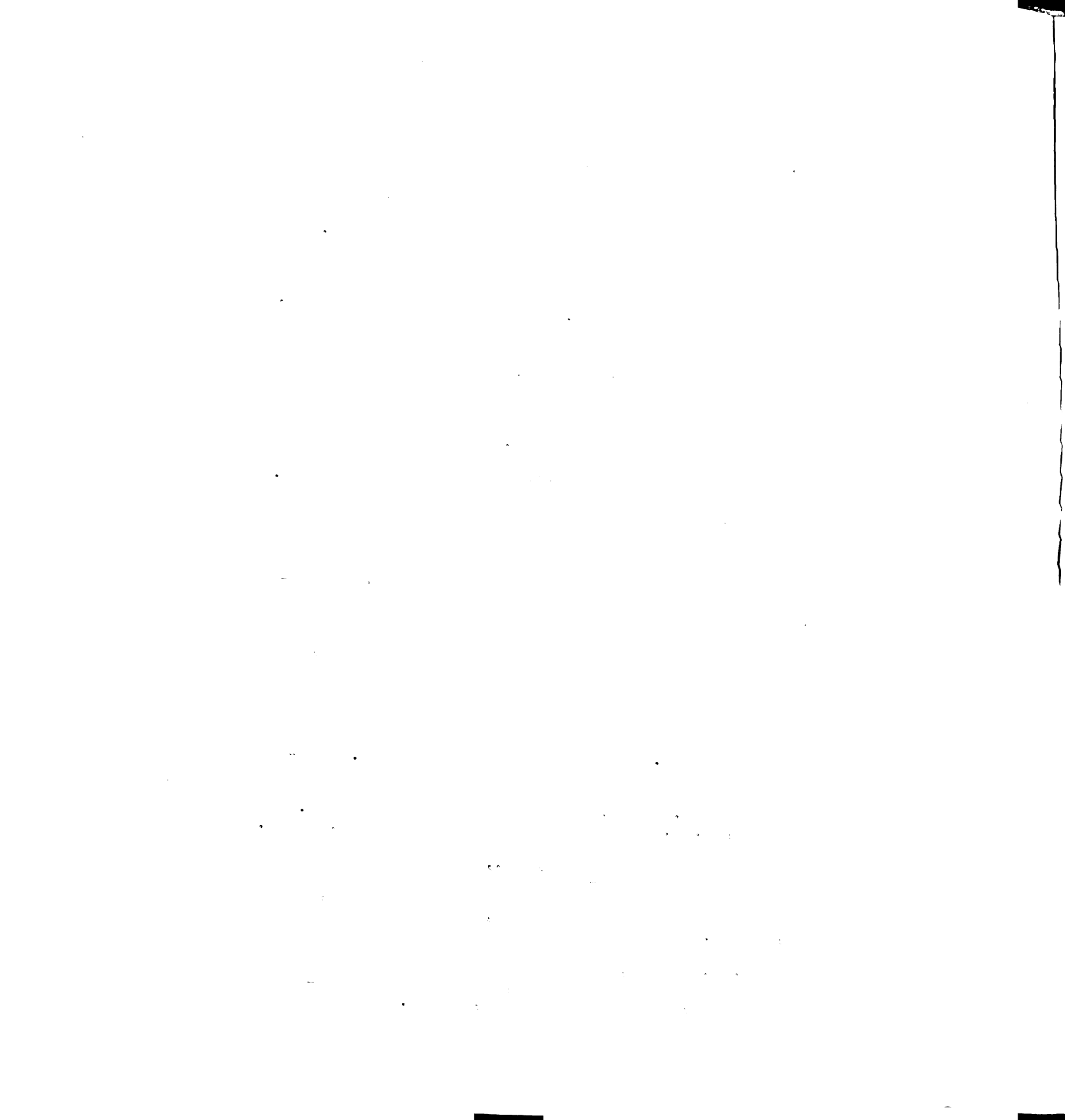
1960¹, found teachers judged most effective by their principals to possess most favorable attitudes toward pupils. The suggestion is, that those persons who are more rigid may tend to favor ability grouping, and in turn reflect less favorable attitudes toward pupils.

Findings with respect to differences in policy making atmospheres in the schools in the current sample, tend to suggest that an experimental attitude on the part of the faculty may, in part, explain Severson's 1956² findings in favor of ability grouping as a means of meeting individual differences. At this point, a question may be posed on the basis of Oliver's findings. In his study, Oliver³ concluded that there was evidence of little relationship between teachers' professed educational beliefs and their classroom practices. Therefore, do teachers tend to respond to questions about such issues as ability grouping as they really feel, or as they believe their principal or other school officials expect them to respond? Oliver's coefficient of correlation of .31 was not particularly high. How-

¹David G. Ryans, Characteristics of Teachers. (Washington, D. C.: American Council on Education, 1960).

²Ole Burnett Severson, Jr., "A Study of Academic Achievement and Personal-Social Development of Junior High School Pupils as Affected by Ability Grouping," (Unpublished doctoral dissertation, University of Denver, 1956).

³W. A. Oliver, "Teachers' Educational Beliefs Versus Their Classroom Practices," Journal of Educational Research, XXXXVII (September, 1953).



ever, if his findings should be so, it raises a serious question about the validity of data gathered from teachers' responses to items such as those utilized in this study. Oliver's findings do not present a strong enough case to disqualify the technique. They merely suggest a limitation of which to be cognizant when conducting this type of investigation.

The conclusion that teachers tend to prefer the type group they have had experience teaching corroborates earlier findings by Justman and Wrightstone in 1956.¹ These researchers found teachers who had had experience with intellectually gifted classes exhibited more favorable attitudes toward such classes. In the current study, teachers who had had experience with homogeneous groups tended to prefer that type group, as did those teachers who had had experience with heterogeneous groups.

In light of the statements by Trow and others², and Jenkins³, among others, that interpersonal per-

¹Joseph Justman and J. Wayne Wrightstone, "The Expressed Attitudes of Teachers Toward Special Classes for Intellectually Gifted Children," Educational Administration and Supervision, XXXXII (March, 1956).

²William C. Trow, Alvin E. Zander, William C. Morse, and David H. Jenkins, "Psychology of Group Behavior: The Class as a Group," The Journal of Educational Psychology, XXXXI (October, 1950).

³David H. Jenkins and Ronald Lippitt, Interpersonal Perceptions of Teachers, Students, and Parents. (Washington, D. C.: National Education Association, 1951).

ceptions and group phenomena effect progress of learning and kind of learning, the current findings tend to suggest that: the more flexible the policy making situation and the greater the involvement of the faculty; the less rigid the teacher in his attitudes toward pupils, and most likely, the more tentative his acceptance of any administrative devices per se.

Findings that the amount of teaching experience did not appear to be associated with teachers' commitment to ability grouping, or this factor plus age with MTAI scores tends to corroborate Ryans¹ findings that these two factors were not highly associated with teachers' attitudes. Another comparison with Ryans' findings seems appropriate. He found secondary school science and mathematics teachers appearing to hold most traditional viewpoints and English and social studies teachers most permissive in their viewpoints. In the present study, those teachers who had majored in a combination of mathematics and science were most committed to ability grouping, and those who had majored in a combination of English and social science were least committed to ability grouping.

Recommendations

On the basis of the findings in the study, recommendations for further study and administrative

¹Ryans, op. cit.

action may be formulated.

Recommendations for Further Research

1. This study should be replicated:

- a. in other geographic areas where somewhat different philosophies might prevail.
- b. with elementary and high school teachers, as well as other junior high school teachers to determine any differences that might exist among the three groups with respect to commitment to ability grouping.

2. Utilizing those characteristics of teachers highly committed to ability grouping and of teachers least committed to ability grouping as established by this study, experimental studies should be carried out to ascertain to what degree total educational results may be the result of the teacher. Such areas of investigation about the pupils should include:

- a. academic achievement
- b. social growth and development
- c. development of creativity
- d. development of self concept
- e. measures of frustration levels

3. In light of the findings related to teacher background factors such as the North-Hatt index, age, amount of college training, and preferences for type ability groups to teach, investigation should be undertaken to

determine if there may be a relationship between teachers' personality types and attitudes toward grouping procedures.

4. Further study should be done to test for correlation between commitment to ability grouping and teachers' background and knowledge in the field of group dynamics.

5. On the basis of findings from the MTAI scores in this investigation and the apparent relationship of this index to school policy making procedures, further study should be engaged in to determine if teachers who strongly favor heterogeneous grouping are relatively secure in professional competence, relatively open to change, and relatively able to support their own sense of security in change.

6. Teachers' commitment to ability grouping should be re-researched with attention to a possible relationship to some acceptable ratings of teacher effectiveness.

7. Further study should be done to determine whether the way in which teachers' respond to their major fields of college study, and the teaching area for which they are responsible in any way reflects a professional identity the teacher desires for himself. Do teachers who majored in junior high school education, for example, and who state their major field of study as science, wish to be identified as "scientists" rather than junior high school teachers?

8. Additional study should be conducted on teachers'

preferences for types of ability groups to teach. More definitive research is needed to provide reliable bases for administrative flexibility to compensate for teachers peculiar competences and desires.

Implications for Administrative Practices

Administrators need to be cognizant of teacher attitudes toward pupils and grouping practices when making placement decisions. If it is desirable that teachers be flexible and open to change, it would then seem wise for teachers to be put into positions in which they might experiment and draw their own conclusions about such devices as ability grouping.

Lack of opportunity for, and encouragement of experimentation on the part of teachers may contribute to an attitude of acceptance of administrative devices per se as panaceas for their (the teachers') instructional problems; hence, contributing to maintaining more rigid "teacher personalities" less open to, and less able to cope with change.

Junior high school administrators should be continually conscious that administrative devices to aid instructional programs in and of themselves do not produce desired results. The teacher is probably the key to the quality of the climate for learning in the classroom. The question is likely not one of "shall we group" or "how may we group". The problem is how are teachers

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likely to interpret the fact of a particular grouping pattern in terms of their own behavior with children.

This study seems to emphasize that it is no longer appropriate to isolate individual factors of the teaching-learning situation in research such as this. Rather, the teaching-learning situation may be a matter of a complex system, or complex of systems which must be examined as a whole.

Summary

It has been determined and concluded that it is possible to ascertain teachers' degree of commitment to ability grouping. The null hypothesis for the study: There are no significant differences between those teachers highly committed to homogeneous (ability) grouping as a basis for sectioning pupils, and teachers less committed to homogeneous (ability) grouping as a basis for sectioning pupils as measured by an index of commitment to ability grouping, is rejected. Significant differences were found to exist between these two groups of teachers.

Among earlier conclusions which this investigation tends to corroborate are: 1) most teachers state a preference for ability grouping; 2) teachers tend to indicate a preference for those administrative arrangements they know best; and 3) there probably is not any "right type" group for all teachers to teach. A major

concern which should be registered before embarking on any program of grouping pupils at the junior high school level, or any other level, should be - how to assure the best possible teaching-learning climate, and therefore the best possible instruction for all boys and girls. It would seem logical to conclude, on the basis of this study, that attention to concerns such as the above must involve not only administrative arrangements for instruction, but also teachers' attitudes toward groups and grouping, knowledge and ability to use knowledge about group dynamics and interpersonal perceptions, and attitudes toward pupils as individuals.

APPENDIX

APPENDIX I

QUESTIONNAIRE

1. Please complete all the following personal data items.

A. Please circle the appropriate age bracket.

21-30	31-40	41-50	over 50
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B. Sex (please check) Male _____ Female _____

C. Marital status (please check) Married _____
Single _____

D. Please indicate the number of years teaching experience. _____

E. Please check the size community in which you were reared.

Over 500,000	_____	Do you consider this
100,000 - 500,000	_____	Urban _____
25,000 - 100,000	_____	Suburban _____
10,000 - 25,000	_____	Rural _____
2,500 - 10,000	_____	
Less than 2,500	_____	
Rural	_____	

F. Please indicate in the space provided your father's occupation at the time you entered college.

(If deceased at that time, please indicate what his occupation would have been if living.)

- g. Please indicate the highest school level completed by your parents.

Father _____

Mother _____

2. Please circle the highest year of college completed.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

3. Please circle highest degree held.

none Bachelors Masters Doctors

4. Please indicate your undergraduate major field.

5. Please circle the type institution in which you did your undergraduate work.

Teachers College Liberal Arts College University

6. If you have done graduate work, please indicate your major field.

7. Please circle the grade level or levels you teach.

7	8	9
---	---	---

8. Please indicate in the following spaces the subject or subjects you teach.

9. Please check (✓) the basis on which pupils are sectioned in your school.

Homogeneous (ability) _____

Heterogeneous _____

Other _____ (please specify) _____

10. Please check (✓) the type class section or sections you have had experience teaching.

Homogeneous (ability) _____

Heterogeneous _____

Other _____ (please specify) _____

11. Please check (✓) the type group you would prefer to teach if you had a choice.

High ability _____

Average ability _____

Low ability _____

Mixed ability _____

No preference _____

APPENDIX II

Please complete the following items by checking (✓) the response to each item which most nearly describes your personal feeling. These items apply to sectioning pupils into class-size groups within a given grade level. Your candid responses and cooperation are appreciated. Please do not sign your name. Note: Space is provided if you care to make any comments.

