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DISSERTATION

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

By
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The Ohio State University
1967

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CHAPTER I
THE PROBLEM AND ITS SETTING

Introduction

There is a nationally recognized need for vocational training programs designed for youth with special needs—youth who, because of physical, educational, cultural, or economic handicaps are unable to successfully pursue vocational training through the regular programs of vocational education at the secondary level in the United States. The need, which had been a growing concern of vocational educators since the close of World War II, received national attention when it was reported by the President's Panel of Consultants on Vocational Education in 1962. The Congress enacted the Vocational Education Act of 1963 for the purpose of assisting States "... to maintain, extend, and improve existing programs of vocational education" and "to develop new programs of vocational education..." Specific provisions were made that one area of the expansion of vocational education was

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to be directed toward meeting the vocational training needs of "... those with special educational handicaps." 3

Growing concern for attention to training programs for youth with special needs is evidenced by widespread attention given to the subject in recent educational publications. This attention is generally focused upon individual programs and toward the many problems to be solved in the design and development of educational programs to meet the needs of this group of students. There is little evidence of the development of such programs on a broad scale within the states.

Some of the problems to be faced in the design and development of vocational programs for youth with special needs are to determine where these youth are located and how many there are. Various estimates have been made concerning the numbers of the disadvantaged in the large cities of the country with estimates running as high as "one in three." 4 Little has been done to determine how many youth with special needs there are in non-metropolitan areas of the country nor to determine characteristics of these youth which present implications for the planning of vocational education programs to meet their needs. A knowledge of what services are presently available to serve the special needs of these youth should also be considered in the overall design of vocational education programs for youth with special needs.

3 Ibid., Section 1.

A knowledge of what local educators feel should be some important characteristics of vocational education programs for youth with special needs should prove useful in the development of such educational programs. Also the importance which local educators place upon occupational education in serving the educational needs of these students should provide some needed insight in the implementation of such programs.

**Statement of the Problem**

The major purpose of the study was the determination of characteristics of students and of important aspects of vocational education programs essential to the serving of youth with special needs in non-metropolitan Ohio high schools.

**Specific Objectives**

The following specific objectives were identified in order to facilitate the development of this study:

1. To identify numbers of youth with special needs at the ninth grade level in non-metropolitan high schools in the state of Ohio.

2. To determine the relative influence of selected factors contributing toward their classification as youth with special needs.

3. To determine how selected characteristics of youth with special needs at the ninth grade level in non-metropolitan Ohio high schools differ from those of other ninth grade students in the same schools.
4. To determine the relative importance high school educators place upon educational programs for youth with special needs and upon selected characteristics of vocational education programs for these students.

**Basic Assumptions**

The fundamental assumptions accepted by the investigator at the beginning of this study and which were not tested were as follows:

1. It was assumed that the numbers, the distribution of, and the characteristics of youth with special needs in non-metropolitan high schools of Ohio were sufficiently different than those of metropolitan schools to warrant separate consideration.

2. It was assumed that the ninth grade level was the most important high school grade level at which to determine numbers and characteristics of youth with special needs.

3. It was assumed that high school principals, with the assistance of their guidance counselors and teachers, would have adequate knowledge of ninth grade students in their schools to be able to identify youth with special needs and to categorize these youth according to the major disadvantage of each student.

**Limitations of the Study**

The investigator was cognizant of the following limitations in conducting this study:

1. The findings of this study would be applicable only to those schools so defined as non-metropolitan high schools in the state of Ohio.
2. The perception of principals or guidance counselors as to those students who have special needs may have differed to an extent from school to school.

3. The study was limited by the wide variety of terminology in use in describing and categorizing youth with special needs.

4. The study was limited by the inability of the investigator to visit a large number of schools in the collection of data pertaining to youth with special needs.

5. Limitations were also recognized which are inherent in the use of survey instruments—failure to obtain responses from all of the sample schools and differing interpretations of instructions and terminology of questionnaires by respondents.

Need for the Study

Who are the youth with special needs? Where are they? What characteristics do they possess which differentiate them from the successful student in the high schools? How important is occupational education in meeting the needs of youth with special needs? What should be some important characteristics of vocational programs designed for these students? If such questions were answered, there would then be a basis upon which to build in the planning and design of vocational programs designed especially to meet the needs of the student who cannot be successful in the regular vocational program.

The Panel of Consultants on Vocational Education brought into view the complex problems of "Youth with Special Needs." It urged the federal government to promote and develop programs for these youth. Education in general has failed to help the disadvantaged youth, and vocational education has largely eliminated the group by
imposing selection devices. Now the vocational educators of the nation, well aware that these students want to or should, go to work, are attempting to meet the challenge.\(^5\)

Although the Vocational Education Act of 1963 made specific provisions for development of "Vocational education for persons who have academic, socio-economic, or other handicaps that prevent them from succeeding in the regular vocational education program,"\(^6\) there is evidence that relatively few programs of such design have been initiated. A recent study by Groves revealed that in the school year 1965-1966, only 79 federally funded vocational education programs for youth with special needs were in operation in the 50 states and U. S. territories.\(^7\) Although nationally the number of such programs is quite limited, of those in existence, nearly one-half are in the state of Ohio.\(^8\) Even with this proportionally large share of the nation's total efforts in this area, but a small portion of Ohio's high school students have access to such educational programs. The unknown dimensions of the problem may be a factor partially responsible for the limited development in this area of vocational education.

There is little evidence that direct attempts have been made to identify and to describe youth with special needs in the non-


\(^6\)The Vocational Education Act of 1963, op. cit., p. 12.

\(^7\)Ramsey Groves, "Vocational Education Programs for Students with Special Needs", Ph. D. dissertation, (The Ohio State University, Columbus, Ohio, 1966), p. 68.

\(^8\)Ibid., p. 68.
metropolitan high schools in the state of Ohio. One related study did identify and describe students who dropped out of Ohio high schools during the 1962-1963 school year. Although the study did not seek to directly identify youth with special needs before they dropped out of school, it did point up the necessity for striving to identify such youth before they are lost to the educational system. The investigators pointed up the necessity of describing the total high school population as a basis upon which the dropouts could be compared to non-dropouts. The study further recognized that "provisions should be made for secondary course offerings to meet the varying needs of the student body including—widely available academic and vocational programs."

The description of the dropout might be closely related to that of disadvantaged youth in that "... their scholastic, social, and economic levels were below those of the general school population." Low socio economic status, low intelligence and motivation, and emotional instability have also been used to characterize the high school dropout. Students who either lack the aptitude to perform school

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10Ibid., p. 54.
11Ibid., p. 51.
12Ibid., p. 57.
13Ibid., p. 52.
tasks or have not gained the necessary skills are not able to perform in a way that provides satisfaction. Students whose home social experience has developed within them behavior patterns and attitudes that are not compatible with the school environment find school an uncomfortable place. The reaction of the school toward those who cannot succeed in the regular program further reinforces the student's desire to leave school.

Low income and high rates of unemployment are often associated with the lack of a proper education in preparation for the world of work. In 1961 the mean lifetime earnings per year for the person with one to three years of high school were $800 less per year than for the high school graduate. The decreased personal income of those not educated for a productive life in society is but a small part of the total impact upon the social and economic system. The waste of human resources, the loss of productive and purchasing power, delinquency, and chronic dependence are difficult to measure, but are large costs in comparison with educational costs. President John F. Kennedy stated:

The loss of only one year's income due to unemployment is more than the total cost of twelve years education. Failure to improve educational performance is thus not only poor social policy, it is poor economics.


The early identification of youth with special needs in high schools would seem to be of significant value to those responsible for planning programs to meet the needs of such youth, as twenty-two per cent of the 1962-63 high school dropouts occurred at the ninth grade level and over thirty per cent at the tenth grade.\(^{18}\) Identification of youth with special needs at the ninth grade level would serve to identify a greater proportion of these youth and would include many that would otherwise be lost from the educational system.

In discussing the role of research relative to youth with special needs, a U. S. Office of Education Publication states:

Research studies could be undertaken to provide understanding of the attitudes of disadvantaged youth toward their school and their environment, and toward employment. The findings might be of great value in developing pilot programs to discourage dropouts, in motivating the socio-economically handicapped to pursue training for gainful employment, and in counseling them.\(^{19}\)

The identification of youth with special needs in non-metropolitan high schools would appear to be of significance in the planning of educational programs from the standpoint that the rural students' differing cultural, social, and educational background may tend to produce somewhat different characteristics than would be found in the urban student. Although it has been recognized that "... research

\(^{18}\) Nachman, op. cit., p. 11.

on rural youth is most inadequate, some general comparisons of rural and urban youth have shown that farm youth have lower levels of attainment and aspiration than urban youth. It has also noted that rural family income is lower, that values differ, and that rural and especially farm youth are less well educated than urban youth.

Success in the widespread implementation of vocational education to serve youth with special needs will depend to a large degree upon the importance which local schools place upon such educational programs. Brickell's study, in New York state, found the school administrator as one of the dominant forces in educational change. A determination of the relative importance that local school administrators place upon serving youth with special needs, in contrast to other educational innovations toward which resources might be directed,


would provide a point of departure in planning the implementation of such programs. A determination of the importance which local educators place upon selected characteristics of vocational programs to serve these youth would also have merit.

In summary, very little is known of the number of students in non-metropolitan high schools who cannot succeed in the regular school program, where such students are located, and what distinguishing characteristics they possess which may need consideration in planning vocational programs to meet their special needs. The importance which local educators place upon various aspects of occupational education programs to serve youth with special needs is an important consideration to the implementation of such programs.

**Method of Investigation**

The objectives of the study were reached through a three-phase study. The first phase of the study consisted of a survey of a random sample of non-metropolitan Ohio high schools for the purpose of identifying and categorizing youth with special needs according to the relative influence of selected factors contributing toward their disadvantage. Characteristics of youth with special needs were determined in the second phase through examination of student records and group interviews of students in a stratified sampling of non-metropolitan schools. In the third phase of the study a survey was made of high school principals, whose schools had participated in phase I of the study, in order to determine the importance they attached to various aspects of occupational education for youth with
special needs. Chapter II of this study is devoted to a detailed description of procedures employed in the conduct of the study.

Definitions

The terms listed below have been defined in order to provide a common basis for understanding the conduct of the investigation:

1. **Youth With Special Needs** -- Those students who have academic, socioeconomic, or other handicaps that prevent them from succeeding in the regular high school educational program. Factors which may contribute toward a student's classification as a "youth with special needs" are:

   - **Economically Deprived** - parents whose primary income is from welfare aid or family is classified in the poverty incomes below $3000 per year

   - **Educationally Deprived** - ranking in the lower portion of the class or classified as slow normal because of academic problems

   - **Ethnically Disadvantaged** - racially associated problems affecting educational success

   - **Socially Disadvantaged** - those having special social problems which affect their educational success such as alienated youth, loss of parents, etc.

   - **Physically Handicapped** - permanent or limiting physical disabilities including poor health

   - **Intellectually Handicapped** - low mental ability

2. **Disadvantaged Youth** -- Those students who are disadvantaged by reason of one or more of the factors associated with the term "youth

with special needs." For the purposes of this study the two terms will be considered synonymous and will be used interchangeably.

3. Non-metropolitan high schools -- For the purposes of this study, non-metropolitan high schools are those public high schools classified as "county," "city," or "exempted village" schools which are located in Ohio counties not designated as portions of "Standard Metropolitan Statistical Areas" by the United States Bureau of Census.