Comments

1. For most efficient learning to occur, pupils of like ability should be placed together

_____ almost always
_____ more than half the time
_____ about half the time or less
_____ seldom or rarely

2. Homogeneous (ability) grouping helps the teacher meet individual pupils' needs

_____ much easier
_____ easier
_____ possibly easier
_____ with little or no difference in ease

3. Academic achievement as an outcome of school experience

_____ is most important
_____ is important
_____ is no more important than some other kinds of learning
_____ may be less important than some other kinds of learning

4. Pupils' learning in a homogeneous (ability) group, as compared with that of pupils in a heterogeneous group, will be

_____ very much more
_____ much more
_____ some more
_____ little or no more

5. In homogeneous (ability) groups individual abilities can be utilized and developed

_____ much more adequately
_____ more adequately
_____ possibly better
_____ about the same or less

6. Homogeneous (ability) grouping facilitates classroom management

_____ to a great degree
_____ to some degree
_____ possibly to some degree
_____ little or none at all

7. Homogeneous (ability) grouping is a good school practice

_____ strongly agree
_____ agree
_____ disagree
_____ strongly disagree

APPENDIX III

STATEMENTS ABOUT ABILITY GROUPING MADE BY TEACHERS AND SUPERVISORY PERSONNEL

(In that these comments are reproduced as they were recorded, no particular organization or ranking is assigned to them).

"Homogeneous grouping is necessary in a large school."

"Homogeneous grouping helps me know pupils better."

"The major basis for homogeneous grouping should be ability."

"If assignment to groups is done carefully enough there should be few changes in assignment."

"If I am expected to teach a low ability group, I want a high group too - they (the high group) are so responsive."

"Pupils should be grouped heterogeneously - it is a more life-like situation - children need the stimulation of a variety of personalities."

"Homogeneous (ability) grouping provides for stereotypes and points up mediocrity which becomes a 'cross to bear'."

"Ability grouping takes the right to fail away from capable youngsters and removes the right to succeed from youngsters below average in ability."

"Gifted pupils in homogeneous groups have to live up to standards not of their own choosing."

"Homogeneous grouping is a device of the teacher who wants to 'make life easy'."

"We have homogeneous grouping in our system because teachers want it."

"Ability grouping does not do violence to a democratic philosophy."

"We have no problems with ability grouping."

"Heterogeneous grouping provides more opportunity for pupils to learn from each other if we let them - the relationships youngsters build among themselves are more apt to happen."

"Social maturity would be a better basis for sectioning than ability."

"Homogeneous grouping may build an oligarchy for egg-heads."

"In an ability grouping situation I can teach pupils a lot more than in a heterogeneous group. Good kids can learn a lot."

"In a heterogeneous situation I only teach in the middle of the road."

"Teachers are unhappy with heterogeneous groups."

"In a heterogeneous group too many kids are unprepared for group participation."

"Heterogeneous groups are difficult to teach because below average students have not learned self-direction."

"Ability grouping makes for smoother operation - it lets you get the kids in line a little faster."

"In a heterogeneous group social adjustment and social living of necessity becomes a part of the curriculum."

"Heterogeneous grouping is a greater burden on the teacher and administrator - it requires a better and broader education, more information on the part of the teacher and more supplies and equipment in the classroom."

"The teacher who prefers heterogeneous grouping is very conscious of individuals and individual differences."

"The teacher who prefers homogeneous grouping feels 'I know what you need to know', is textbookish, factual and rote."

"Ability grouping provides pressure for conformity."

"Heterogeneous groups provide more opportunity for pupils to learn from each other if we let them."

"Reducing the range in only one aspect may give the teacher some security and cut frustration or anxiety."

"Most teachers like ability grouping if they have a 'top' group."

"The teacher who likes to teach slow groups is: sympathetic - in some way identifies with pupils, gets satisfaction from working with someone needing lots of help, is patient, not very aggressive, not lazy, is a 'good' teacher."

"The teacher who wants to teach high groups is motivated to get high academic achievement, does not want to teach low groups, is impatient toward underachievers and underprivileged, and believes greatly in I.Q."

APPENDIX IV

SCALOGRAM ANALYSIS

The figure which follows shows how the items in the questionnaire used to determine a teacher's commitment to ability grouping form a scale. ". . . given the marginal frequencies to a set of items and the relative position of the categories within each item, it is possible to ascertain which response combinations, from among all those possible for the items constitute the ideal scale types for those marginal frequencies."¹ Obtained response patterns will always vary to a greater or lesser degree from the ideal scale established for the marginal frequencies. The figure shows the response patterns for the items under question, and indicates obtained combinations of responses other than those corresponding to the established ideal scale types. The 15 obtained other combinations fell within the established point of tolerance (deviation at 15 per cent) from the ideal scale.

¹Ward H. Goodenough, "A Technique for Scale Analysis," Educational and Psychological Measurement, IV 1944, p. 183.

Items				Ideal Fre- quency	Scale Type	Response Combination
1	2	3	4			
		a 16	a 28	16	1	a&b-a-c-a
	a 43			12	2	a&b-a-b-a
a&b 66		b 40	b 40	15	3	a&b-a-b-b
	b 20			13	4	a&b-b-b-b
				7	5	a&b-b-c&d-b
				3	6	a&b-c-c&d-b
				2	7	c-c-c&d-b
c 19	c 25	c&d 44	c&d 32	17	8	c-c-c&d-c&d
				3	9	d-c-c&d-c&d
d 15	d 12			12	10	d-d-c&d-c&d

Ideal Scale Type	Ideal Frequency	Obtained Frequency
1	16	15
2	12	10
3	15	16
4	13	11
5	7	4
6	3	3
7	2	3
8	17	8
9	3	6
10	<u>12</u>	<u>9</u>
Total	100	85

Other Combinations Obtained						Obtained Frequency	
Items	1	2	3	4			
a&b	-	a	-	c	-	a	1
a&b	-	b	-	a	-	a	1
a&b	-	b	-	b	-	a	1
a&b	-	a	-	c&d	-	b	1
b	-	c	-	c&d	-	c&d	4
c	-	a	-	c&d	-	c&d	1
c	-	b	-	c&d	-	c&d	2
c	-	b	-	b	-	b	1
c	-	b	-	c&d	-	b	1
c	-	c	-	b	-	c&d	1
c	-	d	-	c&d	-	c&d	1
							15

APPENDIX V

GROUPING AND PROMOTION POLICIES

Grouping and Classifying Pupils for Learning

Teachers and administrators are faced with finding the best methods of grouping pupils if the optimum growth of individuals is accepted as a primary objective of schools. Any device for assigning pupils to sections will vary in its application according to the pattern of organization that is set up and with the purpose for which grouping is made. The device and the pattern which give the greatest amount of aid to teachers in individualizing instruction should be the accepted practice in schools. The placement of each individual within a group where he will work best, where he will have a sense of belonging and status, and where his mental health will be safeguarded and improved must be the objective of placing pupils in appropriate groups.

Grouping becomes a problem when children enter school in the first grade, if there is more than one class. Methods for classifying pupils within certain groups may vary at this age. Some schools prefer placing the six-year-old children in one group and those who are five in another. Another solution is

to arrange the names of children alphabetically and then assign groups to teachers. These ways remove the appearance of favoritism and are procedures which parents can understand. However, they do not always provide the best educational experiences for children as can be achieved by more complicated arrangements. Most authorities agree that it is not wise to divide the group on mental ability alone.

Some school systems are attempting to organize a primary school for the first three or four years a child spends in school. This plan accepts the continuous learning program for each child, and the same teacher remains with the group for the entire period. Progress and growth are stressed rather than grade lines, standards, promotions, and markings. Such a group is identified by the teacher's name rather than the traditional grade designations.

As pupils progress through the elementary grades and enter junior high school, the same principles for grouping must be considered. If conditions permit pupils to be placed in relatively small groups, such factors as social interests, hobbies, friends, and physical and mental development, as well as achievement in skill subjects, should be considered in pupil placement. Records from the elementary school giving the social and emotional development need to be added to the information on the cumulative card. This informa-

tion must be studied carefully before groups are organized. Care should be taken to avoid having one child with unusual physical development alone in a group. Any other pattern that shows great differences from the normal should be studied and those individuals placed where they feel most comfortable.

Heterogeneous versus homogeneous grouping is still debated by educators. If schools are organized in ways that are thoroughly consistent with democratic principles, heterogeneous grouping is recommended. This permits respect for personality and consideration for the development of the whole child. Planned heterogeneity makes possible a broad program of practice in experiencing satisfying human relationships, of developing an appreciation for and techniques in the democratic way of life, and of realizing the responsibilities of school and community citizenship.

It would seem desirable to organize groups that may be heterogeneous for part of the day and form homogeneous groups according to certain skills or abilities for the other part of the program. The latter grouping may be for remedial purposes but must be flexible according to the growth of the individual.

Grouping Within the Class

Small working groups within the classroom are desirable at all levels. Numerous projects and activities carried on as a part of the program make it neces-

sary to divide into subgroups.

If pupils are grouped within the classroom on the basis of achievement in reading, it must be kept in mind that these groups should never be permanent. Teachers must keep the plan flexible and move pupils to the groups where they can make the most progress. Groups in arithmetic, spelling, art, and other subjects may be quite a different organization.

Pupils often select their own groups for working by joining those working on the activities or projects that interest them most. Such groups may be made up of both slow and rapid learners but both will play their roles well. These groups are flexible and may operate for long or short terms. The individual pupils need to be made conscious of the nature of the problem of the group and their responsibility to the group. Leadership in such groups changes frequently and pupils learn how to be good participants.

Many occasions should be provided in the school program to allow for experiences in which children from different grades come together. Programs in the auditorium, student government, safety patrols, interest clubs, and other such groupings provide opportunities for pupils of different ages to work and play together.¹

¹Maryland's Educational Program, School Administrative Manual, Vol. XXXII, No. 2, June, 1952. (Maryland State Department of Education), pp. 89-90.

DO NOT OPEN UNTIL TOLD TO DO SO

MINNESOTA TEACHER ATTITUDE INVENTORY

Form A

WALTER W. COOK
University of Minnesota

CARROLL H. LEEDS
Furman University

ROBERT CALLIS
University of Missouri

DIRECTIONS

This inventory consists of 150 statements designed to sample opinions about teacher-pupil relations. There is considerable disagreement as to what these relations should be; therefore, there are no right or wrong answers. What is wanted is your own individual feeling about the statements. Read each statement and decide how YOU feel about it. Then mark your answer on the space provided on the answer sheet. Do not make any marks on this booklet.

- If you **strongly agree**, blacken space under "SA"
- If you **agree**, blacken space under "A"
- If you are **undecided** or **uncertain**, blacken space under "U"
- If you **disagree**, blacken space under "D"
- If you **strongly disagree**, blacken space under "SD"

SA	A	U	D	SD
☐	☐	☐	☐	☐
SA	A	U	D	SD
☐	☐	☐	☐	☐
SA	A	U	D	SD
☐	☐	☐	☐	☐
SA	A	U	D	SD
☐	☐	☐	☐	☐
SA	A	U	D	SD
☐	☐	☐	☐	☐

Think in terms of the general situation rather than specific ones. There is no time limit, but work as rapidly as you can. **PLEASE RESPOND TO EVERY ITEM.**

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The Psychological Corporation
304 East 45th Street
New York 17, N. Y.

SA—Strongly agree
A—Agree

U—Undecided
or uncertain

D—Disagree
SD—Strongly disagree

1. Most children are obedient.
2. Pupils who "act smart" probably have too high an opinion of themselves.
3. Minor disciplinary situations should sometimes be turned into jokes.
4. Shyness is preferable to boldness.
5. Teaching never gets monotonous.
6. Most pupils don't appreciate what a teacher does for them.
7. If the teacher laughs with the pupils in amusing classroom situations, the class tends to get out of control.
8. A child's companionships can be too carefully supervised.
9. A child should be encouraged to keep his likes and dislikes to himself.
10. It sometimes does a child good to be criticized in the presence of other pupils.
11. Unquestioning obedience in a child is not desirable.
12. Pupils should be required to do more studying at home.
13. The first lesson a child needs to learn is to obey the teacher without hesitation.
14. Young people are difficult to understand these days.
15. There is too great an emphasis upon "keeping order" in the classroom.
16. A pupil's failure is seldom the fault of the teacher.
17. There are times when a teacher cannot be blamed for losing patience with a pupil.
18. A teacher should never discuss sex problems with the pupils.
19. Pupils have it too easy in the modern school.
20. A teacher should not be expected to burden himself with a pupil's problems.
21. Pupils expect too much help from the teacher in getting their lessons.
22. A teacher should not be expected to sacrifice an evening of recreation in order to visit a child's home.
23. Most pupils do not make an adequate effort to prepare their lessons.
24. Too many children nowadays are allowed to have their own way.
25. Children's wants are just as important as those of an adult.
26. The teacher is usually to blame when pupils fail to follow directions.
27. A child should be taught to obey an adult without question.
28. The boastful child is usually over-confident of his ability.
29. Children have a natural tendency to be unruly.
30. A teacher cannot place much faith in the statements of pupils.

GO ON TO THE NEXT PAGE

SA—Strongly agree
A—Agree

U—Undecided
or uncertain

D—Disagree
SD—Strongly disagree.

- | | |
|---|--|
| 31. Some children ask too many questions. | 46. More "old-fashioned whippings" are needed today. |
| 32. A pupil should not be required to stand when reciting. | 47. The child must learn that "teacher knows best." |
| 33. The teacher should not be expected to manage a child if the latter's parents are unable to do so. | 48. Increased freedom in the classroom creates confusion. |
| 34. A teacher should never acknowledge his ignorance of a topic in the presence of his pupils. | 49. A teacher should not be expected to be sympathetic toward truants. |
| 35. Discipline in the modern school is not as strict as it should be. | 50. Teachers should exercise more authority over their pupils than they do. |
| 36. Most pupils lack productive imagination. | 51. Discipline problems are the teacher's greatest worry. |
| 37. Standards of work should vary with the pupil. | 52. The low achiever probably is not working hard enough and applying himself. |
| 38. The majority of children take their responsibilities seriously. | 53. There is too much emphasis on grading. |
| 39. To maintain good discipline in the classroom a teacher needs to be "hard-boiled." | 54. Most children lack common courtesy toward adults. |
| 40. Success is more motivating than failure. | 55. Aggressive children are the greatest problems. |
| 41. Imaginative tales demand the same punishment as lying. | 56. At times it is necessary that the whole class suffer when the teacher is unable to identify the culprit. |
| 42. Every pupil in the sixth grade should have sixth grade reading ability. | 57. Many teachers are not severe enough in their dealings with pupils. |
| 43. A good motivating device is the critical comparison of a pupil's work with that of other pupils. | 58. Children "should be seen and not heard." |
| 44. It is better for a child to be bashful than to be "boy or girl crazy." | 59. A teacher should always have at least a few failures. |
| 45. Course grades should never be lowered as punishment. | 60. It is easier to correct discipline problems than it is to prevent them. |

GO ON TO THE NEXT PAGE

SA—Strongly agree
A—Agree

U—Undecided
or uncertain

D—Disagree
SD—Strongly disagree

- | | |
|--|---|
| 61. Children are usually too sociable in the classroom. | 76. There is too much leniency today in the handling of children. |
| 62. Most pupils are resourceful when left on their own. | 77. Difficult disciplinary problems are seldom the fault of the teacher. |
| 63. Too much nonsense goes on in many classrooms these days. | 78. The whims and impulsive desires of children are usually worthy of attention. |
| 64. The school is often to blame in cases of truancy. | 79. Children usually have a hard time following instructions. |
| 65. Children are too carefree. | 80. Children nowadays are allowed too much freedom in school. |
| 66. Pupils who fail to prepare their lessons daily should be kept after school to make this preparation. | 81. All children should start to read by the age of seven. |
| 67. Pupils who are foreigners usually make the teacher's task more unpleasant. | 82. Universal promotion of pupils lowers achievement standards. |
| 68. Most children would like to use good English. | 83. Children are unable to reason adequately. |
| 69. Assigning additional school work is often an effective means of punishment. | 84. A teacher should not tolerate use of slang expressions by his pupils. |
| 70. Dishonesty as found in cheating is probably one of the most serious of moral offenses. | 85. The child who misbehaves should be made to feel guilty and ashamed of himself. |
| 71. Children should be allowed more freedom in their execution of learning activities. | 86. If a child wants to speak or to leave his seat during the class period, he should always get permission from the teacher. |
| 72. Pupils must learn to respect teachers if for no other reason than that they are teachers. | 87. Pupils should not respect teachers anymore than any other adults. |
| 73. Children need not always understand the reasons for social conduct. | 88. Throwing of chalk and erasers should always demand severe punishment. |
| 74. Pupils usually are not qualified to select their own topics for themes and reports. | 89. Teachers who are liked best probably have a better understanding of their pupils. |
| 75. No child should rebel against authority. | 90. Most pupils try to make things easier for the teacher. |

GO ON TO THE NEXT PAGE

APPENDIX VII

PRINCIPAL INTERVIEW GUIDE

1. Total Jr. H. S. enrollment _____ What is the general nature of your school population? Description?

2. Enrollment by grades 7 _____ 8 _____ 9 _____

3. Number of sections in each grade

Size of enrollment in each section

4. How is the school program organized?

Separate subjects

Block Time

Core

Other

5. On what basis or bases are pupils sectioned?

6. Description of grouping in the school.

How long has it been in effect?

When changed, if it was? Why?

How well is it working?

7. Provisions for individual differences within the groups.

Texts _____ Materials _____ Size of groups _____

Special help _____ Assignment of teachers _____

8. Who decides grouping policy in the school? (County, local - teachers or administrator)

9. What is your own feeling about the best type grouping?

10. How do you think the majority of the teachers in your school feel about grouping?

Do teachers like to teach different groups equally well?

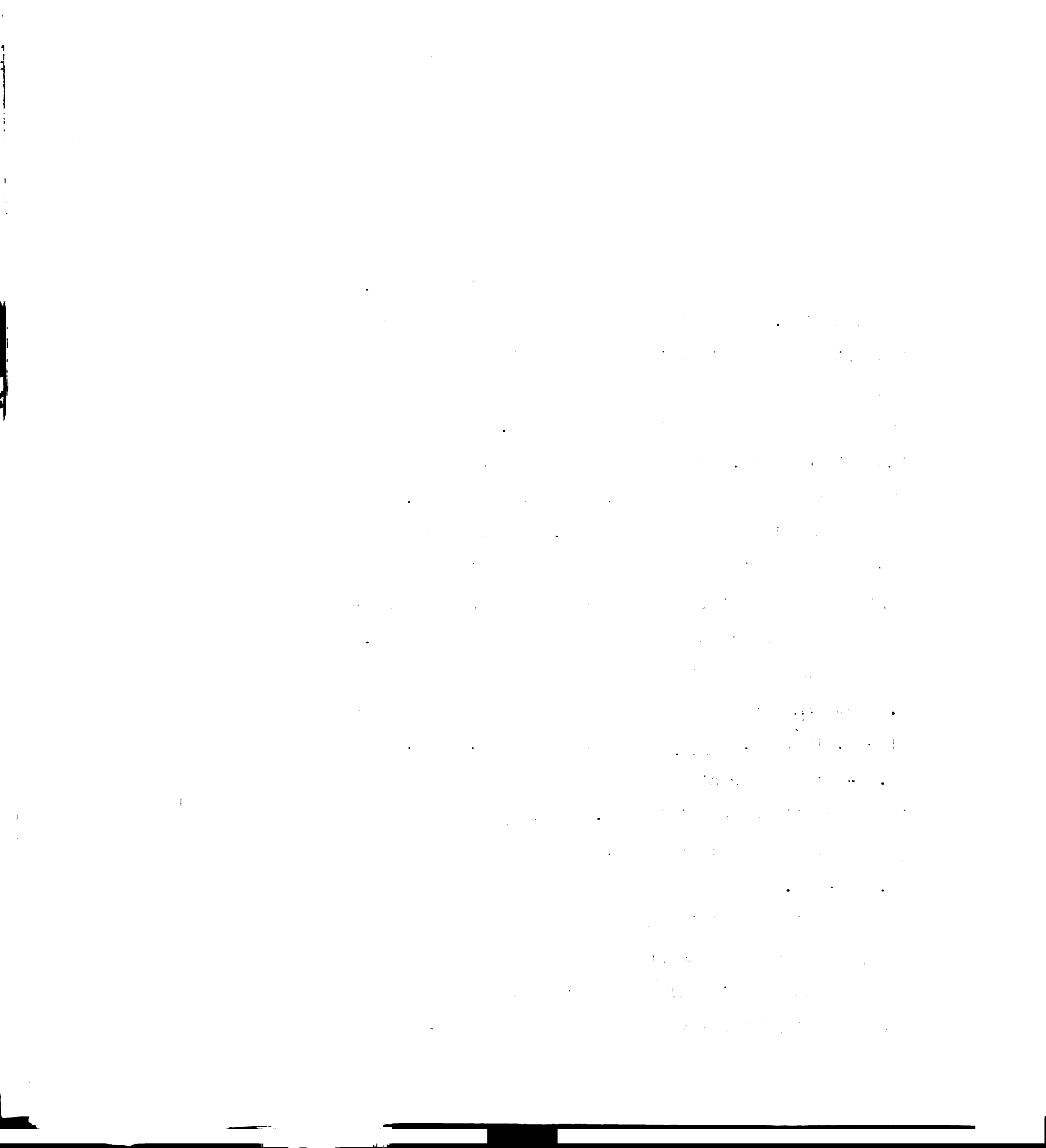
Do you have a statement of the philosophy (purposes) for grouping in your school on file?

APPENDIX VIII

THE NORTH-HATT SCALE

The North-Hatt Scale had its origin in 1947. At that time, the National Opinion Research Center interviewed a "Nation-wide cross section of America with a battery designed to explore some of the basic public attitudes regarding occupations." The people interviewed (N-2,900) were asked to evaluate each of 90 occupations as "excellent," "good," "Average," "Somewhat below Average" or "Poor." These ratings were converted into a single score by assigning a maximum of 100 points to excellent ratings and a minimum of 20 points to jobs unanimously rated as poor. The report of the initial study can be found in Cecil C. North and Paul Hatt "Jobs and Occupations: A Popular Evaluation," Opinion News, September, 1947, pp. 3-13; and parts of this article are reproduced in Logan Wilson and William L. Kolb, Sociological Analysis, New York: Harcourt, Brace and Company, 1949, pp. 464-473.

While the initial scale was a by-product of a study focused upon the factors involved in the evaluation of the prestige of an occupation, it offered the potentialities for a useful research tool. While



other rank order of the prestige of occupations existed, many differences between occupations were obscured by the large categories used. A numerical scale of prestige would have obvious advantages in allowing a choice of cutting points.

Since the initial scale rated such a small number of the usual occupations ordinarily encountered in research projects, some method was needed to place other occupations on the scale. Several different studies have been faced with the problem of unranked occupations and there evolved a standard method of interpolation. Five judges, who were in almost all instances sociologists, were asked to judge numerically an occupation in terms of the original scale (see list). The original 90 occupations were used as the norms for each judgement. This list includes both the original list and the interpolations from it. This list is only an approximation and a number of questions as to the validity of the interpolation are unanswered.

The alphabetization was guided by a rather arbitrary logic whereby types of jobs as manager and engineer were classified together regardless of the specialty of the person. In the cases where a job label has no significance apart from the specialty, for example, the occupations of Railroad Switchman and Mail Carrier etc. both are specified.

Individuals who have contributed to the expanded

list are Christen Jonassen, Robert Bullock, Jerome Folkman, William Kenkel, Alfred Clarke and Russell Dynes.

RRD

The Original North-Hatt Scale

U.S. Supreme Court Justice	96	Undertaker	72
Physician	93	Reporter, Daily News-	
State Governor	93	paper	71
Cabinet Member, Fed. Gov.	92	Manager, Small Store	69
Diplomat, U.S. Foreign		Bookkeeper	68
Service	92	Insurance Agent	68
Mayor, large city	90	Traveling Salesman for	
College Professor	89	wholesale concern	68
U.S. Representative	89	Playground Director	67
Banker	88	Policeman	67
Government scientist	88	Railroad Conductor	67
County Judge	87	Mail Carrier	66
Head, Dept. in State Gov.	87	Carpenter	65
Minister	86	Automobile Repairman	63
Architect	86	Plumber	63
Chemist	86	Garage Mechanic	62
Dentist	86	Local Official, Union	62
Lawyer	86	Owner-Operator, Lunch	
Member, Board of Directors		Stand	62
Large Corporation	86	Corporal, Reg. Army	60
Nuclear Physicist	86	Machine Operator,	
Priest	86	Factory	60
Psychologist	85	Barber	59
Civil Engineer	84	Clerk in Store	58
Airline Pilot	83	Fisherman, owns own	
Artist that paints pic-		boat	58
tures that are exhibited		Streetcar Motorman	58
in galleries	83	Milk Route Man	54
Owner of a factory that		Restaurant Cook	54
employs about 100 people	82	Truck Driver	54
Sociologist	82	Lumberjack	53
Account for large bus.	81	Filling Station Attend-	
Biologist	81	ent	52
Musician in Symphony	81	Singer in Night Club	52
Author of novels	80	Farm Hand	50
Capt. in Reg. Army	80	Coal Miner	49
Building Contractor	79	Taxi Driver	49
Economist	79	Railroad section Hand	48
Instructor Public Schools	79	Restaurant Waiter	48
Public School Teacher	78	Dock Worker	47
County Agricultural Agent	77	Night Watchman	47
Railroad Engineer	77	Clothes Presser in	
Official, International		Laundry	46
Labor Union	75	Soda Fountain Clerk	45
Radio Announcer	74	Bartender	44
Newspaper Columnist	74	Janitor	44
Owner-Operator, Printing		Share Cropper	40
Shop	74	Garbage Collector	35
Trained Machinist	73	Street Sweeper	34
Welfare Worker, City Gov.	73	Shoe Shiner	33
Electrician	73		