Chapter Summary

The Vocational Education Act of 1963 provided that one area of expansion of vocational education should be directed toward serving youth with special needs. Although Ohio leads all other states in the number of vocational education programs in operation which are especially designed to meet the needs of this group of students, yet a very small portion of the high school youth of the state have access to such educational opportunity. A greater knowledge and understanding of the dimensions of the problem are needed in the continued planning and implementation of new vocational education programs to serve youth with special needs.

The major purposes of the study were to find out who youth with special needs are in non-metropolitan high schools, what they are like in terms of selected characteristics, and what local educators feel are important aspects of vocational education programs to serve these youth.

A survey of a sampling of non-metropolitan schools was made for the purpose of identifying youth with special needs in these
schools and categorizing them according to selected factors contribut­ing toward their classification as youth with special needs. Characteristics of youth with special needs were determined by comparison of selected characteristics of these students with a sampling of other high school youth not considered to have special needs.

An assessment of the importance which local high school principals placed upon vocational education for youth with special needs and upon selected characteristics of such programs was made through the use of an instrument which was mailed to those schools participating in the identification survey.
CHAPTER II

DESIGN AND CONDUCT OF THE STUDY

Introduction

An investigator, in conducting a study into an area in which little similar work has been done, is faced with the problem of making the study broad enough to provide a general picture of the area of study to the reader, yet limiting the scope of the study to the extent to provide the needed depth of study upon which users may confidently rely in making decisions.

In seeking to establish the most desirable direction toward which the study would be directed, numerous conferences were held with vocational educators to assure that needed answers would be sought. In addition to conferences with the investigator's graduate adviser and committee members, conferences were held with Warren Weiler, state supervisor of vocational agriculture in Ohio; with Barbara Kemp, Program Specialist for Persons with Special Needs, Division of Vocational and Technical Education, U. S. Office of Education; and conferences with H. D. Brum, State Supervisor for Disadvantaged Youth Programs in Ohio. The investigator gained additional insight into the area through participation in several meetings of the Committee on Disadvantaged Youth at the Center for Vocational and Technical Education, The Ohio
State University. The investigator also attended meetings of the Coordinating Committee on Disadvantaged Youth Programs in the Vocational Division of the State Department of education in order to familiarize himself with more specific problems encountered by each of the vocational services in the development of vocational education programs to serve youth with special needs.

**Determination of the Population**

The counsel of these persons, combined with an extensive survey of the literature pertaining to youth with special needs, led to the decision to direct the study toward students in high schools located in the non-metropolitan areas of the state of Ohio. The direction of the study toward youth with special needs in the non-metropolitan areas of the state seemed advisable at the time for:

1. Little had been found relating to youth with special needs other than those located in metropolitan areas.

2. There were indications that the relative numbers and characteristics of youth with special needs in non-metropolitan areas might differ from those of the metropolitan areas.

3. Somewhat unique situations existed in the city due to high concentrations of ethnic groups and economic levels in various parts of a metropolitan area. These concentrations of population were reflected in widely varying numbers and types of disadvantaged students, depending upon the specific location of a school within the metropolitan area. Therefore, the metropolitan areas would not lend
themselves readily to study by sampling of schools from which generalizations might be made to other schools and to youth with special needs in general.

It was believed that this problem would not be present to a great extent in the non-metropolitan areas of the state. In these areas all high school students from a rather large area generally attended the same high school; therefore, the varying percentages of youth with special needs and the types of disadvantage found in a study of students from a sampling of non-metropolitan schools should provide a rather realistic picture of the problem in the non-metropolitan areas of the state. Studies of youth with special needs in metropolitan areas of the state might best be accomplished through rather intensive studies of individual metropolitan areas.

4. The major area of study of the investigator was in the area of agricultural education, thereby adding additional impetus to direct the study such that the findings of the study would be widely applicable to the agricultural areas of the state.

Non-metropolitan areas -- A variety of approaches were attempted in efforts to differentiate between metropolitan and non-metropolitan areas of the state in order to determine which high schools should be included in the study. An attempt was made to differentiate between metropolitan and non-metropolitan high schools using population of the city in which the school was located as a basis of differentiation. This procedure did not prove satisfactory for it was felt that many schools in areas adjacent to large cities would exhibit characteristics
of the metropolitan complex by virtue of their proximity to the large
city.

Another effort was made to identify the population of schools
for the study by differentiating schools upon the basis of the total
population of the county in which the school was located. This attempt,
while indicating more promise than the previous effort, did not prove
entirely satisfactory. Total county population alone did not produce
the conditions which were felt must be guarded against in limiting the
population to those high schools whose students would be representative
of all cultures and economic levels of the area.

The classification of metropolitan areas employed by the U. S.
Bureau of Census seemed to offer the most appropriate basis upon which
to differentiate between metropolitan and non-metropolitan high schools
of the state. The following discussion of Standard Metropolitan Sta­
tistical Areas presented by the Bureau of Census was instrumental in
the determination that this criterion was perhaps the most appropriate
to employ in differentiating between metropolitan and non-metropolitan
areas of the state:

STANDARD METROPOLITAN STATISTICAL AREAS

It has long been recognized that for many types
of analysis it is necessary to consider as a unit the en­
tire population in and around a city, the activities of
which form an integrated economic and social system. . . .

The definition of an individual SMSA involves
two considerations: First, a city or cities of speci­
fied population to constitute the central city and to
identify the county in which it is located as the cen­
tral county; and, second, economic and social rela­
tionships with contiguous counties which are metropol­
itan in character, so that the periphery of the specific
metropolitan area may be determined. SMSA's may cross State lines.

Population criteria. — The criteria for population relate to a city or cities of specified size according to the 1960 Census.

1. Each SMSA must include at least:
   a. One city with 50,000 inhabitants or more, or
   b. Two cities having contiguous boundaries and constituting, for general economic and social purposes, a single community with a combined population of at least 50,000, the smaller of which must have a population of at least 15,000.

2. If each of two or more adjacent counties has a city of 50,000 inhabitants or more (or twin cities under 1b) and the cities are within 20 miles of each other (city limits to city limits), they will be included in the same area unless there is definite evidence that the two cities are not economically and socially integrated.

Criteria of metropolitan character. — The criteria of metropolitan character relate primarily to the attributes of the contiguous county as a place of work or as a home for a concentration of nonagricultural workers.

3. At least 75 percent of the labor force of the county must be in the nonagricultural labor force.

4. In addition to criterion 3, the county must meet at least one of the following conditions:
   a. It must have 50 percent or more of its population living in contiguous minor civil divisions with a density of at least 150 persons per square mile, in an unbroken chain of minor civil divisions with such density radiating from a central city in the area.
   b. The number of nonagricultural workers employed in the county must equal at least 10 percent of the number of nonagricultural workers employed in the county containing the largest city in the area, or the county must be the place of employment of 10,000 nonagricultural workers.
   c. The nonagricultural labor force living in the county must equal at least 10
percent of the number of the non-agricultural labor force living in the county containing the largest city in the area, or the county must be the place of residence of a non-agricultural labor force of 10,000.

5. (Applies to New England only).

Criteria of integration. — The criteria of integration relate primarily to the extent of economic and social communication between the outlying counties and central county.

6. A county is regarded as integrated with the county or counties containing the central cities of the area if either of the following criteria is met:

   a. 15 percent of the workers living in the county work in the county or counties containing central cities of the area, or

   b. 25 percent of those working in the county live in the county or counties containing central cities of the area.

Ohio counties which are parts of Standard Metropolitan Statistical Areas were identified, by reference to 1960 census data,\(^1\) and may be found on a map on page 22. All high schools located in these counties were therefore excluded from the population to be studied.

Selection of grade level to study — The population of high schools was further limited by the selection of the ninth grade as the level at which to study youth with special needs. As mentioned in Chapter I, the study of students at the ninth grade appeared to be


the most appropriate level to direct a study of high school youth
with special needs for at this level large numbers of dropouts begin
to occur with the highest rate of high school dropouts in Ohio occurring at the tenth grade level. A study of youth with special needs at the ninth grade level would permit a larger portion of these students to be included than would a study at a higher grade level.

The characteristics of students who drop out of high school at higher grade levels tend to more nearly approach the characteristics of students who persist in school until graduation. This fact was also considered in the selection of ninth grade students as the level to study. The study of the numbers and characteristics of ninth grade youth with special needs might therefore provide a more realistic base upon which educators might rely in assessing needs of these youth and in the development of educational programs to serve their special needs.

The direction of the study toward youth with special needs at the ninth grade level reduced the number of schools in the population through elimination of senior high schools or those high schools which did not include the ninth grade. All junior high schools of the non-metropolitan areas of the state were included in the population of the study thereby including all ninth grades whether located in a junior high school or another high school.

Nachman, op. cit., p. 11.
Ibid., p. 52.
Fig. 1.—Standard Metropolitan Statistical Areas of Ohio

- Indicates counties which are parts of Standard Metropolitan Statistical Areas.
Identification of high schools -- The Ohio Educational Directory, School Year 1965-66, and the Supplement to the 1965-1966 Educational Directory were used to identify all public schools in the state, "local schools in county systems," "schools in city districts," and "schools in exempted village districts," which had ninth grades and were located in non-metropolitan areas of the state. A total of 173 schools met the above criteria and were therefore considered to be the population of the study.

Phase I of the Study

The first phase of the study was concerned with the identification of youth with special needs at the ninth grade level in non-metropolitan high schools of Ohio and in the categorization of these students according to the major factors responsible for their classification as youth with special needs.

Sampling procedure -- It was the intention of the investigator to determine the numbers and percentage of ninth grade students classified as youth with special needs and also the numbers and percentage of these students categorized by major cause of disadvantage. It was felt that due to varying educational programs and conditions in schools of different sizes, that these variables may be related to school size.


A sufficiently large sample was therefore desired for study to provide numbers large enough for meaningful statistical analysis between size categories when schools were grouped into three size categories. Responses from approximately two-thirds of a sample of 150 schools was judged would be sufficient for this purpose.

A random sampling of the previously identified 473 schools was obtained by numbering consecutively each of these schools and using a table of random numbers\(^7\) to select the 150 schools to appear in the sample.

**Development of an instrument** — An instrument was developed to be used by sample schools to list and categorize ninth grade students with special needs in each school. A copy of the instrument and instructions may be found in appendix A. The instrument was first developed by the investigator asking that the local school identify all ninth grade students who in their judgment would not be successful in a regular high school vocational education program. Through consultation with his adviser and with the State supervisor for disadvantaged youth programs, it was concluded that school principals should be asked to identify all ninth grade youth who in their judgment would not be successful in a regular high school educational program. This approach seemed more appropriate in that many of the schools in the sample had no vocational education programs or very limited programs. The referral to a regular high school educational program could then include a

general curriculum, a vocational curriculum, or an academic curriculum, and might thus lead to a more realistic interpretation by school principals of the term "youth with special needs."

The instrument was taken to two schools not in the sample for purposes of obtaining school principal's reactions to the instructions and to assess the workability of the procedure. Both principals indicated that they would have little difficulty in identifying and categorizing those students who in their judgment would not be successful in a regular high school educational program.

A test mailing of the instrument was then made to eleven county schools located in a metropolitan county for the purpose of further refinement of the reporting instrument. Telephone conversations with principals responding to the questionnaire indicated that some believed it would not be prudent to disclose names of students whom they would classify as youth with special needs. The principals indicated that they would prefer to assign an identification number to these students which would make it possible to later identify the individual if necessary in order that additional data might be gathered concerning individual students.

The questionnaire and instructions were again revised to permit schools to identify youth with special needs in their school either by name or by a code number to which they would maintain a record in their files. A form was developed for the convenience of schools in assigning code numbers to students and for maintaining a master to those code
numbers in their files for future reference. A copy of the form used for this purpose is found in Appendix A.