Interpolations

Accountant	78 Broker, Motor Freight Co.	71
Accountant, Certified	Broker, Real Estate	72
Public	81 Broker, Stock	79*
Accountant, tax, Gas Co.	80 Buffer, Auto	56
Acctuary	78 Builder of homes (super-	
Acctuarial Ass't. (life	vises work)	69
ins.)	74 Busboy - Busgirl	43
Advertising man, metro-	Butcher	59*
politan paper	70 Buyer for furniture store	71
Advertising promoter	72 Buyer for a department	
Advertising writer	70 store for a single	
Agent, Internal Revenue	77 department	70*
Agent, Purchasing	68 Buyer for a hardware store	70*
Agent, Rental	68 Cabinet maker	66
Airway Operation Special-	Captain in city fire de-	
ist (Control Airport	partment	70*
Traffic)	74 Carpet layer	54*
Analyst, Service	66 Carton Maker	55
Appraiser, Real estate,	Cashier	62
commercial property	68*Cashier, Bank	70*
Artist, Technical	69 Cement Finisher	52
Artist, Advertising	74 Chainman (surveying)	62
Arborist for city	73 Checker in metal-assembly	
Assembler at aircraft	line	64
plant	59 Chemist, Ink (no formal	
Attendent, Tool Crib	57 education)	64
Audiologist	75 Chief of a bureau, within	
Auditor, Bank	80 a dept. in state gov.	81*
Auditor, Insurance Co.	Chief of police, city of	
State	79 350,000	80*
Automotive spare parts	Chiropodist	77
specialist	62 Chiropractor	75*
Baker (owns shop)	68 Clerk, Actuarial in an	
Baker	62 insurance company	65
Bakery worker	48*Clerk, Billing	59
Bank teller	67*Clerk, Chief, R.R. Feight	
Barber who owns his own	Office	68
shop and employs 1 man	63*Clerk, General Office	
Baseball player, minor	worker	62*
league	67*Clerk, Payroll	66
Blueprint reader	67*Clerk, Postal	65*
Biochemist	67*Clerk, Shipping factory	59*
Boards children at home	85 Clerk, Stock	51
Boilermaker	59 Clerk, Technical	66
Boilermaker's Helper, R.R.	66 Concessionaire	62
Bookbinder	60 Contractor, General	
Brakeman, Railroad	60* Painting	74
Bricklayer	63*Contractor, Cement	74
Brickmason	60*Coordinator, management-	
Brick setter	65 labor	75
Broker, Manufacturer's	60 Coordinator, Oil Co.	74
	70 Coppersmith (R.R.)	62

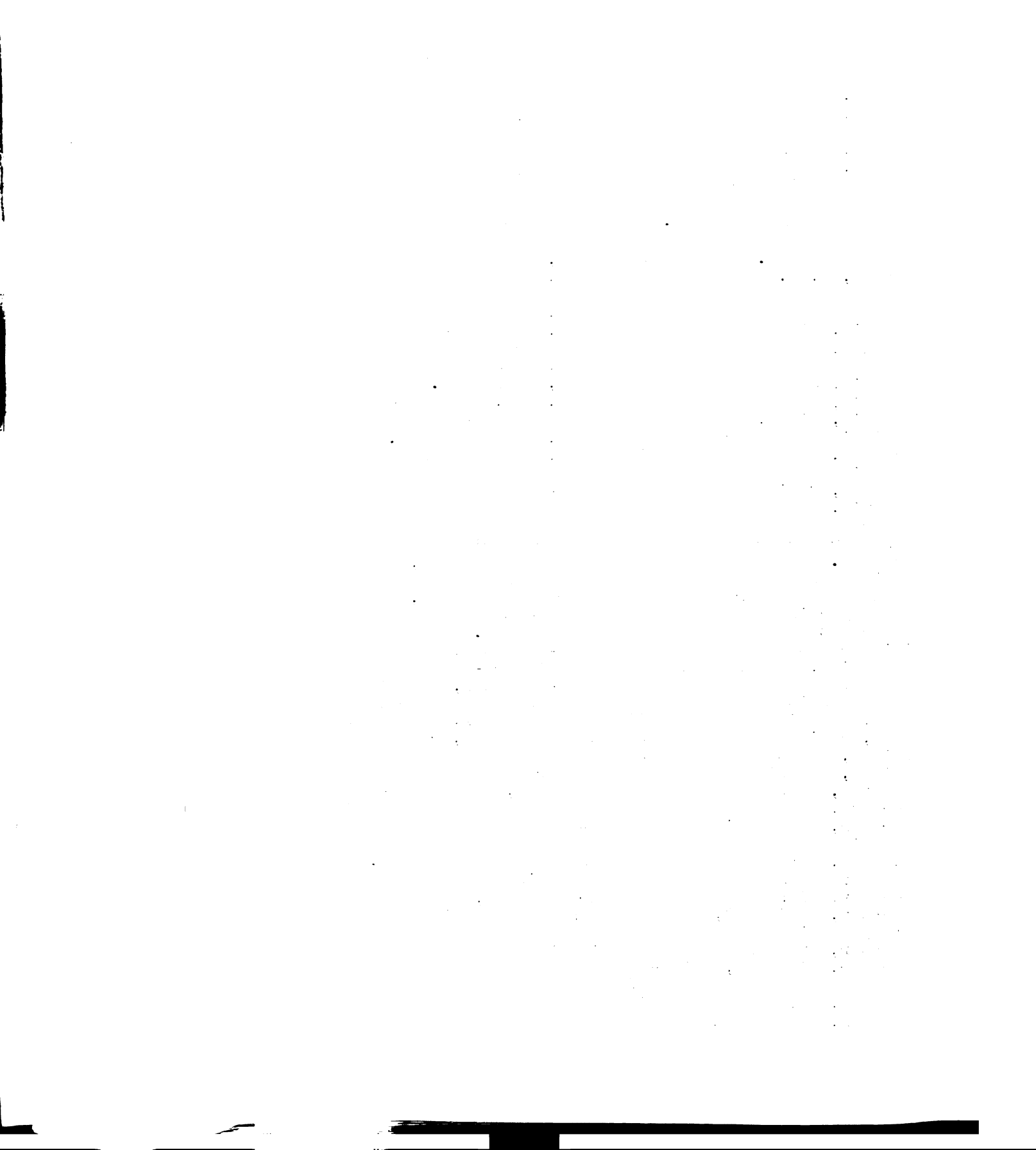
Cosmetologist	58	Engineer, Sales (gas	
Custodian	44	heating)	68
Cytologist	80	Engineer, Sales	73
Dairyman	66	Engineer, Stationary	62
Dealer, Automobile	77	Engineer, Surveying	78*
Dealer, Hardware	66	Engineer, Tool	75
Department head of a		Engineer, Time study	75*
dept. store	73*	Engineer, T. V.	75*
Department head of large		Engineering aids, senior	72
company	78	Engineman, R.R.	65
Department head (Ass't)		Examiner, Bank	75
of a dept. store	70*	Examiner, Tax	77
Department Leader - Steel		Executive, Jr. adver-	
Fabrication	65	tising firm	70*
Dress designer	75*	Executive, large manu-	
Designer, Tool	75	facturing plant	81*
Dietician	78	Executive (publicity	
Director, Activities,		director) for a large	
Lazarus Co.	71	department store	78*
Director, Ass't., Trade		Executive, publishing	
and Industrial Edu-		Company	81
cation, State of Ohio	81	Executive, telephone co.	78*
Director, Executive,		Executive, Transporta-	
Y.W.C.A.	81	tion	79
Dishwasher	33	Express messenger,	
Dispatcher, Chief Highway,		supervisor on express	
Motor Carrier Co.	69	train	66
Dispatcher, Train, R.R.	67	Farmer, tenant - one	
Distributor, Oil Bus.	69	who owns livestock	
Draftsman	69*	& machinery & manages	
Dressmaker	62	the farm	68
Driller, Diamond Core	68	Fieldman, Producers	
Driver, City bus	57	Livestock Corp.	70
Driver, Greyhound Bus	63	Fireman, City	65*
Druggist, Wholesale	70	Fireman, R.R.	65
Editor	81	Fireman, Stationary	53
Electric Motor Tester	62	Fitter (female)	61
Electrotyper	66	Flagman, Railroad	60*
Expeditor, aviation co.	66	Foreman, Assembly line	66*
Embalmer who owns his own		Foreman, light company	66*
undertaking estab.	72*	Foreman, main crew,	
Engineer, Aeronautical	83	factory	67*
Engineer, (mechanical)		Foreman, maintenance,	
Assistant research	78	of schools	52
Engineer, Ceramic	79*	Foreman, Railroad	
Engineer, Construction	80	roundhouse	66*
Engineer, Consulting	86	Foreman, Shipping Dept.	
Engineer, Electrical	83*	Casket Co.	69
Engineer, Heating	68	Foreman, shop, factory	67*
Engineer, Industrial	82	Funeral director	72*
Engineer, Maintenance	64	Furniture maker, church	67
Engineer, Operating, city	70	Glass worker	59*
Engineer, Process	77	Governess	69
Engineer, Radio	77	Grinder, bearing	67
Engineer, Research	82*	Grinder, casting	60



Gringing, general	59	Maintenance worker in	
Guard	55	furnished apt.	48
Guard, Railroad	55*	Major, Air Force	81*
Horticulturist	77	Manager, Advertising	78
Hospital Aide, Psychi- atric	61	Manager, Assistant Floor	69
Housekeeper	53	Manager, Ass't. Parts,	
Housekeeper, Private	54	Factory	65*
Iceman	50	Manager, Ass't., res-	
Inspector, Assembly line	66	aurant	67*
Inspector, Bank	74	Manager, branch, large	
Inspector, Building	68*	company	71
Inspector, Factory	65	Manager, chain retail	
Inspector, machine shop	67	grocery store	72
Inspector, Railroad steel car	60*	Manager, credit, van & storage Co.	70
Inspector, refrigerator controls in plant	62	Manager, large dept. retail groc.	68
Installer, canopy in jet planes	63	Manager, dept. in large company	72
Installer, Escalator	62	Manager, district, heat regulation co.	70
Instructor, Ceramic (makes & sells)	78	Manager, display, single dept. of dept. store	68*
Insurance Group Leader, V. A.	74	Manager, district sales for large co.	72
Insurance underwriter	69	Manager, division,	
Interviewer, Personnel	71	wholesale coop	72
Investigator, city tax division	71	Manager, dry cleaning store	68
Investigator, credit	61	Manager, dry goods store	69
Iron Worker, Ornamental	68	Manager of garage	68
Iron Worker, Structural	63	Manager of general, manuf. plant that	
Jeweler	72	employs over 100 men	77*
Jeweler, Manufacturing	73	Manager of a grill	67*
Jig and Furniture Builder Class	68	Manager of a hotel	78*
Job Setter	69	Manager of large co.	72
Laboratory aide	60*	Manager of a large dept. store	80*
Laborer, Common	40	Manager of life in- surance co.	75
Laborer, Construction	50*	Manager of movie thea- ter in downtown section of city	70*
Laborer, Factory	47	Manager, dept., news- paper	76
Laundress	45	Manager, office	70
Leader of a dance band	70*	Manager, parts, factory	68*
Librarian, Museum	76	Manager, plant, of lar- ger company	75
Lieutenant, Air Force	75*	Manager of a poolroom	58*
Lieutenant of police (R.R.)	69	Manager, Prod. control	79
Loan officer in bank	74		
Lineman, telephone Co.	63*		
Machinist's helper (R.R.)	59		
Machinist, Master	70		
Maid	48		
Mail Handler at Depot	62*		
Maintenance man in factory	55		