Collection of data — The questionnaire for the identification and categorization of youth with special needs accompanied by an appropriate cover letter were mailed to the high school principals of each of the 150 schools in the sample. Fifteen days later a reminder was mailed to those schools which had not yet responded. Eight days after the first reminder was mailed, a second questionnaire and an appropriate cover letter was mailed to those schools from which a response had not been received. Copies of the cover letters and reminder are included in Appendix A.

A sufficiently large percentage usable responses to the questionnaire were received to provide a rather strong basis upon which projections might be made to the entire population of 473 schools. The numbers and percentage of responses may be found in Table 1.

TABLE 1
RESPONSES TO IDENTIFICATION AND CATEGORIZATION QUESTIONNAIRE

<table>
<thead>
<tr>
<th>No. Questionnaires Mailed</th>
<th>Number Returned</th>
<th>Number Usable Returns</th>
<th>% Usable Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>134</td>
<td>133</td>
<td>88.66</td>
</tr>
</tbody>
</table>

The geographic distribution of the schools responding to the questionnaire is illustrated by Figure 2, page 27.

All respondents had completed the questionnaire as intended.
Fig. 2.--Geographic Distribution of Schools Identifying Their Youth With Special Needs

* - Indicates the general locations of sample schools responding.
with the exception that several respondents had failed to include the total number of ninth grade enrollment by sex. A letter was forwarded to these schools requesting this additional information, thus making these returns usable. The only non-usable return resulted from a recent school district reorganization which left the sample school without a ninth grade.

Determination of school size categories — Returns from schools were divided into three size categories to provide for comparisons of data by school size. The total ninth grade enrollment of each school was used as the measure of school size. It was believed that this would result in a more realistic measure of school size and its relationship to youth with special needs than would total school enrollment. Several different structural arrangements of high schools were represented in Ohio which had differing combinations and numbers of grade levels.

The size categories used were deemed appropriate for they divided the total number of schools into groups of convenient size for analysis purposes. School size categories and the numbers of schools in each are shown in Table 2.

Treatment of data — All data from the identification forms were coded for machine tabulation and for statistical analysis by the Statistical Laboratory of The Ohio State University. A copy of the coding master for data from identification forms may be found in Appendix A.

Total numbers of youth with special needs and percentages of ninth grade students classified as youth with special needs were
computed by sex, by school size category, and by category of major cause of disadvantage. Mean percentages of youth with special needs in each school and the standard deviation of these percentages were computed in order to describe the central tendency and the variability of percentages of youth who were identified as youth with special needs.

### TABLE 2

**SCHOOL SIZE CATEGORIES BASED UPON NINTH GRADE ENROLLMENTS**

**WITH NUMBER OF SCHOOLS BY CATEGORY**

<table>
<thead>
<tr>
<th>Size Categories By Ninth Grade Enrollment</th>
<th>Number of Schools In Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 100</td>
<td>52</td>
</tr>
<tr>
<td>101 - 200</td>
<td>47</td>
</tr>
<tr>
<td>201 - 370</td>
<td>34</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>133</strong></td>
</tr>
</tbody>
</table>

Analysis of variance was used to test the significance of differences found between the mean percentages of youth with special needs, both between sexes and between schools by size categories. The relationship between school size and per cent of ninth grade students identified as youth with special needs was further tested by computing a correlation coefficient utilizing the product moment coefficient of correlation for this purpose.

A measure of the degree to which ratings in the six categories of disadvantage tended to be related was obtained by computing the product moment coefficient of correlation between ratings assigned in each of the categories of disadvantage.
The summarization and conclusions from the data concerning identification and categorization of youth with special needs appear in Chapter IV of the study.

**Phase II**

**Introduction** -- A determination of characteristics of youth with special needs through a study of selected characteristics of these youth was the major purpose of this phase of the study. Characteristics of youth with special needs were determined through a comparison of a sample of students who had been identified as youth with special needs against a sample of other ninth grade youth not so classified.

**Sampling procedure** -- In the early planning stages of the study it was thought that a proportionate sampling of youth with special needs from each of the schools responding to the original survey would serve as the group to be compared against an equal number of randomly selected other ninth grade students in these same schools. This would have been attempted through a mail request to each school who had participated in the identification survey, asking for selected data concerning designated students and for similar data concerning an equal number of randomly selected other ninth grade students. Through consultation with school principals, guidance counselors, and his adviser, the investigator found the proposed procedure presented some rather serious limitations. This proposed procedure was therefore abandoned in favor of another.
Much of the data which were desired to determine selected characteristics of students were not available in many school records and would therefore need to be obtained directly from students. If many different persons were called upon to gather data from students, differing interpretations by school personnel and differing procedures used in the approach to students might introduce variables not recognized by the investigator.

It was also apparent that considerable time would be involved on the part of principals and guidance counselors if they were to gather the data desired. The time involved in furnishing the desired information concerning each student would certainly contribute toward a low rate of response to such a request.

The decision was therefore made that the investigator personally gather the data in a relatively small sample of schools, but that all ninth grade youth with special needs in each of these schools would be studied. Such a procedure would provide for a rather standardized approach to information gathering from students as well as interpretation and search for data from students' permanent records. This procedure would also permit the investigator to oversee the random selection of a group of other ninth grade students for comparative purposes.

A proportionate sampling of schools by size category was made through selection of the schools by school numbers and the use of a table of random numbers.8 School numbers in three series corresponding to three school size categories had been assigned to identification

8Ibid., pp. 158-159.
forms returned by respondents in the identification survey. Based upon the number of schools in each size category, a proportionate number of schools were selected from that size category. An alternate school was selected in each case in the event that the sample school did not wish to participate in this phase of the study; however, all sample schools did participate, therefore, no alternate schools were used. The number of schools, by size category, participating in this phase of the study are shown in Table 3 with related information concerning sample schools. Figure 3 illustrates the geographic distribution of the sample schools in this phase of the study.

TABLE 3

NUMBERS AND PERCENTAGE OF SCHOOLS BY SIZE CATEGORY PARTICIPATING IN PHASE II OF STUDY

<table>
<thead>
<tr>
<th>School Size Category</th>
<th>Number of Schools Participating</th>
<th>Per Cent of Total Schools In Size Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 100</td>
<td>3</td>
<td>5.76</td>
</tr>
<tr>
<td>101 - 200</td>
<td>3</td>
<td>6.38</td>
</tr>
<tr>
<td>201 - 370</td>
<td>2</td>
<td>5.88</td>
</tr>
<tr>
<td>All Schools</td>
<td>8</td>
<td>6.01</td>
</tr>
</tbody>
</table>

Each sample school was contacted by telephone for the purposes of explanation of this phase of the study, to solicit the school's participation, and to schedule dates for data gathering in the school. A letter was then sent to each school confirming the date and briefly
Fig. 3.—Geographic Distribution of Schools Used In Study of Student Characteristics

* - Indicates the general locations of sample schools.
outlining the procedure which would be followed in selecting other students and in gathering data. A copy of the identification form which the school had returned also accompanied the letter.

**Development of an instrument** — The determination of the selected characteristics to be studied in describing youth with special needs was made through a search of literature related to disadvantaged youth and characteristics studied in many of the school dropout studies. The Ohio Dropout Study⁹ and a New York State Work-Study Manual¹⁰ served as major sources in the determination of appropriate characteristics of students for consideration in this study.

It was determined through interviews with high school principals and guidance counselors that a rather wide variation existed from school to school in the types and completeness of data kept in student records. The data collection instrument was, therefore, divided into two parts. The first part concerned items for which the student would furnish data and the second part items for which, if data were available at all, would be available in student records or by interview with school personnel.

The data collection instrument and procedure were tested in a school which had earlier responded to a test mailing of the identification form in the development of the first survey instrument.

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⁹Nachman, *op. cit.*, pp. 61-62.

It was found that slightly more time was needed for the group interview of students than had been anticipated and that several hours were needed to collect the desired information concerning each student from school records. As a result of the testing of the instrument, minor changes were made to facilitate the use of the instrument by both students and the investigator. A copy of the instrument as used for gathering student data may be found in Appendix B.

Data gathering procedure -- Each of the eight sample schools were visited by the investigator for the purpose of collecting data concerning student characteristics.

Student selection -- In addition to the ninth grade students which had been classified as youth with special needs in the eight sample schools, an equal sized group of other ninth grade students were randomly selected in each school to serve as a comparison group. These students were selected by first removing from the files the folders of the youth with special needs, then dividing the remaining number of students by the number of youth with special needs to determine the numerical interval to be used in selection of the student folders to represent other ninth grade students. This procedure was followed for both boys and girls to provide numbers of other youth corresponding to the numbers of boys and girls classified as youth with special needs in each of the eight schools. Data pertaining to the numbers of students studied is found in Table 4.

Group interview -- All ninth grade students for which data was to be gathered, youth with special needs and other ninth grade youth,
were brought together at one time. This procedure limited the time that classes were interrupted but was done primarily to avoid the possible stigma which may have resulted were the less able students brought together in a group by themselves.

TABLE 4

NUMBERS OF STUDENTS STUDIED BY SEX AND CLASSIFICATION TO DETERMINE STUDENT CHARACTERISTICS

<table>
<thead>
<tr>
<th>Classification of Students</th>
<th>Numbers of Students Studied</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
</tr>
<tr>
<td>Youth With Special Needs</td>
<td>96</td>
</tr>
<tr>
<td>Other Students</td>
<td>108</td>
</tr>
<tr>
<td>Totals</td>
<td>204</td>
</tr>
</tbody>
</table>

The investigator followed the same general procedure in explaining the reason for the interview and in reading and explaining each item of the instrument. The first two pages of the instrument were completed by the student in the group interview. Each item of the instrument was read by the investigator with explanation made and questions answered concerning each item. School personnel also assisted in answering questions and aiding students needing assistance during the group interview. The third page was attached later. The students were told only that a study was being conducted concerning the background, interests, and aspirations of high school freshman in
Ohio and that a procedure of random selection of students had resulted in their presence.

To facilitate the separation of data forms by sex, yellow forms were used for girls and blue forms for boys. Each form was numbered prior to use using a number series to designate school and individual. It was felt that students might respond more freely to some items on the instrument if they were not asked to identify themselves. It was necessary, however, to be able to identify each instrument completed by each student in order to match it with the other information gathered from school records. School personnel assisting with the group interview were asked to make a seating chart of the room or to list the students according to the number on their instrument. This procedure permitted the information from the two sources to be correctly combined.

Data collection from school records -- The investigator searched each student's permanent records to insure that the intelligence quotient from the latest mental ability test was recorded and also that the latest reading level score was recorded. A variety of tests of mental ability had been used with the most common reporting done using I.Q. scores. A variety of tests to measure reading ability had also been used with the most common reporting a grade placement score. Grade level at the time of testing, name and form of the test administered, date of administering the test, and grade placements were recorded to permit later computation of reading level in relation to grade level of each student.
Grade point averages were computed from each student's grades for each of the grade levels seven, eight, and for the first semester of grade nine. Each letter grade was converted to a number grade (0 - 4.0), and grade averages were computed to the nearest tenth of a point for each of the three grade levels.

The total days absent, when available from student records, were recorded for each of grades seven and eight. Only the days absent during the first semester of grade nine were recorded to provide a standardized time period for this grade level.

Course of study was generally determined by examination of each student's current enrollment card to identify key courses which principals had specified as indicators of the course of study being pursued. The academic course of study was generally identified by a student's enrollment in Algebra and a foreign language. Enrollment in a vocational education program signaled the vocational curriculum, and most others were categorized in the general curriculum. A few students were enrolled in Special Education and were categorized as slow learners.

Enrollment in courses which tended to be of an occupational nature was also determined by examination of each student's current enrollment card.

Special services available and used by the student were determined through interviews with school guidance counselors or principals and by examination of the student's permanent records. In some schools specific courses were geared especially for the less able
student. Examination of the student's current enrollment card was necessary to determine whether or not the student was taking advantage of the special course.

Coding of data by investigator -- It was necessary to code the data on some items of each instrument and to convert other data to such form as would lend itself to coding and machine tabulation. The year and month of birth were converted to the student's age as of February, 1967. This figure was carried to the nearest hundredth of a year.

Instrument items giving place of birth and the place where the student entered the first grade were coded such that a determination could be made as to whether or not the area of the student's origin or the area in which the student started to school were related to his identification as a youth with special needs. The key to the coding of these two items is shown in Figure 4.

Fig. 4.—Coding Key Used for Location of Origin and Location of First Grade Enrollment

<table>
<thead>
<tr>
<th>Code Number</th>
<th>Area Designated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ohio - Same school district now attending</td>
</tr>
<tr>
<td>2</td>
<td>Ohio - Other non-Appalachian area</td>
</tr>
<tr>
<td>3</td>
<td>Ohio - Other Appalachian area</td>
</tr>
<tr>
<td>4</td>
<td>Other State - Non-Appalachian area</td>
</tr>
<tr>
<td>5</td>
<td>Other State - Appalachian area</td>
</tr>
<tr>
<td>6</td>
<td>Other Country</td>
</tr>
</tbody>
</table>
Many students were not able to give the name of the county in which they were born or the county in which they entered the first grade. It was therefore necessary to determine this information by reference to state maps using the city of birth to establish the county in which it was located.

The classification as to Appalachian or non-Appalachian area was made using a list of the 373 counties which constitute the Appalachian region in the 12 Appalachian States.11

The number of schools attended was established by reference to the item giving the location of the first school attended and to the item listing other places the student attended school. In a few cases, students could not recall all schools which they had attended. When this was indicated, the student's school records were searched for additional information which would aid in establishing accurate data. In an effort to avoid the effects of differing structural arrangements of grade levels among the eight sample schools from which students were studied, an elementary school which contributed students to a sample high school was considered as the same school for counting purposes.

Three items, the place of work, the position, and the kind of work, were used in the instrument in an attempt to provide the investigator with sufficient information upon which to determine an occupational status of the father or "male head of the household."

It was desired to compare occupational status of parents of youth with special needs with that of parents of other ninth grade youth. Several measures of occupational status were investigated for their appropriateness of application and facility of use. One method developed by Edwards for use in the 1940 U. S. Census listed six major classes of occupations into which each occupation could be categorized and comparison made by category of occupation. Another, developed by Sims, determines the socioeconomic level with which an individual indirectly ranks himself through a comparison of his family's social class with that of people in specified occupations. Still another involves obtaining a rating in each of four status characteristics, one of which is occupation.

An evaluation of occupational prestige developed by North and Hatt seemed most appropriate in this application for it provided a scale which would lend itself to the statistical treatment of computing means and significance of difference between means. Although the entire scale ranks ninety different occupations, these had been


further reduced to eleven groups of occupations\textsuperscript{16} with an average score for each of the eleven groups of occupations. The occupation of the father was categorized by the investigator into one of the eleven classifications used by North and Hatt. The average score for that classification was then entered on each instrument as a score of occupational status.

In cases in which the father was not working, an occupational status score was not assigned. In such cases the father was categorized as unemployed, retired, or disabled.

An occupational status score was also determined for working mothers using the procedure followed in determining the occupational status score of the father. Non-working mothers were categorized as housewives and were not assigned an occupational status score.

A measure of the occupational aspiration of the student was obtained by again employing the North-Hatt scale to arrive at an occupational status score for the job which the student had listed as his probable first full-time job upon leaving school.

All other items of the data collection instrument were left in their original form as recorded by the student or by the investigator. These items were designed in such a manner that the data could be transferred directly for data processing by machine.

\textbf{Coding of data for compilation} -- All student data collection instruments were coded for machine compilation and statistical analysis.

\textsuperscript{16}\textit{Tbid.}, p. 7.
by the Statistical Laboratory of The Ohio State University. A copy of the coding master used for this purpose may be found in Appendix B of the study.

**Statistical treatment of data** -- Each of the characteristics, for which data were reported on an interval scale, were subjected to computation of means and of standard deviations. The "t" test of the difference between means was employed for the purpose of determining if significant differences existed between the means of the two groups for each characteristic studied. The data were also broken down by sex with the "t" test used as the test of significance of difference between means.

The above data were also subjected to statistical treatment by discriminate analysis in an effort to determine the extent to which groups or clusters of characteristics tended to differentiate between the two groups of students.

Those characteristics of students which were recorded by categories were subjected to statistical analysis by means of contingency tables to determine the significance of differences in the numbers appearing in each category for the two groups of students. This treatment of data was also performed with the groups broken down by sex of student.

Services available to and used by youth with special needs, as well as student eligibility for a vocational program especially designed for youth with special needs, were simply enumerated. Such items per-
tained only to the one group of students, youth with special needs, and were not intended to be used for comparative purposes.

The summarization and conclusions from the data of this phase of the study appear in Chapter V of the study.

Phase III

Introduction -- The central purpose of this phase of the study was a determination of the importance which local high school educators placed upon selected aspects of an occupational education program to serve youth with special needs.

It was also felt desirable to obtain an indication of the relative importance which high school administrators placed upon the institution of an especially designed educational program to serve youth with special needs as compared to selected alternative educational innovations toward which resources might be directed.

An indication was also desired as to the avenue of approach which local educators conceived as most appropriate for their school to use in fulfilling the school's responsibility toward youth with special needs.

Development of an instrument -- An instrument was first developed which was designed only for the purpose of rating the importance of selected aspects of vocational education programs to serve youth with special needs. The investigator drew heavily from a similar instrument developed and used by Groves in his study of Vocational Education.

17Groves, op. cit., pp. 244-249.
Education Programs for Students with Special Needs. Many characteristics of programs were also drawn from the *Guidelines for Establishing and Operating Vocational Education Programs for Youth With Special Needs.* Notes from conferences with local educators throughout the state during the second phase of the study were a valuable guide to the selection of program characteristics for consideration.

The investigator, in consultation with his major adviser and others, determined that local educators should not be limited only to their expressions concerning the importance of selected characteristics of vocational education programs for youth with special needs. It was felt that the importance which educators placed upon serving these youth and a measure of the part which they felt occupational education should play in such a program should also be sought.

These two dimensions were added to the instrument and again the instrument was revised after further examination and suggestions by the state supervisor for disadvantaged youth programs and by the investigator's major adviser. A copy of the instrument and its accompanying cover letter may be found in Appendix C of the study.

Data collection -- The questionnaire accompanied by the cover letter were addressed and mailed to each of the 133 principals of the high schools which had identified ninth grade youth with special needs in the first phase of the study. The letter asked that the high school

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18 *Guidelines for Establishing and Operating Vocational Education Programs for Youth With Special Needs* (Columbus, Ohio: State Department of Education, September 1966), Mimeograph, pp. 1-8.
principal respond to the questionnaire. Ten days after the questionnaire was mailed, a reminder letter was sent to those schools from which a response had not been received. The number and percentage of response may be found in Table 5.

TABLE 5
RESPONSES TO QUESTIONNAIRE CONCERNING IMPORTANT PROGRAM CHARACTERISTICS

<table>
<thead>
<tr>
<th>Schools in Sample</th>
<th>Responses Returned</th>
<th>Per Cent Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>133</td>
<td>108</td>
<td>81.2</td>
</tr>
</tbody>
</table>

As questionnaires were returned by mail, a code number was assigned to each instrument. The same number was used for each school as had been assigned to that school's identification form in the first phase of the study. The school code numbers, as originally assigned, employed the use of one of three series of numbers to represent each of the three school size categories. The use of these provided for the data to be analyzed by school size category as well as a single group.

Coding of data -- Data from each questionnaire were coded for machine compilation and statistical analysis by the Statistical Laboratory of the Ohio State University. A copy of the coding master used may be found in Appendix C of the study.

Statistical treatment of data -- Rank orders were computed for
Sections I and II of the instrument to determine the relative importance which high school principals placed upon special programs for youth with special needs and upon selected alternatives for serving these youth. Rank orders were computed for all schools as a single group and also by school size categories. The Kendall coefficient of concordance was computed for the rankings of selected alternatives for serving youth with special needs. This provided a measure of the degree of agreement among the rank orders assigned by each of the high school principals.

The importance which high school principals placed upon selected characteristics of occupational education programs for youth with special needs was determined by computing rank orders for each group of items and for all items in Section III of the instrument.

Mean ratings and standard deviations for each item were computed as an indication of the degree of agreement on each item. These were further subjected to one-way analysis of variance to determine if the importance ratings assigned each item were related to school size.

The summarization and conclusions concerning the data from this phase of the study appear in Chapter VI of the study.

Chapter Summary

The major purposes of the study were to:

1. Identify and categorize by major type of disadvantage ninth grade youth with special needs in the non-metropolitan Ohio high schools.

2. Describe these youth by comparison of selected characteristics with those of other ninth grade youth.
3. Determine the importance which local high school educators placed upon selected characteristics of vocational education programs to serve youth with special needs.

The population for the study was determined and the major purposes were approached through a three-phase study, each phase of which was directed toward a major purpose.

**Phase I** — An identification form was developed and mailed to 150 non-metropolitan Ohio high schools for the identification of ninth grade youth with special needs and the rating of each student as to the relative influence of each of six types of disadvantage. Usable responses were received from 133 schools.

The data were analyzed to show the percentages of ninth grade youth with special needs and the relationship of these percentages to school size. The relative influence which each of six types of disadvantage was deemed to contribute toward student's classification as youth with special needs was determined as was the tendency for clusters or groups of types of disadvantage to be related. Chapter IV of the study deals with the summarization and conclusions drawn concerning this data.

**Phase II** — Youth with special needs were studied in a proportionate sampling, by school size category, of schools participating in the identification of youth with special needs. Selected data were gathered from students and from school records for youth with special needs and for an equal number of other ninth grade youth in each of eight schools in the sample.
The data were analyzed to determine differences between the two groups of students in terms of the selected characteristics studied. Analysis was also made to determine the degree to which clusters or groups of characteristics tended to differentiate between the youth with special needs and other youth.

Chapter V of the study deals with the summarization of the data and conclusions concerning characteristics of youth with special needs in non-metropolitan Ohio high schools.

Phase III - A determination of the importance which local educators placed upon selected characteristics of vocational education programs for youth with special needs was made. A questionnaire was mailed to the high school principals of each of the 133 schools which had earlier identified its ninth grade youth with special needs. Each principal was asked to indicate the relative importance of educational programs to serving youth with special needs, the importance which occupational education should have in such programs, and the importance of selected characteristics of vocational education programs for youth with special needs.

The summarization of this data and conclusions concerning the importance which local educators place upon these program characteristics appear in Chapter VI of the study.
CHAPTER III
REVIEW OF RELATED LITERATURE

Introduction

Research in the area of vocational education for the disadvantaged is quite meager at the present time. An examination of some 1800 ERIC abstracts of materials dealing with the general area of education for the disadvantaged revealed little in the way of reported research concerning vocational education programs for the disadvantaged student.