Manager, Promotion	74	Operator, radio, air-	
Manager, Public Utility	81	port tower	67*
Manager, regional claims, (Life Insurance)	70	Operator, radio tele-	64
Manager, Sales	70	phone	59*
Manager, Sales - salesman		Operator, steam shovel	59
who supervises 7-12		Operator, telephone	89
other salesmen	70*	Ophthalmologist	83
Manager of a service sta.	68*	Optometrist	
Manager of transportation		Owner - dry cleaning	75
and moving co.	70	store	70
Manager, T. V. service		Owner, Grocery store	
(wholesale)	70	Owner, large wholesale	82*
Meat Packer	54	business	73
Machanic, Airplane	67*	Owner, Machine shop	
Mechanic, Auto (in part-		Owner, small-to-medium	68*
nership)	66	restaurant in city	65
Mechanic, Cash register	66*	Owner, shoe repair shop	78*
Mechanic, Elevator	65*	Owner, small mfg. plant	
Mechanic, Field, Road		Owner,(co), insurance	78*
Building Machinery	67	corporation-	72
Mechanic, Gas meter	62*	Owner,(co) Motel bus.	
Mechanic maintenance	63	Owner,(co) small store	72
Machanic, Radio	67*	in city	
Mechanic, refrigeration	67*	Owner-operator of an	
Melter Loader	61	automobile repair	
Messenger for armored		shop that employs 3	67*
car co.	57	other people	
Metallurgist	80	Owner and operator,	65
Metal plate worker	58	beauty shop	
Mica layer in factory	58	Owner and operator,	
Millwright	60	cigarette vending	
Minister (No theological		machine co.	69
training, high school		Owner-operator, con-	
education)	72	fectionary-	66
Nurse (hospital)	76	Owner-operator, cleaning	68*
Nurse, practical	66	business (one store)	76
Nurse, registered	78	Owner-operator, farm	
Officer, Trust	78	Owner-operator, real	73*
Officer, Security	67	estate agency	60*
Operator, Beauty shop	60	Painter	
Operator, Bulldozer	59*	Patrolman, State High-	
Operator, Calculating		way	68
Machine	64	Pattern maker (wood &	
Operator, Coal elevator	51	metal)	67
Operator, Crane	59*	Personnel (testing etc.)	76
Operator, Diesel	62	Pharmacist	75*
Operator, Equipment,		Photographer, Commercial	72
army depot	58	Physical Therapist	68
Operator, Freezer	59	Piano Tuner	69
Operator, linetype, print-		Pipefitter	58*
ing shop	67*	Plasterer	60*
Operator, movie projector	62*	Player in a dance band	65*
Operator, Multigraph	63	Plumber who owns his	
		own shop	67*



Police officer (R.R.)	66	Statistician, Dept.	
Porter	44	of Agric.	78
President, large retail chain store	84	Steel mill worker	50*
President, wholesale company	81*	Steel temperer	60
Press feeder - printing shop	59	Stenographer	66
Printer, Newspaper	68	Stockhandler	50
Printing pressman	66	Stockkeeper, municipal div., of electricity	64
Proof reader	67	Stockman in Linen Supply co.	52
Proprietor of sheet-metal business	71	Stock selector	58
Publicity man for large companies	71	Student, Senior Medical	79
Publisher	84	Student, University	74*
Rag sorter	39	Supervisor - State of Ohio Fish Management	77
Railroad switchman	60*	Supervisor, Long Distance, telephone co. (female)	65
Recreation Director (Y.M.C.A.)	70	Supervisor, Office	68*
Repairman, Office machine	67*	Supervisor, Coal Co.	64
Repairman, shoe (cobbler)	60	Superintendent, Bldg.	52
Repairman, shoe	57	Superintendent, Construction Co. Roads and Streets	77
Repairman, telephone co.	62*	Superintendent, factory	72
Repairman, T.V.	67	Superintendent, high school	80*
Repairman, washing mach.	65*	Superintendent, piping	69
Repairman, watch	67*	Superintendent, plant	74
Restaurant partner	66	Superintendent, railroad	75
Roofer	60*	Superintendent, service, large dept. store	76
Sales Correspondent - Division local branch of nationwide manuf.	70	Superintendent	67
Salesman - retail, not involving canvassing or traveling	68*	Superintendent, Steel Mill	72
Salesman, route	60	Superintendent, Truck stop	65
Salesman, route (driver)	56	Technician, Aircraft	78
Salesman- wholesale, not involving traveling	68*	Technician, Dental	73*
Sales promotion worker	72*	Technician, Radio	68
Sales representative	68	Technologist, Medical	74
Saw Sharpener	50*	Tree surgeons, self-employed	76
Scientist	89	Tree trimmer for public utility	51
Seamstress	57	Truck gardener	66
Secretary, Univ. Dept.	65	Tailor	67*
Secretary	65	Upholsterer	62*
Secretary-Treasurer, large company	76	U.S.Employee-Quarter-master Purchasing	69
Sergeant, Army	66*	Veternarian	84*
Servant, Domestic	47	Vice president of a large wholesale food co.	80
Sheet metal worker	54		
Social worker	74		
Soil Conservationist	76		
Specifier, Order Dept.	66		

Vice President, Real	
Estate develop. co.	84
Vocational Rehabilitator,	
V.A.	78
Waitress	50
Warehouse worker	51
Watchmaker	74
Welder	59*
Writer in Public Re-	
lations Dept.	74
Yardmaster. R.R.	73

* - This has no significance

Smith* Occupational Prestige Ranks and Their Actual
or Interpolated North-Hatt Equivalents

Two types of interpolations were used in compiling
this list of equivalents:

- (1) The Ohio State University interpolations, by
Russell R. Dynes et al, explained in Dynes'
mimeographed paper (attached)
- (2) The University of Wisconsin interpolation by
Leslie Silverman, W. Roy Cook, and A. O. Haller.

In interpolating, the following priority was used:

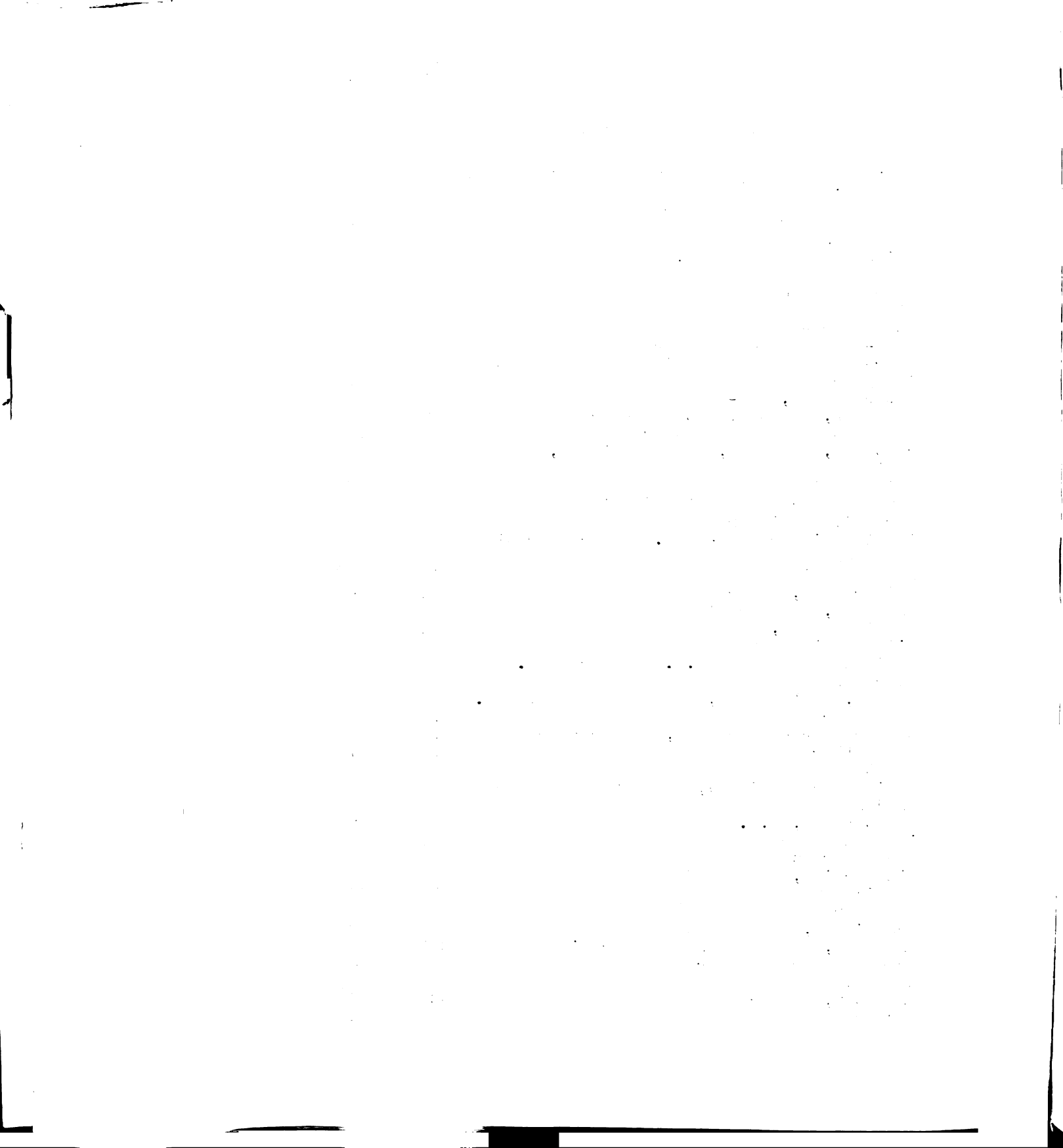
- (1) Original North-Hatt values, except farmer (all
farmers were coded 72).
- (2) OSU interpolations, where no N-H value is
listed.
- (3) UW interpolations, where neither N-H values
nor OSU values are listed. In the latter case,
the original 90 N-H items were used as norms
for each judgment, and judgments were averaged.

* Mapheus Smith, "An Empirical Scale of Prestige Status
of Occupations," American Sociological Review, 8:185-
192, 1943.

	Smith rank	N-H rank
U. S. Supreme Court Justice	010	96
U. S. Ambassador to foreign country	020	94*
U. S. Cabinet secretary	030	92
U. S. Senator	040	91*
Governor of state	050	93
College Pres. or chancellor, 3000 students	060	90*
Banker, large city	070	88
Banker, other	071	87*
Mayor, large city	080	90
M. D., city of 500,000 + people	090	93
College professor	091	89
Doctor, other	092	93
State prosecuting attorney	100	87*
Captain, ocean-going merchant vessel	110	82*
Lawyer	119	86
Criminal lawyer	120	86
Large factory and major business owners, major executives	121	81
Architect	130	86
Author, poet; has published poems	140	80
Writing	141	76*
Actor, motion picture, above rank of extras	150	76*
Aviator, transcontinental airline	160	83
Clergyman	170	86
Dentist	171	86
Psychologist, anthropologist, social science	172	84*
Veterinarian	173	84
Chemist, biochemist, etc. "science", physical science	174	84
Certified public accountant	180	81
Postmaster, city	190	79*
Superintendent of schools	191	80
Foreign service (diplomat or consul)	192	92
Radio entertainer, except announcer	200	76*
Musician, vocalist & other entertainers, includ. announcer	201	74
Artist (including commercial) cartoonist	202	76*
Inventor, working alone on patentable device	210	74*
Professional engineer, industrial designer	212	82
Cashier of bank	220	70
Major govt. employee; i.e. dept. head, etc.	221	87
other auditors and accountants	222	79
Building contractor	230	79
Business medium (includes wholesales, factory owners, brokers	231	80*
Editor-owner, small town paper	240	80*
"Journalism", adv. copy writer, English major, liter. work	241	74*
School principal, 1,000+ students	250	80
Trained nurse	260	78

	Smith rank	N-H rank
Pharmacist, chiropractor, osteopath, occupational therapist, stewardess	261	75
Justice of the Peace	270	69*
Professional baseball player, major league	280	70*
Racing driver, coach in major league	281	70*
Interior decorator	290	77*
High school teacher	291	79
Fashion designer	292	75
Owner & operator - department store	300	78*
Radio operator	310	67
Owner & operator, any type mine	320	75*
Retail jewelry dealer	330	72
Undertaker	340	72
Owner of log or timber camp	350	78*
County sheriff	360	72*
Clerk of circuit court, county officials	361	74*
Social or welfare worker	370	73
Teacher	371	78
Dietician, home economics, etc.	372	78
Librarian, recreation director	373	74
Forester (professional)	374	76
County agent (ag & home demonstration)	375	77
Supervisory position (railroad)	380	75
Personnel director & other secondary mgrs.	381	76*
Superintendent of factory	382	72
Traffic manager	383	75*
Real estate agent	390	69*
Life insurance salesman & other major agents	391	68
Army-Navy officer	392	80
Retail dealer - five, ten, variety store	400	72
Mate, ocean-going vessel	410	71*
Dept. buyer, head salesman, purchasing agent	411	69
"Business" when occupational choice with coll. train.	412	75*
Major salesman, e.g. traveling, auto	413	68
X-ray technician, "science" for oce. choice without college, surveyor	414	71*
Fieldman (dairy), milk inspector, health inspector	415	70
Insurance adjuster, real estate appraiser	416	68
Manager or other official, log or lumber camp	420	70*
Detective, FBI agent	421	72*
Interpreter	422	71*
Private secretary to executive	430	67*
Manager or official, any type of mine	440	70*
Foreman, supervisor, factory	450	67
Foreman, non-factory	451	67*
Electrician, own business	460	73
Hotel keeper or manager, city - 25,000 or less	470	72*