The absence of extensive research in this area is undoubtedly largely due to the recentness with which the attention of vocational educators has been drawn to the need for vocational education programs designed especially to serve youth with special needs. The most comprehensive study identified by the writer, which deals specifically with vocational education programs for the disadvantaged, identified a relatively small number of such educational programs in existence at the present time.\(^1\) The absence of extensive research specific to this phase of education is therefore to be anticipated.

Some studies in disciplines other than vocational education

\(^1\)Groves, op. cit.
are relevant to the problems of vocational education and the dis-
advantaged. These related studies often provide valuable background
material necessary to the understanding of the disadvantaged student.
Many of the studies in these disciplines deal largely with descriptions
of the disadvantaged with few studies reported directly treating the
topic of vocational education programs for the disadvantaged.

Research reporting major progress in general in education of
the disadvantaged appears to be less than desirable. Edward Gorden,
writing the foreword to one issue of the Review of Educational Research
which was devoted entirely to the topic of research for socially dis-
advantaged children, stated:

Striking is the dirth of studies which attack basic
problems in learning and instruction and studies which
are radically experimental. In view of the relative
modest results so far reported from educational inno-
vative projects attempting to solve problems of the
disadvantaged, the need for additional research in this
area is pressing. 2

The writer's review of literature concerning youth with special
needs tended to coincide with that of Gorden as he further stated that:

Readers will note some duplication in the references
used by the several authors, reflecting the fact that
significant research in the area of education for the
socially disadvantaged is somewhat limited and in some
instances is so general or so broadly based as to be
relevant to several problem foci within the area. 3

The purpose of this chapter is to report on publications which

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2Edward W. Gorden, Foreword, Review of Educational Research,
XXXV; No. 5; December, 1965), p. 375.

3Ibid., p. 375.
appear relevant to the development of vocational education programs to serve youth with special needs. Primary consideration was given to those writings which provide a basis for the understanding of the disadvantaged and for the development of vocational education designed specifically to serve this group of youth.

The Growing Problem

Widespread attention to the disadvantaged has not resulted from an increased proportion of our population being unable to achieve success in our educational programs. Indications are that an ever increasing proportion of our youth are completing secondary education in this country. The per cent of students completing high school has risen quite steadily from approximately 25 per cent following World War I to approximately seventy-five per cent at the present time.

Changes in the structure of the nation's economy and the changing demands for workers have served to focus the nation's attention to the disadvantaged. A U. S. Government publication stated:

The large and rapid changes taking place in the nation's population and work force, in the structure of the economy, in employment patterns, and in the technology of production have borne particularly heavily upon economically handicapped groups. Some of these groups have always been in the category of 'last hired, first fired'. In the recent period of relatively high levels of unemployment, long sustained, they make up a large part of the hard-core unemployed. These are the unfortunate ones who have been helped least by recent economic growth. All

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have one or more characteristics which lead to higher-than-average rates of unemployment. The most common characteristic is inadequate education.⁵

The inadequacy of education and its association with decreased earning power of the individual is pointed up by a U. S. Chamber of Commerce publication. Making comparisons of high school dropout earnings with those of the graduate, the publication showed a loss of income exceeding twenty-eight million dollars per year by the dropouts from one Ohio graduating class.⁶

The need for a more highly educated work force was further reinforced by Department of Labor employment projections for the 1960-1970 period. These projections showed the greatest increase in demand for manpower in the occupational groups requiring relatively greater amounts of education and training as compared to no increase, or an actual decrease in the number of unskilled and farm laborers needed.⁷

Particular attention has been drawn toward the slums and large pockets of poverty which have been created as massive migration from the rural areas to the cities have been coupled with decreasing demands by industry for the skills of these persons.


⁶Education: An Investment in People, p. 21.

James B. Conant expressed concern for the plight of the disadvantaged in the large cities when he stated:

\[\ldots\] I am convinced we are allowing social dynamite to accumulate in our large cities. I am not nearly so concerned about the plight of suburban parents whose offspring are having difficulty finding places in prestige colleges as I am about the plight of parents in the slums whose children either drop out or graduate from school without prospects of either further education or employment. In those slum neighborhoods, I have no doubt that over half of the boys between sixteen and twenty-one are out of school and out of work. Leaving aside human tragedies, I submit that a continuation of this situation is a menace to the political health of the large cities.

The improvement of slum conditions is only in part a question of improving education. But the role of the schools is of the utmost importance.\(^8\)

Recognition has been given to the fact that the disadvantaged are not confined to the large cities. Other segments of our population receiving recognition as disadvantaged groups are the Spanish-American of the Southwestern United States, the American Indian, persons of the rural South, and the Ozark and Appalachian areas of the country.

Lester Crow, in recognizing the Appalachian mountain whites as disadvantaged people stated:

The depressed minority of Appalachian consists of people whom the federal government has identified as distinctive for reasons of their estrangement from the rest of the country, based on their economic and educational lacks, the absence of industry, and inadequate sociological and democratic factors. Here economic growth is at a standstill and living standards are low in both rural and urban areas. One out of every three families lives

\[^8\text{James B. Conant, }\text{Slums and Suburbs,}\ (\text{New York: Signet Books, 1961}, \ p. 10.)\]
on a yearly income of $3,000 or less. The average per capita income is $1,400, 35 per cent less than that of the country as a whole.°

The recognition of a widespread inadequacy of education of the unemployed in a society which is demanding an ever-increasing level of education and training of its work force led educators to seek answers to the question of why students did not complete their education through the secondary school. Large numbers of dropout studies have resulted in which local school districts and states studied their dropouts in efforts to determine causes of dropping out of school. Characteristics of schools, of homes, of curriculum, and of students who dropped out were compared with those of students who graduated from high school. Employment patterns of the dropout versus the graduate were studied and procedures for the early identification of potential dropouts were developed. Some of the results of these studies will be discussed in later portions of this chapter.

A statement by Benjamin Bloom, concerning those who are unable to achieve success in the high school educational program, generally indictsthe educational system for not meeting the problem:

The secondary school system has functioned as a selective system giving its major attention to the youth who are able to complete it successfully and priding itself primarily on the youth who are in college preparatory programs. The schools have not been able to find ways of reaching in a very vital way

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approximately one-third of the youth who begin secondary education.\textsuperscript{10}

Barlow implies that general education alone must not be held responsible for not meeting educational needs of these students, but that vocational education as well can be blamed. He stated that "Education in general has failed to help the disadvantaged youth, and vocational education has largely eliminated this group by imposing selection devices."\textsuperscript{11}

Another educator, speaking to the need for educational programs designed especially to serve youth with special needs stated:

If our society could absorb these dropouts and provide successful experiences for them, there would be little reason to consider them a problem. However, the converse seems to be true—to a sense of failure in school is added the failure to achieve lasting, satisfactory employment. From youths dropping out of school, unable to get jobs and unacceptable for enlistment in the armed forces, comes the threat of juvenile delinquency—and further loss to the nation. These young people are not likely to become responsible citizens of society.\textsuperscript{12}

**Characteristics of Youth With Special Needs**

A knowledge of the characteristics of the disadvantaged person, of his environment, and of his educational and social deficiencies can shed additional light upon why he tends to be unsuccessful in our


\textsuperscript{11}Barlow, op. cit., p. 13.

\textsuperscript{12}James R. Beima, "Program for Youth With Special Needs: Problem" New Horizons in Developing Vocational Educational Programs in Small High Schools in Small Districts, University of Idaho, 1965 (mimeograph) p. 50.
traditional educational programs. Some of the environmental condi-
tions in which the disadvantaged are found are described by Lester
Crow:

Depressed areas include those in which the
residents are living under economic and social con-
ditions that are significantly below national stand-
ards. Among the factors which characterize these
individuals can be included such as (1) low income,
(2) high rate of unemployment, (3) underutilization
of human resources, (4) poor housing, (5) poor san-
itary conditions, (6) large families with inadequate
living space, (7) excessive reliance on welfare, (8)
inadequate education, and (9) attitudes of hopeless-
ness.13

Barbara Kemp, in defining the socioeconomically handicapped, 
indicated that disadvantaged persons are not limited to only the de-
pressed areas of the nation:

Who are the socioeconomically handicapped youth 
of the United States? In general, they are the child-
ren of low-income parents who live in our affluent so-
ciety but do not share its benefits. To draw a compos-
te picture of these young people would be impossible.
Each is an individual, with his own individual aspir-
ations, capabilities, interests and dreams. But common
to them all and setting them outside the mainstream of
American life is the limitation on their opportunities
to develop their potentialities to the fullest. This
limitation is the result of their family income and
educational and occupational background, and, in many
cases, of their racial or national origin. These fact-
ors play decisive parts in producing group difference.
This in turn negates the concept of equal opportunities;
and the cycle of cultural, educational, and economic
deprivation is set in motion.14

Youth, reared in such an environment, find themselves set apart

14 Kemp, op. cit., p. 1.
in the classroom and out of step with the educational program that is not geared to their abilities and interests. Kemp described the socio-economically handicapped in the classroom situation as exhibiting one or more, and sometimes all, of the following characteristics:

- Low reading ability.
- Limited formal vocabulary and poor speech construction and diction.
- Relative slowness in performing intellectual tasks.
- Poor health and poor health habits.
- An anti-intellectual attitude.
- Indifference to responsibility.
- Non-purposeful activity, much of which is disruptive.
- Limited experiences of the sort schools assume most of their students have had with their families; for instance, contact with social, cultural, and governmental agencies.
- A failure syndrome resulting from apathy and lack of self-confidence.¹⁵

Numerous dropout studies completed within the past few years provide a wealth of information concerning those students who do not achieve success in the high school educational program. The Ohio Study of High School Drop Outs offers characteristics of students which are especially relevant to this study of ninth grade youth with special needs in Ohio. The authors of the Ohio Dropout Study conclude that:

There is no single characteristic or pattern of characteristics which describe all dropouts or identify all potential dropouts. However, in this study, varying combinations of a number of identifiable characteristics have appeared to be related to dropping out of school. The characteristics in question include low marks, low scholastic aptitude and reading test scores, being overage for grade, poor behavior, poor attendance, low counselor estimate of emotional and social maturity, and family background which includes

¹⁵Kemp, op. cit., p. 6.
below average economic status, failure of parents to complete high school, and the employment of the father as an unskilled or semi-skilled worker.\textsuperscript{16}

The authors of the Ohio study further noted that there appeared to be "... a pattern of deterioration with respect to marks received and attendance and discipline problems exhibited as the future dropout progressed through school."\textsuperscript{17} It was further noted that the "... number and intensity of dropout characteristics possessed by any dropout seems to be related to the grade level at which he leaves school."\textsuperscript{18}

It was found that a greater number and a greater degree of the above characteristics were possessed by the ninth and tenth grade dropouts than characterized the eleventh and twelfth grade students who left school before graduating.\textsuperscript{19}

The authors of the Ohio Study recognized a limitation of the study in that data describing the entire high school population was not available for comparative purposes in making statistical comparisons of the characteristics of dropouts against those students who remained in school. Many studies have been made which involved the statistical testing of differences found between school dropouts and high school graduates.

Dropout studies, which have found statistically significant

\textsuperscript{16}Nachman, op. cit., p. 51.
\textsuperscript{17}Ibid., p. 52.
\textsuperscript{18}Ibid., p. 52.
\textsuperscript{19}Ibid., p. 52.
differences between high school dropouts and high school graduates, have drawn conclusions quite similar to those of the Ohio Study of High School Dropouts. Such a study of dropouts in Lancaster, Pennsylvania conducted by Maurey reported:

Significant differences were found between means of the dropouts and the graduates in reading ability, scholastic achievement, scholastic aptitude, attendance, and participation in extracurricular activities. . . . Differences were found between the dropouts and graduates in (a) curriculum pursued, . . . (b) family conditions, . . . (c) parental occupation. . . .