	Smith rank	N-H rank
Elementary school teacher, music teacher- non college	471	71*
Owner small retail business-grocery, tavern, beauty parlor	472	68
Photographer	473	72
"church worker"	478	67*
Stewardess (non-nurse)	479	66
Policeman - city of +15,000	480	67
Fireman	481	65
Other policemen	482	66
Railroad yardmaster	483	73
Watchmaker - factory	490	74
Owner-operator general farm	500	72
Owner-operator dry cleaning establishment	510	68
Linotyper	520	67
Pattern maker, lay-out man	521	67
Monotyper, printer, lithographer	522	67
Machinist - tool die setter	523	73
Draftsman, engraver, window trimmer, sign printer	524	69
Radio service man	525	67
Heating and refrigeration (engineer)	526	68
Locomotive engineer	530	77
Diesel engineer (non-prof.) other operating engines	531	69*
Oil well driller	540	66*
Well driller, other	541	64*
Conductor, steam railroad	550	67
Bus dispatcher, signalman	551	67
Railway mail clerk	560	65
Clerical employee of P.O. & other govt. bureaus	561	65
Manager, small store, service station, etc.	562	68
Bookkeeper	570	68
Stenographer - secretary, proofreader	571	66
Bank teller	572	67
Typist	580	63*
"Office work" (girls), "clerk" except for sales	581	62
Ticket agent, R.R.	590	62*
Bill collector	591	60*
Express agent	592	59*
Mail carrier, rural and urban	600	66
Practical nurse	610	66
Homemaker	611	
Nurses' aid, lab assistant	612	60
Carpenter, general business for himself	620	65
Structural iron worker	630	63
Blank (?)	631	
Inspector, tester	632	66*
Pawnbroker	640	61*



	Smith rank	N-H rank
Salesman in store	650	58
Soldier, sailor	651	60
"Aviator" - non professional	652	57*
Auto parts clerk - railroad clerk	653	57*
Receptionist	654	65*
Dressmaker, own business conducted at home	660	62
Fisherman & merchant marine, sailor, trapper	661	58
Telephone operator	670	59
Telephone installer	681	63
Telegraph or telephone lineman	680	63
Painter, house and other non-factory	690	60
Skilled trades - non owner, electricians, plumber, carpenter, mason, etc.	691	64*
Beautician	699	60
Barber	700	59
Model	701	55*
Cashier	702	62
Cook, hotel or metropolitan restaurant	710	54
Food industries, skilled	711	60*
Factory worker, skilled	712	59*
Farm tenant - operates for share of profits	720	65*
Forestry - non pro, game warden	721	66*
Baggage man, R.R.	730	60*
R.R. car inspector & other R.R. semi-skilled	731	60
Semi-skilled worker, automobile factory	740	55*
" " " other factories	741	55*
Assistants to skilled trades	742	54*
Assistants to doubtful (class with 741)	745	54*
Milk man	748	54
Truck driver, tractor, steam shovel & bus drivers	749	54*
Chauffeur, private family	750	52*
Semi-skilled worker - building trades	760	57*
Food industries, semi-skilled	761	56*
Semi-skilled worker, clay, glass, pottery	770	59
Semi-skilled worker, cotton mill	780	58
Auto filling station attendant	790	52
Lockman, pump operator & other semi-skilled operators	791	53*
Employee of a municipality, utility, etc.	792	55*
Works for business firm	793	58*
Shipping, stock, time and receiving clerk	794	55*
Waiter, hotel or metropolitan restaurant	800	48
Bartender	801	44
Taxicab driver	810	49
Manual worker, stone quarry	820	40
Mine, coal mine	830	49
Mine, other	831	49
Porter on pullman or dining car	840	44
Presser in dry cleaning plant	841	46
Woodchopper or sawyer at lumber camp	850	53

	Smith rank	N-H rank
Farm laborer	860	50
Unskilled laborer, R.R.	870	48
Janitor, public building	880	44
Waitress, dishwasher	881	39*
Caretaker, plant guard, etc.	882	49*
Baby sitter, nursemaid	883	44
Laundry worker	884	45*
Elevator operator, other unskilled attend.	885	45*
Longshoreman, unskilled heavy work	890	47
Loader, trucking co., warehouse worker	891	51
Unskilled worker, auto factory	900	47
" " construction	910	50
Common labor, laborer	911	40
Unskilled worker, woolen mill	920	47
Unskilled factory worker	921	47
Newsboy	930	39*
Huckster or peddler	931	37*
Messenger	940	45*
Scissors or other tool grinder, house-to-house	950	50*
Unskilled worker, odd jobs	960	40*
Domestic servant	961	47
Scrub woman	970	39*
Garbage collector	980	35
Unskilled migratory worker	990	40
Unemployed	997	
Retired	998	
Dead, divorced, "no father", etc.	999	

* U-W interpolation

Special North-Hatt Occupational Prestige Ratings

As Interpolated by Haller

Occupation	Rating
Nurse with B. A. or M. A. or teacher of nurses	80
Bar - Co-owner and operator	60
Upholsterer	62
Factory machine operators	60
Factory machine semi-skilled (assembly work)	55
General office work - farm loan service (coded same as bookkeeper)	68
Part-time farm laborer (coded as common labor and unskilled odd jobs)	40
Clerk, female, drygoods store or clothing store (same as salesmen in store)	58
Unskilled factory workers - sausage company, canning, shoe factory	47
Minister - interne	81
Clerk and general office worker	62
X-ray technician with degree	79
Loan service office job	66
Feed mill, part owner and operator (classified with other small owners)	67
Manager, dime store	69
Manager of new car sales - large metropolitan auto company	75
Milk bottler (unskilled)	50
Porcelain factory boss's son-in-law (considered equal to most low managers)	70
Church worker, female, (runs office, makes calls, etc.)	74
Rural school teacher	75
Owner-operator of rural milk truck	59
- Two rural milk trucks	63
Full-time political party worker	73
Folder and trimmer, printing establishment	50
Co-owner and operator of small excavating company	70
Owner-operator filling station	70
- part owner	69
- operator (non-owner)	60
Nurses aid	57
Assistant editor, small-town paper	74
Timekeeper (coded same as bookkeeper)	68
Mason	68
Owner-operator, small wholesale cookie business	68
Girl who sells insurance at airplane terminal	65
Beer distributor	70
Insurance claims adjustor	70
Showman of animals at fairs	55
Inseminator	61

Occupation	Rating
Help with father's monument business	65
Appliance repairman and salesman	66
Table slide worker in burial vault (codes same as common laborer)	40
Dock foreman for trucking company	66
Man who sells odds and ends of food from truck he owns	47
Traveling inspector of water supply company	70
Auto salesman	70
Manager, small city chain lumber yard	72
Owner-operator, small grocery and butcher shop	67
Owner-operator, radio and TV shop	72
Bar owner	62
Factory worker (no other information)	50
Knife maker and sharpener	44
Nursing or rest home operator	67

In general, Haller reduced ratings of helpers and apprentices five points below the occupational rating.

APPENDIX IV

ANALYSIS OF VARIANCE TABLES FOR FACTORS
FOUND SIGNIFICANT

Age of Respondents - Index of Commitment

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Total	438	2802.86		
Between Sum of Squares	3	125.09	41.70	6.77*
Within Sum of Squares	435	2677.77	6.16	

*Significant at the .01 level

North-Hatt Quintile Rank - Index of Commitment

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Total	422	2638.40		
Between Sum of Squares	4	71.71	17.93	2.92*
Within Sum of Squares	418	2566.69	6.14	

*Significant at the .05 level

Amount of Educational Training of Respondents -
Index of Commitment

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Total	424	2760.36		
Between Sum of Squares	3	97.04	32.35	5.11*
Within Sum of Squares	421	2663.32	6.33	

*Significant at the .05 level

Amount of Educational Training of Respondents -
MTAI

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Total	424	536707.76		
Between Sum of Squares	3	38028.88	12676.29	10.70*
Within Sum of Squares	421	498678.88	1184.51	

*Significant at the .01 level

Degree Held by Respondents - MTAI

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Total	434	55887.08		
Between Sum of Squares	2	25517.79	12758.90	181.49*
Within Sum of Squares	432	30369.29	70.30	

*Significant at the .01 level

Respondents' Undergraduate Field of Study -
Index of Commitment

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Total	430	3044.32		
Between Sum of Squares	13	156.92	12.07	1.74*
Within Sum of Squares	417	2887.40	6.92	

*Significant at the .05 level

Respondents' Undergraduate Field of Study -
MTAI

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Total	430	576148.68		
Between Sum of Squares	13	45033.70	3464.13	2.73*
Within Sum of Squares	417	531114.98	1267.58	

*Significant at the .01 level

Type Institution of Respondents' Undergraduate
Matriculation - Index of Commitment

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Total	429	2686.57		
Between Sum of Squares	3	64.52	21.51	3.49*
Within Sum of Squares	426	2622.05	6.16	

*Significant at the .05 level

Type Institution of Respondents' Undergraduate
Matriculation - MTAI

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Total	429	548158.98		
Between Sum of Squares	3	21463.23	7154.41	5.79*
Within Sum of Squares	426	526695.75	1236.38	

*Significant at the .01 level

Respondents' Preference for Type Ability Group
to Teach - Index of Commitment

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Total	427	2744.55		
Between Sum of Squares	6	512.50	85.42	16.12*
Within Sum of Squares	421	2232.05	5.30	

*Significant at the .01 level

Respondents' Preference for Type Ability Group
to Teach - MTAI

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Total	427	549897.05		
Between Sum of Squares	6	19270.57	3211.76	2.55*
Within Sum of Squares	421	530626.48	1260.40	

*Significant at the .05 level

Grade Level Taught by Respondents -
Index of Commitment

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Total	433	2619.07		
Between Sum of Squares	6	227.80	37.97	6.78*
Within Sum of Squares	427	2391.27	5.60	

*Significant at the .01 level

Respondents' Experience With Grouping -
Index of Commitment

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Total	432	2915.37		
Between Sum of Squares	2	505.39	252.70	45.13*
Within Sum of Squares	430	2409.98	5.60	

*Significant at the .01 level

Subject Taught by Respondents - MTAI

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F
Total	436	580915.98		
Between Sum of Squares	13	38988.53	2999.12	2.34*
Within Sum of Squares	423	541927.45	1281.15	

*Significant at the .01 level

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4. The fourth part of the document discusses the implications of the findings. It suggests that the results of the study have significant implications for the field of research and may lead to further developments in the future.

5. The fifth part of the document concludes the study. It summarizes the main findings and reiterates the importance of maintaining accurate records and using appropriate methods for data collection and analysis.