Similar findings were reported by Stevens in a study of dropouts at Fort Morgan, Colorado:

Significant differences were found between graduates and dropouts in grade retention; grade average; curriculum pursued; mental ability; achievement level; reading level; extracurricular activities; attendance records; occupation of principle wage-earner; education of father, mother, older brothers and/or sisters, and peer group friends; and size of family.  

These studies tend to point up the plight of the disadvantaged in that he does not possess the necessary skills, attitudes, and abilities to achieve success in the regular high school program. Nachman's summary of the general characteristics of the Ohio dropout population

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is representative of conclusions drawn by other investigators of the school dropout:

The characteristics associated with dropout population are such that most of these individuals are unable to experience satisfaction in school. The reports indicated their scholastic, social, and economic levels were below those of the general school population. Low scholastic aptitude resulted in many being required to repeat grades. Thus many who became dropouts were older, less competent academically, and at a disadvantage socially and economically in comparison with their classmates. They rarely participated in school activities. Even before they actually withdrew from school, they were not involved in the school program in a way that provided satisfaction.22

The fact that these students are disadvantaged within the traditional secondary educational setting is quite evident. The fact that they do not complete their high school education is not as tragic as is the fact that once they have dropped out of school, their relative position in society has not improved. They are often equally as disadvantaged as when in school for they are forced to compete in a world for which they are not prepared. Continuing his discussion of Ohio dropouts, Nachman stated:

When those who dropped out of school were asked why they were leaving, they usually gave reasons that indicated a belief that their action would lead to self-improvement. Boys were leaving to go to work or to enter the military service. Girls planned to get married, have a baby, or get a job. Thus most of these dropouts reported they were taking a step toward independence in an adult world. Teachers' marks, test scores, and counselors' estimates of their maturity,

22Nachman, op. cit., p. 52.
however, all indicated that dropouts were less ready for adult life than most of their classmates who remained in school.\(^{23}\)

Bloom observed that the absence of clear vocational goals is characteristic of the culturally deprived student at the secondary level and that the motivation to persist in a learning program which will enable them to make vocational choices is also lacking.\(^{24}\)

Researchers are not in complete agreement regarding student and family traits which characterize the dropout. Some findings for which there is not general agreement are: that a broken home is a factor,\(^{25}\) enrollment in a particular course of study is associated with dropping out of school,\(^{26}\) and that ethnic or racial background was of little importance.\(^{27}\)

Dropout rates computed by counties in Ohio tend to vary widely with one county reporting an annual exit rate of but 6.6 high school students per thousand enrolled in grades 9-12. The highest rate per county exceeded this figure several times and was set at 56.7 dropouts

\(^{23}\)Ibid., pp. 52-53.

\(^{24}\)Bloom, \textit{op. cit.}, p. 34.


per thousand high school students enrolled. The dropout rate for the state as a whole during this 1962-1963 school year was reported as 32.2 students per thousand.28

No studies were found which specifically compared dropout rates or characteristics of dropouts of metropolitan areas to those of non-metropolitan areas. However, comparisons of rural and urban dropout rates, although indicating higher dropout rates for rural areas, found that differing rates are due to the interaction of income, education, and occupational status.29 This study conducted by the U. S. Department of Agriculture states:

One important implication of these results is that differences between urban and rural dropout rates largely disappear when differences in family status are taken into account, and that the influence of parental educational levels, for example, is much the same in rural as in urban areas. However, rural more often than urban youths are from families with characteristics associated with high dropout rates. For example, proportionately 3 times as many rural as urban youths 16-17 years old and enrolled in school were from families in the low education-income category. Consequently, overall rural dropout rates are higher than urban rates.30

Although research was not found which specifically pointed up differing characteristics of the metropolitan and non-metropolitan youth of the nation, there is evidence which indicates that some of

28Nachman, et al., op. cit., p. 7.


30Ibid., p. 12.
the characteristics of youth of these two types of areas may differ somewhat. Lee Burchinal makes several generalizations which have been gleaned from research concerning rural youth:

1. Rural and especially farm youth are less well educated than urban youth.

2. Farm youth who plan to farm are considerably less likely than other youth to consider education beyond high school.

3. Greater proportions of farm-reared males than urban-reared males are found in lower-status and lower-paid occupations.

4. Farm and rural non-farm high school students who seek urban jobs generally have lower levels of occupational aspiration than urban youth.

5. Rural boys including farm boys and small-town boys reported they less frequently discussed their occupational plans with their parents than did the urban boys.

6. Farm and rural parents apparently provide less encouragement for their son's education beyond high school than do urban parents.

7. Greater proportion of urban than rural youth reflect those kinds of personality characteristics and value-orientation which are helpful in completing higher education or in competing for the better paying or higher status urban jobs.\(^{31}\)

A report by the U. S. Department of Agriculture tends to bear out some of the above generalizations concerning rural youth in reporting that rural youth show relative educational disadvantage when compared with urban youth.\(^{32}\) Evidence was also shown that farm youth have lower levels of attainment and aspiration than urban youth.\(^{33}\)

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\(^{31}\)Burchinal, op. cit., pp. 5-7.


\(^{33}\)Ibid., p. 17.
Rurality *per se* was not assumed to be the causative factor, but that the differences shown may be related to the quality and quantity of financial and other resources available to provide additional education.  

**Identification of Youth With Special Needs**

Some procedures have been developed for the use by schools in identifying the disadvantaged in their school. These procedures have often been developed through determination of the characteristics of youth which tend to discriminate between the school dropout and the graduate. Several dropout studies have resulted in conclusions drawn as to those characteristics which tend to differentiate the student who is likely to graduate from high school from the student who is not likely to complete high school.

A study conducted by the New York State Education Department, and cited in another departmental publication, is one in which a list of characteristics has been developed for use in identifying potential school dropouts. Twenty-one characteristics of student and

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34 Ibid., p. 17.


family are listed in decreasing order of their discriminative power:

<table>
<thead>
<tr>
<th>Rank</th>
<th>Characteristic</th>
<th>Qualifying Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>age</td>
<td>old for age group (over 2 years)</td>
</tr>
<tr>
<td>2</td>
<td>grade retardation</td>
<td>one year or more retarded</td>
</tr>
<tr>
<td>3</td>
<td>learning rate</td>
<td>below 90 I. Q.</td>
</tr>
<tr>
<td>4</td>
<td>pupil's interest in school work</td>
<td>little or none</td>
</tr>
<tr>
<td>5</td>
<td>school marks</td>
<td>predominantly below average</td>
</tr>
<tr>
<td>6</td>
<td>ability to read</td>
<td>two years or more below grade level</td>
</tr>
<tr>
<td>7</td>
<td>parental attitude</td>
<td>negative</td>
</tr>
<tr>
<td>8</td>
<td>general adjustment</td>
<td>fair or poor</td>
</tr>
<tr>
<td>9</td>
<td>participation in out-of-school activities</td>
<td>none</td>
</tr>
<tr>
<td>10</td>
<td>attendance</td>
<td>chronic absenteeism (20 days or more per year)</td>
</tr>
<tr>
<td>11</td>
<td>acceptance by pupils</td>
<td>not liked</td>
</tr>
<tr>
<td>12</td>
<td>number of children in family</td>
<td>five or more</td>
</tr>
<tr>
<td>13</td>
<td>reactions to school controls</td>
<td>resents controls</td>
</tr>
<tr>
<td>14</td>
<td>educational level achieved by mother</td>
<td>grade 7 or below</td>
</tr>
<tr>
<td>15</td>
<td>parental attitude</td>
<td>vacillating</td>
</tr>
<tr>
<td>16</td>
<td>participation in school activities</td>
<td>none</td>
</tr>
<tr>
<td>17</td>
<td>educational level achieved by father</td>
<td>grade 7 or below</td>
</tr>
<tr>
<td>18</td>
<td>father's occupation</td>
<td>unskilled or semiskilled</td>
</tr>
<tr>
<td>19</td>
<td>health</td>
<td>frequently ill, easily fatigued</td>
</tr>
<tr>
<td>20</td>
<td>school to school transfers</td>
<td>pattern of &quot;jumping&quot; from school to school</td>
</tr>
<tr>
<td>21</td>
<td>physical size</td>
<td>small or large for age group</td>
</tr>
</tbody>
</table>

It was noted that the possession of five or more of the listed characteristics tended to differentiate between dropouts and graduates; however, approximately 75 per cent of the individual students who had been identified as potential school dropouts actually dropped out before

---

The items predicted male dropouts with greater efficiency than female dropouts.\textsuperscript{39}

Several of the characteristics listed are of a nature which required that a judgmental decision must be made by a knowledgeable person in application of these criteria. The necessity of implementing professional judgment in the identification of the potential dropout, through use of these criteria, is further reinforced by the statement: "Of course, the teacher-coordinator will eventually determine for each candidate through exercise of his professional judgment which are potential dropouts. . . ."\textsuperscript{40}

An instrument was developed at Southern Illinois University to be used in arriving at scores for each of five factors considered to be "... critical to dropout proneness."\textsuperscript{41} Factors assigned score values to be used in arriving at a dropout-proneness rating were: (1) Socioeconomic status, (2) Intelligence, (3) School Achievement, (4) Reading Achievement, and (5) School and Social Adjustment.\textsuperscript{42} Additional bias factors for grade retentions and being over age for grade were to be listed for teacher use in arriving at judgments concerning each individual.

\textsuperscript{38}Ibid., pp. 9-10
\textsuperscript{39}Ibid., p. 10.
\textsuperscript{40}Ibid., p. 10.
\textsuperscript{42}Ibid., p. 1.
Harold Spears reports another group of factors used by schools in the identification of disadvantaged students. Some of the items used in this case differ from those used in the Illinois and New York studies. The factors considered in a determination of which students are disadvantaged are: teacher's evaluation of academic achievement, transiency, language patterns—bilingualism, attendance, discipline, dropouts, and student aspirations.43

It can be seen that in the use of each of these procedures for identifying the potential dropout, or the disadvantaged student, that the professional judgment of educators must be relied upon rather heavily.

Studies in New York City revealed that teachers' estimates of student potential of underprivileged seventh and ninth grade students were superior predictors of high school scholastic achievement than were standardized tests:

Employing multiple correlation procedures it was found that composites of teacher estimates of student potential obtained in the seventh grade were superior to composites of standardized test measures in predicting scholastic achievement in the eighth grade.44

Teacher estimates at the high school level also proved to be superior predictors of academic success for:

In the second study involving ninth grade students in two Higher Horizons junior high schools, it


was found that composites of teacher estimates of student potential secured in the ninth grade were superior predictors of tenth grade high school scholastic achievement than were composites of standardized test measures.45

The foregoing statements and studies concerning the identification of the disadvantaged consistently indicate reliance upon the professional judgment of educators in the identification of the disadvantaged. This lends support to one of the basic assumptions of this study—that high school educators could adequately identify the ninth grade youth with special needs in their schools.

One statement, typical of those found in the literature regarding the identification of disadvantaged students, states:

Educators know that in school districts with large enrollments of the poor, there is a high incidence of school dropouts. They know, too, that among children too young to drop out of school, the early signs of probable failure is painfully visible to their teachers. The teacher early recognizes that a child of poverty is a child of a world separate from the prosperous, aspiring mainstream of American life. . . . By the eighth grade, he may be as many as three years back, his mind closed, his behavior rebellious. By high school age, he is already headed for unemployment and dependence. . . .46

The home environment and culture from which a child comes, and the abilities and attitudes which he brings to the classroom provide a basis upon which educators can draw rather sound estimates of his


chances for survival in the educational system. "High school failure
is often determined before enrollment in grammar school and can be
predicted with increasing certainty as a disadvantaged child painfully
gropes his way through the middle years."\textsuperscript{47} Further support of the
assumption by the investigator was gained through conferences with
principals, guidance counselors, and teachers in several schools which
had identified their ninth grade youth with special needs. An observ­
vation made by a high school principal was to the effect that "we could
have identified these same students by the end of the first semester of
the first grade."\textsuperscript{48}

Classification of Youth With Special Needs

A problem in any discussion of the disadvantaged is the term­
inology in use by various authors to describe various causes and char­
acteristics of disadvantaged. Some writers use one or two terms to
denote the general cause of disadvantage while others list several
rather specific categories of disadvantage which denote specific areas
of deprivation.

Reisman, in his discourse on \textit{The Culturally Deprived Child},
resorted to the equating of several terms currently in use in the lit­
erature. In explanation of his usage of these terms, he stated:

\begin{quote}
The terms "culturally deprived," "education­ally deprived," "deprived," "underprivileged," "dis­
\end{quote}

\textsuperscript{47}Ibid., p. 47.

\textsuperscript{48}Interview with James Roney, Principal, East High School,
Portsmouth, Ohio, February 15, 1967.
advantaged," "lower class," "lower socio-economic groups," are used interchangeably throughout this book.\(^4\)

Ornstein used the general term deprivation in reference to the disadvantaged and identified eight rather specific types of deprivation, all of which he felt must be recognized in dealing with disadvantaged children. His categories are: *(1) self deprivation, (2) social deprivation, (3) environmental deprivation, (4) parental deprivation, (5) hygenic deprivation, (6) racial deprivation, (7) experience deprivation, and (8) educational deprivation.*\(^5\)

Kemp employed one broad term "socioeconomically handicapped" and further defined the term by a listing of several typical behavioral patterns of such youth in the classroom. These characteristics were enumerated earlier in this chapter.\(^5\)

Six rather broad categories of handicaps were identified by Campbell. His categories are *(1) Physically handicapped, (2) Intellectually handicapped, (3) Educationally handicapped, (4) Psychologically handicapped, (5) Sociologically handicapped, and (6) Economically handicapped.*\(^5\) Campbell developed these as handicaps which prevent students from succeeding in regular programs of vocational education.


\(^5\)Kemp, *loc. cit.*

\(^5\)Campbell, *op. cit.*, p. 2.
He recognized that any one of these handicaps or a combination of one or more could be responsible for a student's lack of success.

Groves, in his nation-wide study of Vocational Education Programs for Students with Special Needs, used six categories quite similar to those identified by Campbell. The six categories of students used by Groves in the identification of vocational education programs for youth with special needs were:

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentally handicapped</td>
<td>- between 90 - 70 I. Q.</td>
</tr>
<tr>
<td>Physically handicapped</td>
<td>- permanent of limiting physical disabilities</td>
</tr>
<tr>
<td>Educationally deprived</td>
<td>- ranking in the lower 1/3 of their class or classified as slow learners because of academic problems</td>
</tr>
<tr>
<td>Economically deprived</td>
<td>- parents whose primary income is classified in the poverty incomes below $3000 per year</td>
</tr>
<tr>
<td>Socially disadvantaged</td>
<td>- having those special social problems which affect their educational success such as alienated youth, loss of parents, etc.</td>
</tr>
<tr>
<td>Ethnically disadvantaged</td>
<td>- racially associated problems affecting educational success, such as language, social barriers, etc.</td>
</tr>
</tbody>
</table>

A rather brief review of the terms used in reference to the disadvantaged and the categories employed as descriptive terminology reveals a wide latitude of definition and interpretation among writers in the field. It should be recognized that no single term nor set of categories appears to be entirely adequate in discussing the disadvantaged. Single terms do not tend to be sufficiently definitive and the categories do not tend to be discrete. The characteristics of the

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53 Groves, op. cit., p. 220.
disadvantaged appear to be interrelated to such an extent that several categorizations may be descriptive of a single individual.

Vocational Education for Youth With Special Needs

Apparently all educators do not view vocational education as an avenue of approach through which the educational system may attack the educational problems of the disadvantaged. A recent report of a national conference dealing with the education of the disadvantaged, attended by numerous prominent educators, gave little consideration to vocational education as a possible avenue of approach to the problems of these youth.\(^5\) This publication, as well as others, places emphasis upon cultural enrichment programs, and upon remedial-type programs directed toward assisting the disadvantaged to achieve success in an academically oriented educational system.

Other educators perceive vocational education and occupational training as the most logical approach to serving the educational needs of the less able student. Cervantes, in his discourse The Dropout: Causes and Cures, recommended that wide variety of high school curriculum be offered including vocational programs:

... For the disadvantaged, the non college oriented, and the less talented, the goal of the curriculum may well be helping each child to become his best self, a good citizen, and a productive worker ....

Extra courses that are not college preparatory can be offered for the welfare of the withdrawal-prone: baking, barbering, bookkeeping, building, auto-repair,

consumer education, commercial cooking, homemaking, mechanics, typing, and various vocational arts.\(^{55}\)

A three-"stripe" approach to vocational education, including a "stripe" serving the disadvantaged, was advocated by Wilhelms. He writes of the technical level and the regular high school vocational programs as the first two levels and pleads for another level to serve people and jobs below those of the traditional vocational program. In discussing the educational difficulties of these students he states:

. . . Think of the boys and girls we have let into our machine shops and secretarial courses only because we had no suitable place for them. Often they have cluttered up the traditional vocational program and made it ineffective. Often their presence has made courses presumably preparing people for rather high-level jobs look like mere dumping grounds. The students who really belonged in those courses looked upon them with contempt. And little if any good was accomplished, because the low-ability, low-drive students who got into those courses had practically no chance anyway of getting and holding jobs in those demanding areas.\(^{56}\)

In a study of vocational agriculture students, Boyer found that a proportionately higher percentage of low I. Q. and high I. Q. students dropped vocational agriculture by their junior year in school.\(^{57}\) This finding appears to bear out Wilhelms' concern that the traditional vocational program does not serve the needs of the disadvantaged, and


\(^{56}\text{Fred T. Wilhelms, "Vocational Education: What are the Big Questions?," The Bulletin of the National Association of Secondary School Principals, Vol. 49, No. 301 (May, 1965), p. 6.}\)

\(^{57}\text{William Alfred Boyer, "The Mental Ability and Scholastic Achievement of Vocational Agriculture Students in Wayne County," (Unpublished Master's Thesis, The Ohio State University, 1965), p. 90.}\)
that their admission to the program may hamper its efforts to serve the more able.

Wilhelms further expresses his concern for the lesser able student and suggests that:

We need to figure out a whole new range of programs genuinely suited to this lowest group. The preparation will have to be simple, as the jobs which they will hold will be simple. These are the people whose future is most at hazard in an increasingly technical world. They need all the help we can give them. And we can help them best by being toughly realistic. We shall need to use every bit of ingenuity at our command to get them incorporated into the economic world at all. But—in a growing range of service jobs—society does need what they can do, if we are visionary enough to develop it.\(^{58}\)

National concern for these youth and the recognition that vocational education does have a responsibility in helping serve their special needs resulted in specific provisions of the Vocational Act of 1963 that vocational education programs be developed for this purpose. One of four categories of persons to be served by the Act is "Persons who have handicaps—academic, socioeconomic, or other—that prevent them from succeeding in the regular vocational education program."\(^{59}\)

**Characteristics of Vocational Education Programs for Youth With Special Needs**

The literature relating to vocational education and occupational training for the disadvantaged expresses diverse opinions as to the

\(^{58}\) Wilhelms, op. cit., p. 7.

general structure and features which should characterize these efforts to meet needs of this group of students. Some educators from sparsely populated states of the country feel that, due to relatively small school size and long distances between schools, provisions for serving youth with special needs must be made within the regular vocational education programs. Others, such as Wilhelms, advocate a whole new series of vocational programs especially designed to match the abilities of students to jobs with less stringent technical requirements than training is geared toward in the traditional vocational programs.

Many writers suggest that combination of work and study should be the major feature of an educational program for the disadvantaged. Bloom, Conant, and Strom each advocate programs whose major feature is work-study and that in-school classes be related to the work experience of the student. The Educational Policies Commission also believed that such programs should be developed. They advised that:

Programs of part-time work and part-time study are advisable for many children who are likely to benefit little from an almost exclusively classroom-oriented education. Such programs hold out the hope that many pupils whose handicaps the schools have not otherwise

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60 Groves, op. cit., p. 37.
62 Conant, op. cit., p. 51.
been able to overcome will become contributing self-supporting adults.64

The state of Ohio currently supports two types of vocational programs for youth with special needs. One such program features occupational work experience with its major objective that of developing "... through work experiences the necessary attitudes, skills, and abilities which will enable the student to become gainfully employed in occupations having limited skill requirements."65 The other type, the "In School Preparatory Program," may be conducted under one of the five vocational service areas; however, these programs are especially designed to serve the disadvantaged and prepare them for "... entry into limited skill or single skill occupations."66

Strom cautions against assuming that vocational education in itself will solve all of the learning problems of the disadvantaged. He observes that:

There is reason to be optimistic concerning occupational training in the secondary school for all pupils who require it, whether they be slow or fast. ... However, though a vocational course of his choice might readily sustain the interest of a predictive dropout, there remains the task of engendering his interest in those curricular areas to which all pupils are exposed before occupational training. It is precisely here, in reading, social studies, and mathe-


65Guidelines for Establishing and Operating Vocational Education Programs for Youth With Special Needs, p. 2.

66Ibid., p. 6.
matics, that antipathy or enthusiasm is nurtured, success or defeat is sealed, dropout or retention is determined. 67

Similar concern is voiced by the Division of Vocational and Technical Education in their "Summary of Major Points in Developing Programs for Persons with Special Needs."

Vocational education, in cooperation with all educational disciplines, must make available the supplemental education required to bring these students to the level of achievement required where they can benefit from the occupational course offerings. Concern for and attention to the needs and desires of each student will produce results affecting motivation and achievement. 68

The most comprehensive data available concerning characteristics of vocational programs for students with special needs is that gathered by Groves. As a part of his determination of the status of those programs in existence and receiving support through the Vocational Education Act of 1963, Groves collected and analyzed rather extensive data pertaining to five broad aspects of these programs. Characteristics of programs in operation at the time of his study were summarized under the general headings of: (1) administration, (2) pupil personnel, (3) curriculum, (4) special services, and (5) teacher personnel. 69

From the findings of his survey of vocational education programs for students with special needs and suggestions of other educators,

67 Strom, loc. cit.
Groves developed a list of varied program characteristics. Ten characteristics were listed under each of the five headings above. He then determined the relative importance of these items by submitting them to an evaluation by administrators and teachers in the programs studied earlier.

Groves concluded that fourteen of these characteristics were highly important, twenty-six were rated as being of much importance, and ten items were considered of some or little importance. Groves also found a very high degree of agreement among administrators and teachers as to the importance of these selected characteristics of vocational education programs for youth with special needs.70

The characteristics of vocational education programs for students with special needs which Groves found to be highly important were:

Planning and conducting vocational programs for students with special needs to provide the students with skills and abilities which will assist these students in becoming employable.

Limiting enrollment or pupil-teacher ratios to permit more individualized instruction and attention.