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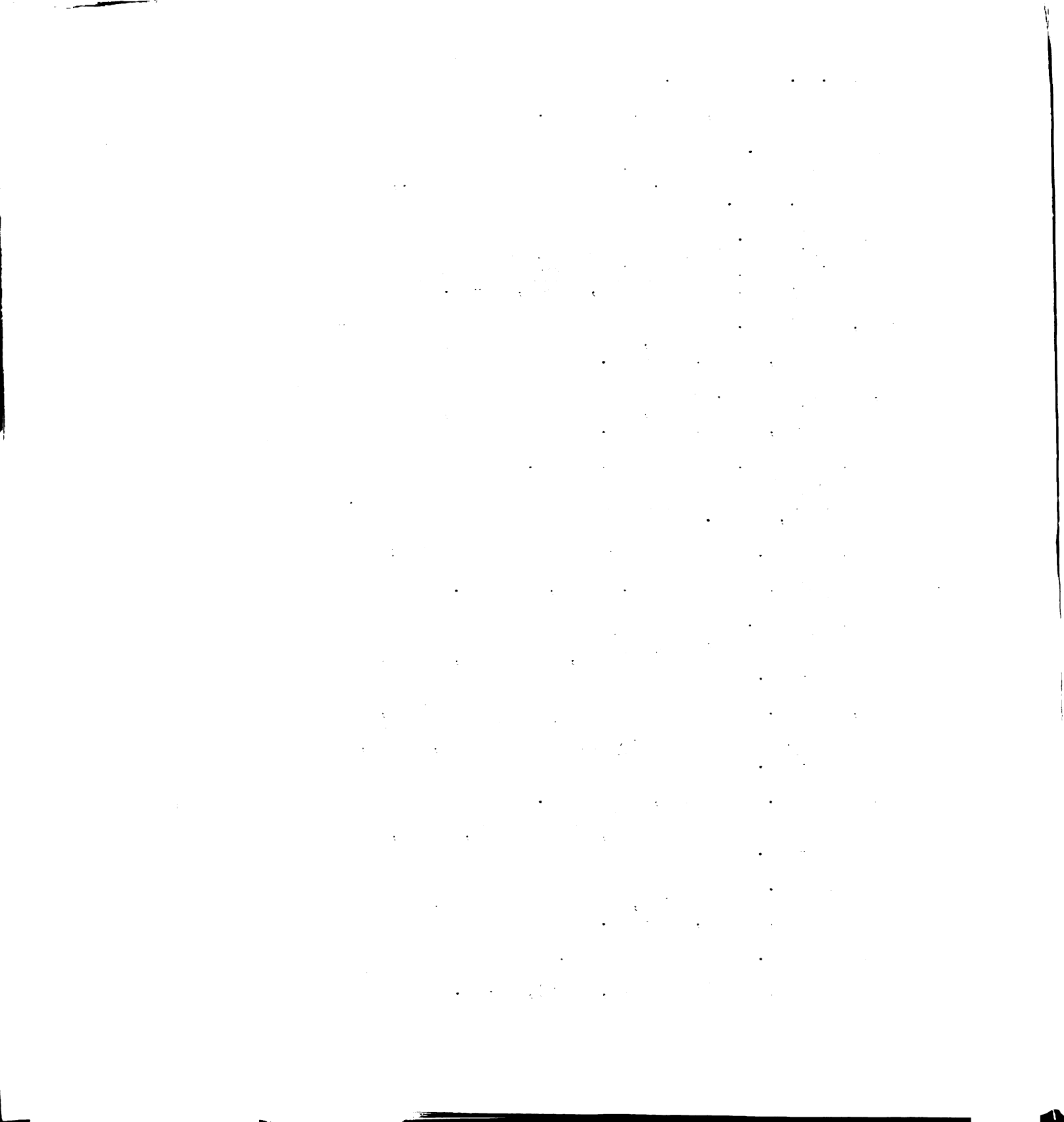
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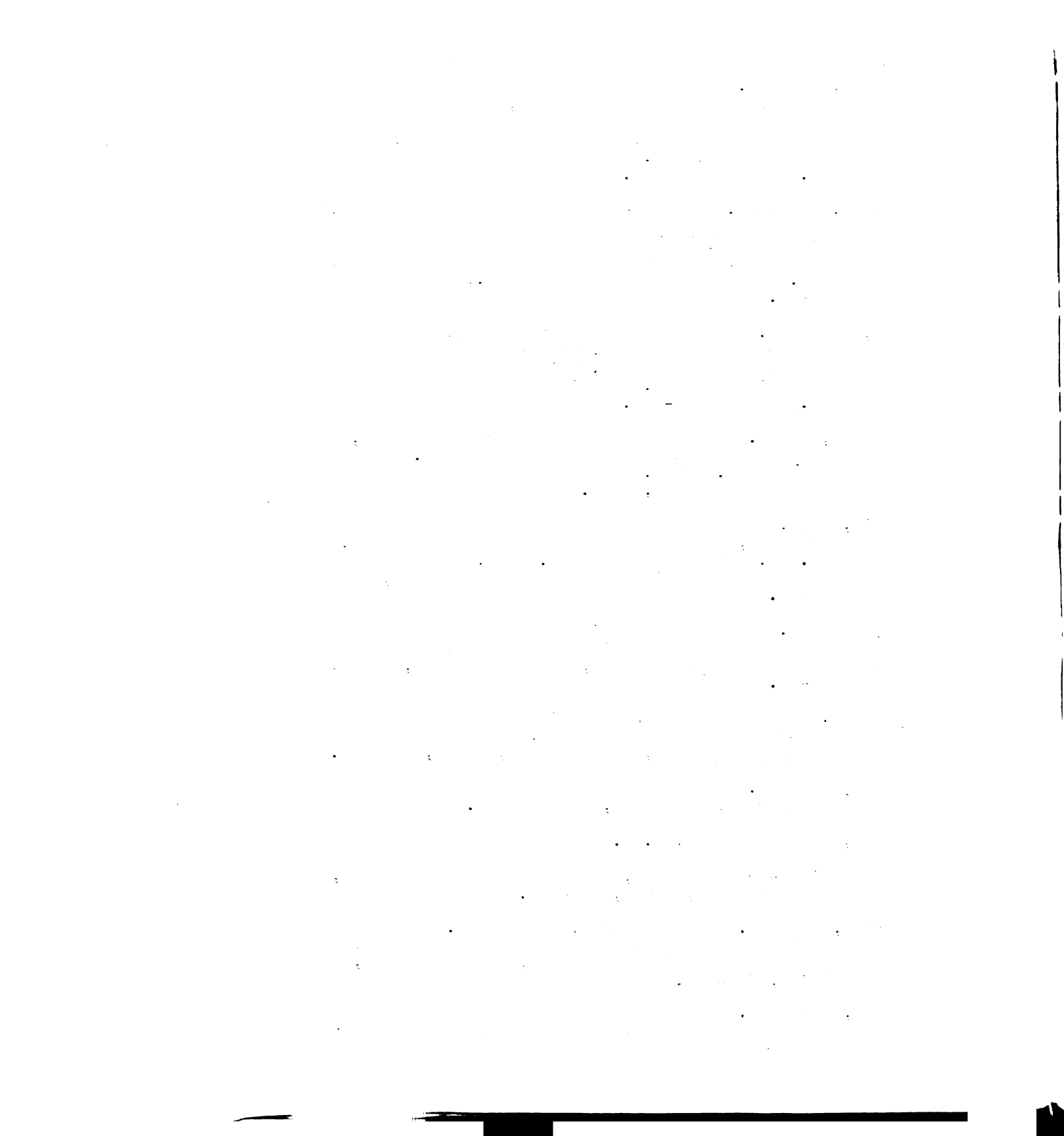
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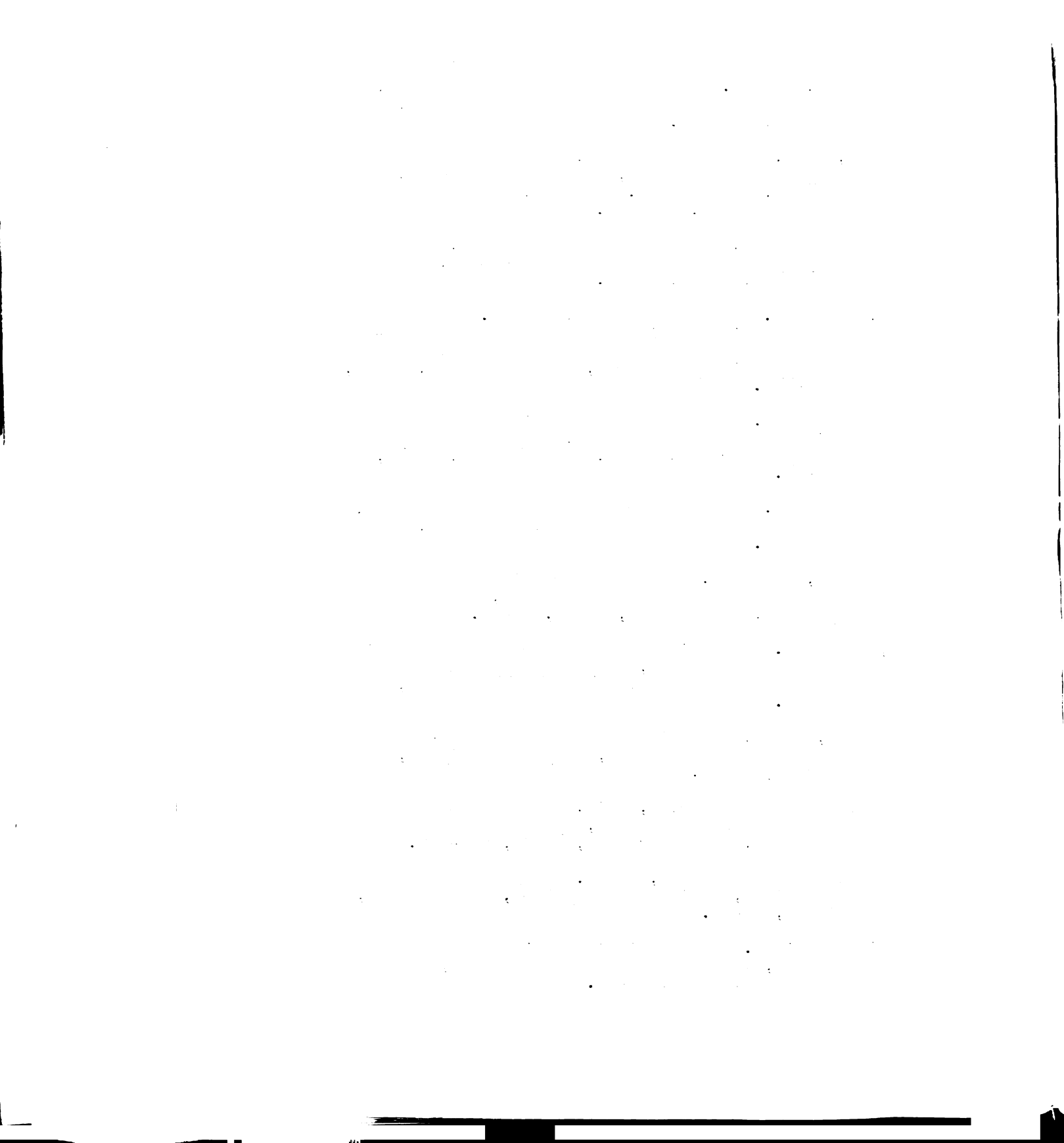
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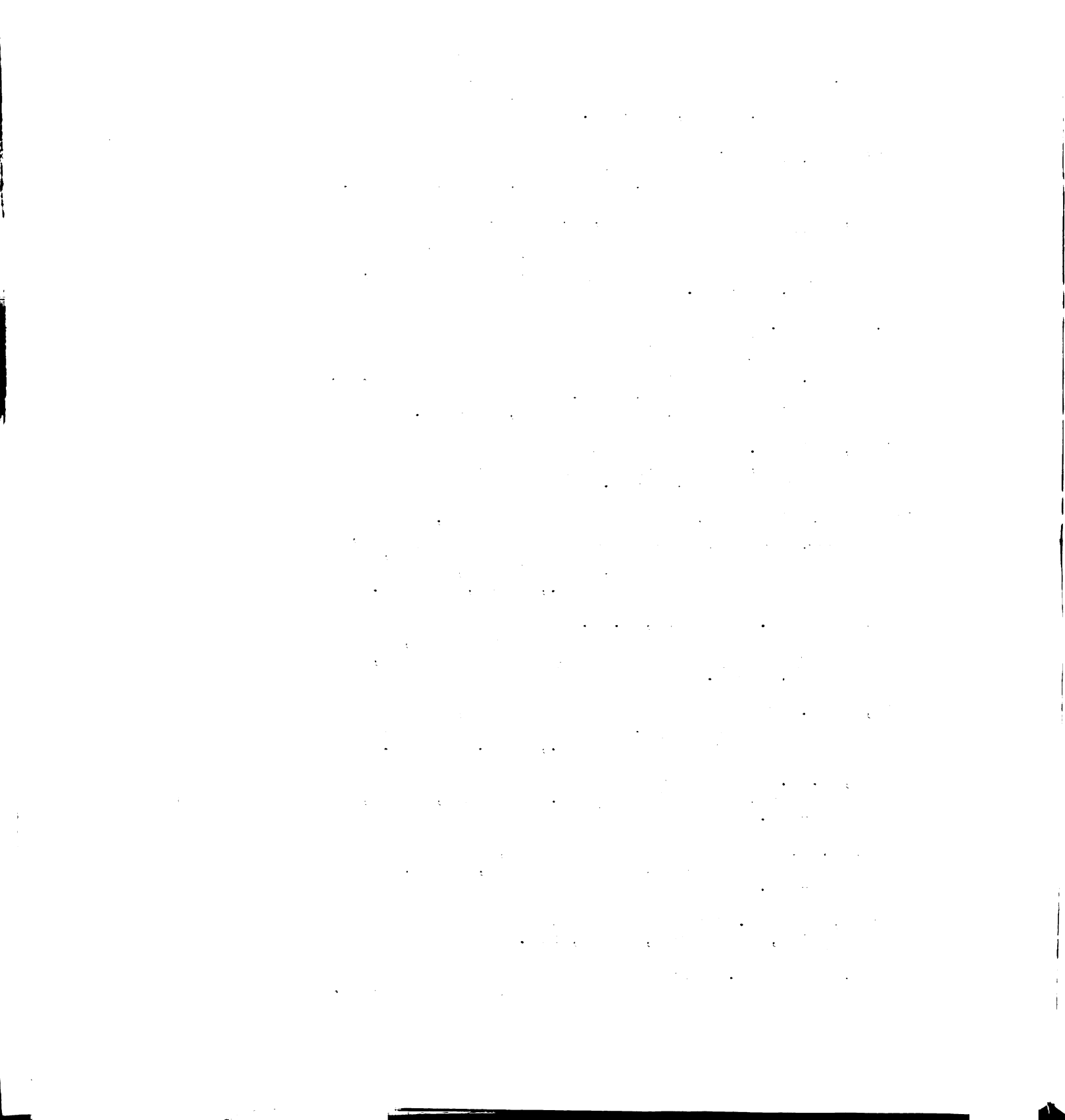
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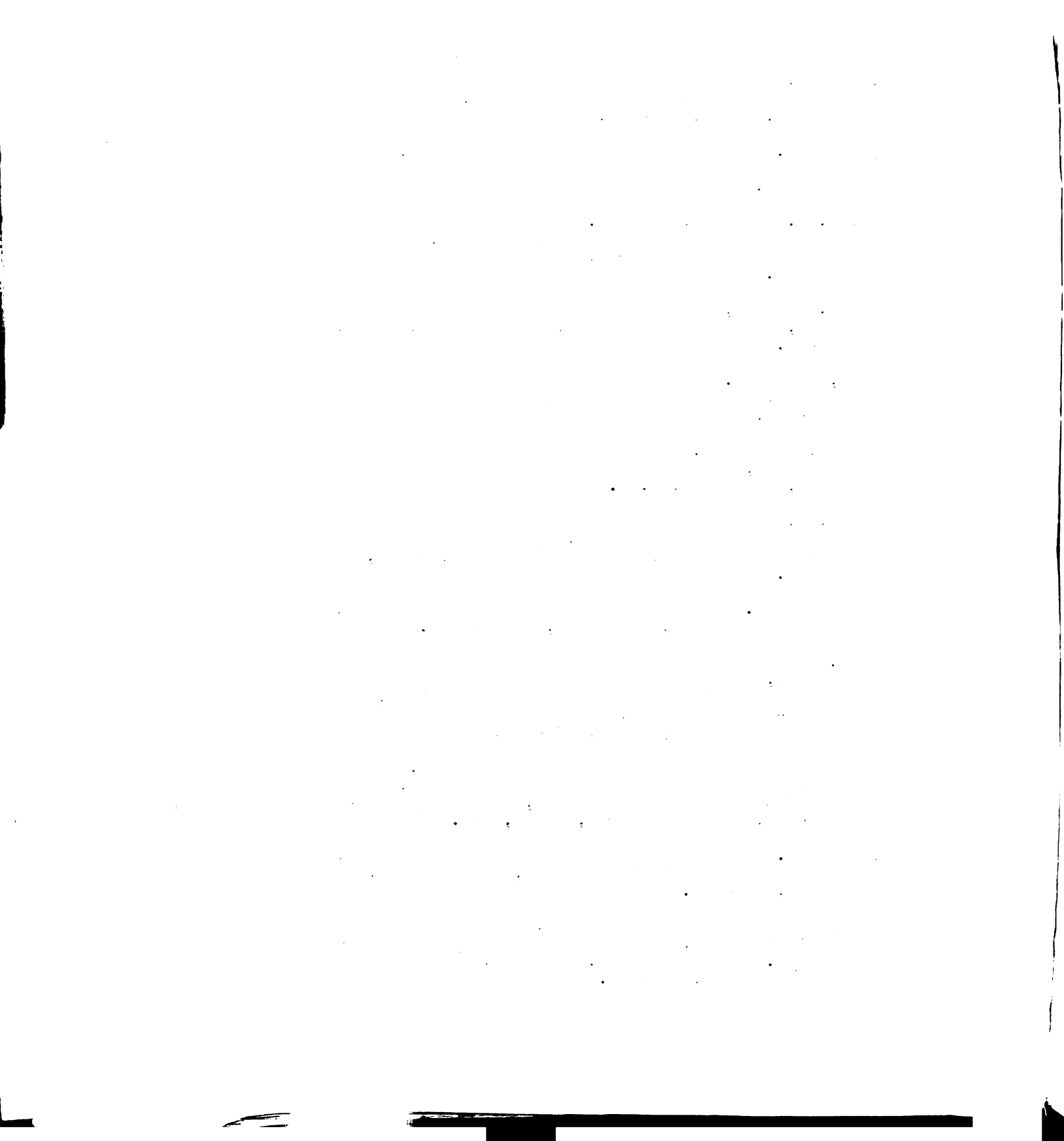
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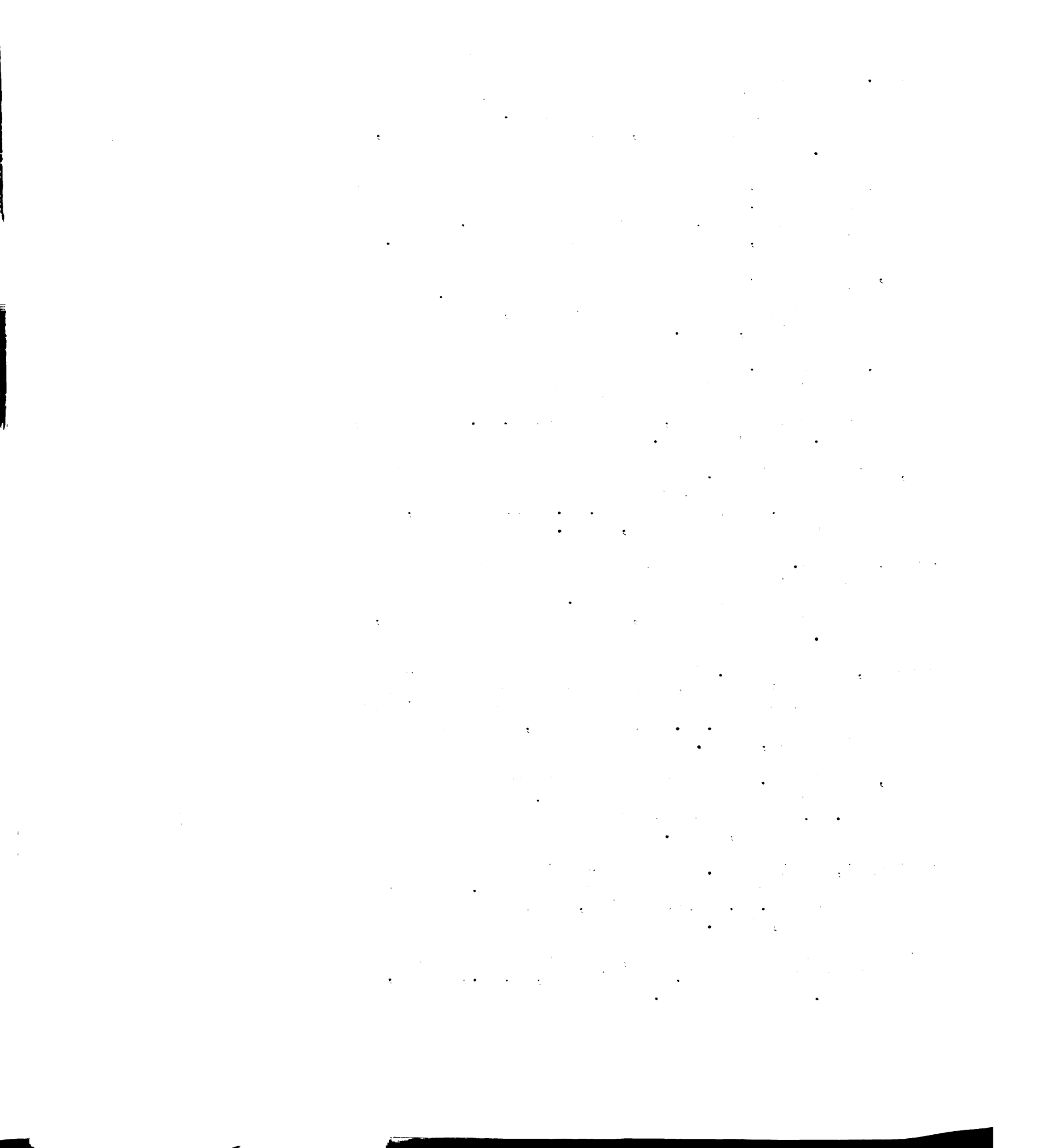
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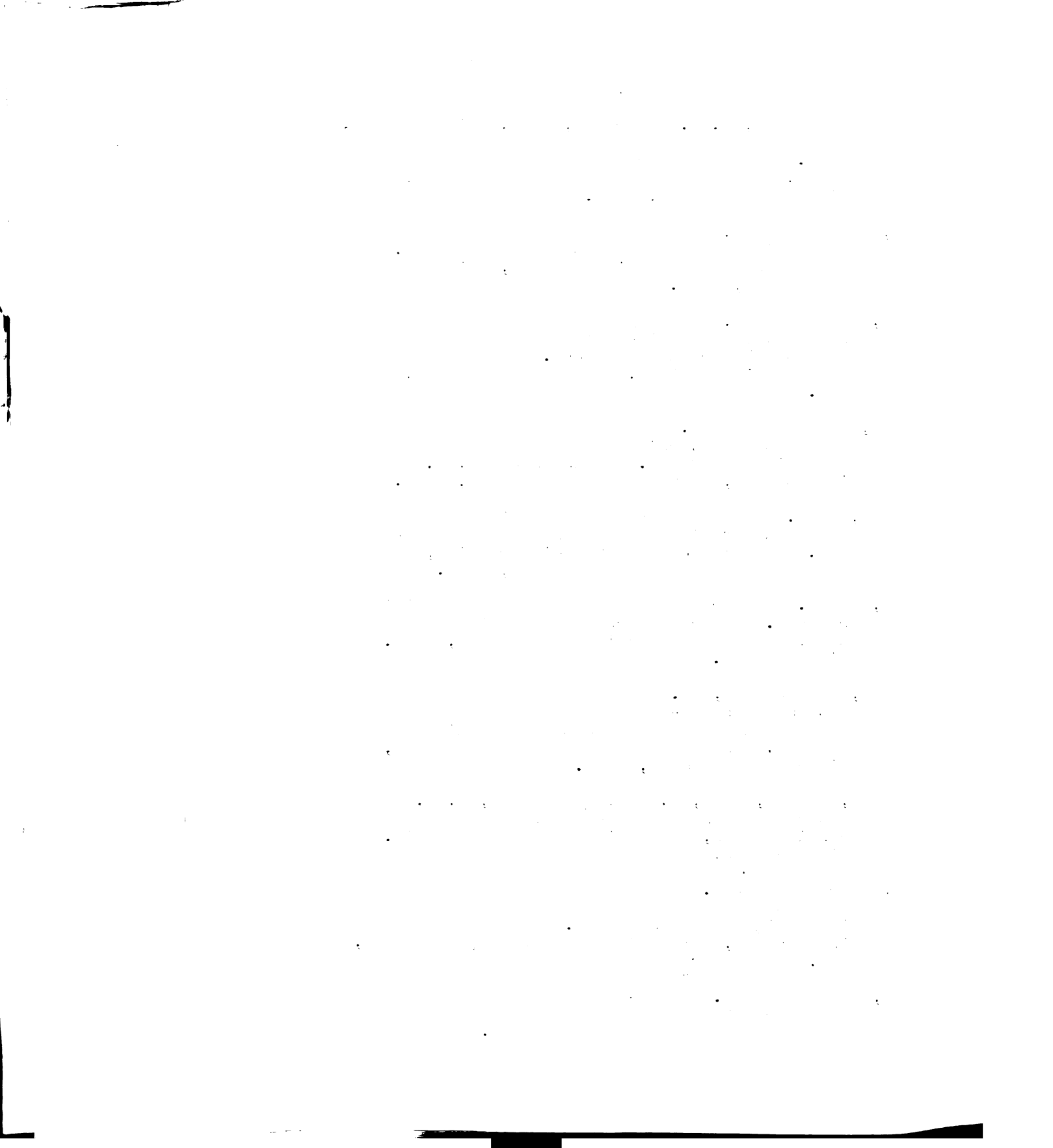
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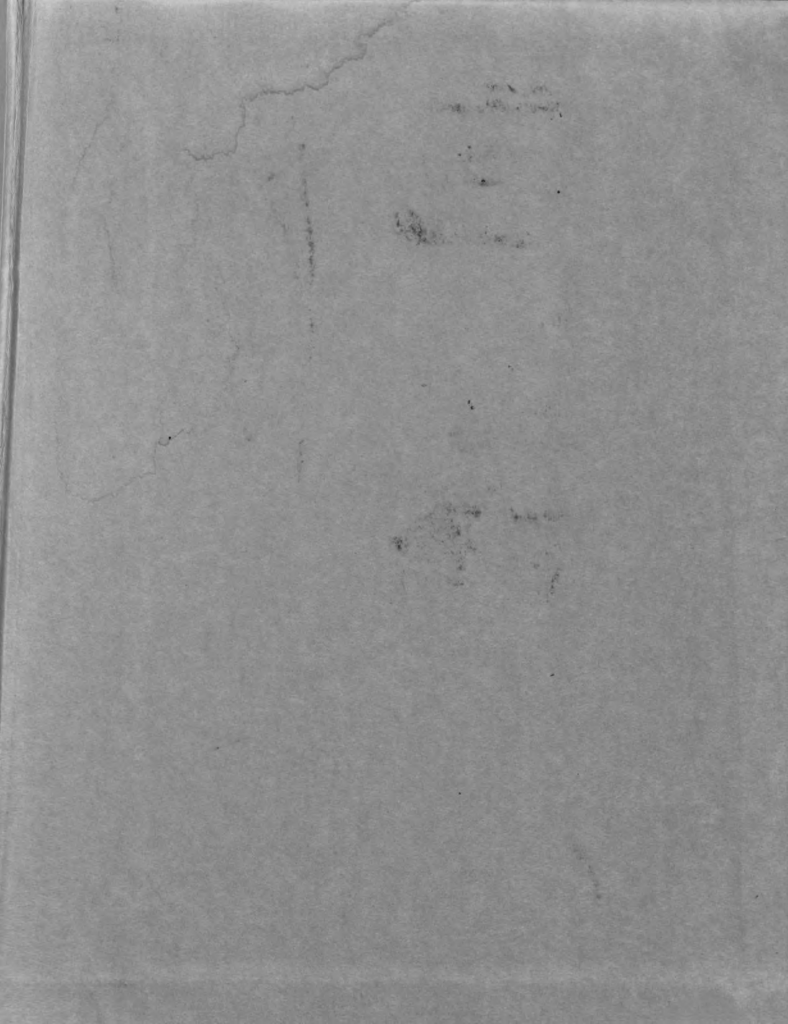
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