Securing the assistance of business and industry in providing opportunities for students with special needs to apply and practice skills and abilities developed in the vocational program.

Providing students with special needs ample opportunity to apply and practice skills and abilities by involving them in cooperative work experience or other such experiences related to the vocational training program.

70Ibid., pp. 182-185.
Designing the curriculum for vocational programs for students with special needs specifically for the type of students enrolled.

Providing school programs in the form of special or remedial courses to assist students with special needs in correcting or improving any learning deficiency.

Selecting or developing subject matter materials and audio-visual aids specifically to fit the abilities and needs of students with special needs enrolled in special vocational programs.

Scheduling the teachers of vocational programs for students with special needs so that they have released time to work and counsel with employers and parents.

Employing the teacher of vocational programs for students with special needs on a full-time basis for those programs.

Requiring students in vocational programs for students with special needs to participate in occupational work experience or on-the-job training as part of their training program.

Making available an organized and active placement program in the school or vocational department to assist graduates of vocational programs for students with special needs to secure a job.

Providing professional people from the regular school system such as: social workers, guidance counselors, reading specialists, etc., to work with the students and teachers in vocational programs for students with special needs.

Involving parents of students with special needs in the vocational program through counseling sessions, parent-teacher visitation, and consultations with other school personnel.

Having a planned system for identifying potential enrollees in vocational programs for students with special needs prior to their entrance into high school.  

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71 Ibid., pp. 148-150.
Summary

The plight of the disadvantaged youth has been intensified by his inability to adjust and compete in today's rapidly changing society and technology. His environment and deprivations have produced characteristics which have set him apart from the mainstream of our present-day educational system and society in general. There is an increasing need for a more highly trained work force, yet the youth with special needs often do not possess the necessary abilities, skills, and attitudes for success in the regular vocational education programs of our high schools.

Valuable background data is available in the form of numerous studies of high school dropouts, including the Ohio Study of High School Dropouts, which have provided important information regarding some dimensions of the problem. Characteristics of dropouts have been determined, dropout rates computed, and key indicators of potential dropouts identified.

Many educators and others see great potential in serving the special needs of these youth through especially designed and operated vocational and occupational training programs. Such educational programs may provide a means through which these youth may be kept from a life of dependence and permitted to lead a richer and more rewarding life. Walter Arnold provided a fitting concluding statement to this
discussion in his Foreword to Barbara Kemp's *The Youth We Haven't Served*:

But vocational education cannot solve this problem unaided. All educators must work together in the formulation of programs which will carry the individual from childhood through adulthood.72

CHAPTER IV

NUMBERS AND CATEGORIES OF YOUTH WITH SPECIAL NEEDS
IN OHIO NON-METROPOLITAN HIGH SCHOOLS

The specific objectives of the study toward which this chapter is directed are:

1. To identify numbers of youth with special needs at the ninth grade level in non-metropolitan high schools in the state of Ohio.

2. To determine the relative influence of selected factors contributing toward their classification as youth with special needs.

The findings reported in this chapter were based upon data supplied by 133 schools responding from a sample of 150 schools. The sample was drawn from the population of 473 non-metropolitan Ohio high schools which contained students at the ninth grade level.

Numbers of Youth With Special Needs

The numbers and percentages of youth with special needs shown in Table 6 indicate that there was a substantial segment of the high school population whose educational needs were not being well served by regular high school educational programs. The fact that there were large numbers of students who would not be successful in the traditional high school educational programs suggests that other approaches may be needed to serve this group of students.
The small schools, although numbering more than either of the other two size categories, contained only about one-fifth of the students identified as having special needs.

**TABLE 6**

**NUMBERS OF NINTH GRADE YOUTH WITH SPECIAL NEEDS IN OHIO NON-METROPOLITAN HIGH SCHOOLS**

<table>
<thead>
<tr>
<th>School Size by 9th Grade Enrollment</th>
<th>Number of Schools In Sample</th>
<th>Students Identified In Sample Schools</th>
<th>Projected Numbers in All Non-Metropolitan Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 100</td>
<td>52</td>
<td>520</td>
<td>15.46</td>
</tr>
<tr>
<td>101 - 200</td>
<td>47</td>
<td>822</td>
<td>13.45</td>
</tr>
<tr>
<td>201 - 375</td>
<td>34</td>
<td>1113</td>
<td>12.19</td>
</tr>
<tr>
<td>TOTAL</td>
<td>133</td>
<td>2455</td>
<td>13.91</td>
</tr>
</tbody>
</table>

Although the mean percentages of students identified appeared to be larger for the smaller schools, the differences between size categories were found to not be statistically significant at the .05 level. A further test of the relationship between the percentage of students identified and school size produced a slight correlation of -.193 which was statistically significant at the .05 level. This almost negligible negative relationship might possibly be a result of wider course offerings in the larger schools, or less personal knowledge on the part of school personnel concerning individual students in the larger schools.
The numbers of ninth grade students with special needs identified in the 133 sample schools served as a basis upon which projections were made to the 473 non-metropolitan high schools of the state.

**Numbers of boys and girls with special needs**

A greater proportion of ninth grade boys was identified as having special needs than was true for girls. Table 7 shows the numbers and percentages of all ninth grade boys and girls which were identified in these schools as possessing special needs with projections made to the entire population of non-metropolitan high schools.

**TABLE 7**

**NUMBERS AND PERCENTAGES OF 9TH GRADE YOUTH WITH SPECIAL NEEDS IN NON-METROPOLITAN OHIO HIGH SCHOOLS BY SEX OF STUDENT**

<table>
<thead>
<tr>
<th>Students</th>
<th>Numbers Identified In Sample Schools</th>
<th>Mean %</th>
<th>Projected Numbers in All Non-Metropolitan Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>1536</td>
<td>17.16(^a)</td>
<td>5164</td>
</tr>
<tr>
<td>Girls</td>
<td>919</td>
<td>10.50(^a)</td>
<td>3269</td>
</tr>
<tr>
<td>All Students</td>
<td>2455</td>
<td>13.91</td>
<td>8733</td>
</tr>
</tbody>
</table>

\(^a\) - Differences in Mean % statistically significant at the .01 level.

There were almost twice as many boys as girls identified. It was anticipated that there would be more boys than girls for dropout studies have shown a higher dropout rate among boys than girls; however, these differences between numbers of boy and girl dropouts were not as great as those found in this study.
This greater proportion of boys than girls may also be partially attributed to the greater difficulty encountered in identifying potential girl dropouts as compared to boys. Other studies have shown that methods used in the identification of potential high school dropouts have proven more effective in the prediction of boy dropouts than girl dropouts.

Regardless of the causes which have resulted in a greater proportion of boys than girls identified as youth with special needs, the fact remains that there are substantially more boys than girls to be served.

Boys with special needs -- The greatest numbers of boys identified as having special needs were found in the larger schools. Table 8 shows that the small schools had but one-fifth of the total number of boys with special needs.

Although the mean percentage of boys with special needs appeared to be highest in the small schools, the differences in the mean percentages shown by the three school size categories were not statistically significant at the .05 level. A slight negative correlation of -.197, significant at the .05 level, was found to exist between percentages of boys with special needs and school size.

The relatively large standard deviations of percentages indicate that considerable variation existed from school to school in the percentages of students classified as youth with special needs.

Girls with special needs -- Table 9 shows that less than one-
fourth of the ninth grade girls identified as having special needs were found in the small schools.

TABLE 8
NUMBERS AND PERCENTAGES OF NINTH GRADE BOYS WITH SPECIAL NEEDS IN NON-METROPOLITAN OHIO HIGH SCHOOLS BY SCHOOL SIZE

<table>
<thead>
<tr>
<th>School Size by 9th Grade Enrollment</th>
<th>Boys Identified in Sample Schools</th>
<th>Mean % Boys</th>
<th>Standard Deviation of %</th>
<th>Projected Numbers Boys in all Non-Metropolitan Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 100</td>
<td>310</td>
<td>18.77</td>
<td>11.10</td>
<td>1103</td>
</tr>
<tr>
<td>101 - 200</td>
<td>539</td>
<td>17.16</td>
<td>9.17</td>
<td>1917</td>
</tr>
<tr>
<td>201 - 375</td>
<td>687</td>
<td>14.68</td>
<td>6.13</td>
<td>2464</td>
</tr>
<tr>
<td>All Schools</td>
<td>1536</td>
<td>17.16</td>
<td>9.43</td>
<td>5464</td>
</tr>
</tbody>
</table>

TABLE 9
NUMBERS AND PERCENTAGES OF NINTH GRADE GIRLS WITH SPECIAL NEEDS IN NON-METROPOLITAN OHIO HIGH SCHOOLS BY SCHOOL SIZE

<table>
<thead>
<tr>
<th>School Size by 9th Grade Enrollment</th>
<th>Girls Identified in Sample Schools</th>
<th>Mean % Girls</th>
<th>Standard Deviation of %</th>
<th>Projected Numbers Girls in all Non-Metropolitan Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 100</td>
<td>210</td>
<td>11.98</td>
<td>8.83</td>
<td>747</td>
</tr>
<tr>
<td>101 - 200</td>
<td>283</td>
<td>9.52</td>
<td>6.51</td>
<td>1007</td>
</tr>
<tr>
<td>201 - 375</td>
<td>426</td>
<td>9.58</td>
<td>7.50</td>
<td>1515</td>
</tr>
<tr>
<td>All Schools</td>
<td>919</td>
<td>10.50</td>
<td>7.77</td>
<td>3269</td>
</tr>
</tbody>
</table>

Although the percentages of girls identified as having special needs were smaller than the percentages of boys with special needs, other
findings for girls were quite similar to those found for boys. The mean percentages of girls identified as having special needs in each of the three school size categories did not differ significantly. Also a slight negative correlation of -0.134 was found between percentages of girls identified with special needs and school size. This correlation was not significant at the .05 level. Relatively high standard deviations of percentages indicate considerable variation from school to school in the percentages of girls identified as youth with special needs.

**Categories of Youth With Special Needs**

Each school that identified ninth grade youth with special needs was also asked to indicate for each student the approximate influence which each of six types of disadvantage had upon that student's classification as a youth with special needs. For each of the six categories of disadvantage, an indication was made as to whether that disadvantage was "the major factor," "contributed much," "contributed some," or was "not a factor."

Table 10 shows the distribution among the six categories of disadvantage on the basis of the major disadvantage indicated for each student. The large majority of students were categorized in the three categories intellectually handicapped, educationally deprived, and socially disadvantaged. Very small percentages of youth with special needs were assigned the categories of ethnically disadvantaged and physically handicapped as their major category of disadvantage.
### TABLE 10

CLASSIFICATIONS OF NINTH GRADE YOUTH WITH SPECIAL NEEDS IN OHIO NON-METROPOLITAN HIGH SCHOOLS BY MAJOR DISADVANTAGE CATEGORY

<table>
<thead>
<tr>
<th>Category of Disadvantage</th>
<th>Number of Students Exhibiting Major Disadvantage</th>
<th>% of Total Y.W.S.N. for Whom a Major Disadvantage was Indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectually Handicapped</td>
<td>744</td>
<td>36.7</td>
</tr>
<tr>
<td>Educationally Deprived</td>
<td>506</td>
<td>24.9</td>
</tr>
<tr>
<td>Socially Disadvantaged</td>
<td>419</td>
<td>20.6</td>
</tr>
<tr>
<td>Economically Deprived</td>
<td>287</td>
<td>14.1</td>
</tr>
<tr>
<td>Physically Handicapped</td>
<td>42</td>
<td>2.1</td>
</tr>
<tr>
<td>Ethnically Disadvantaged</td>
<td>32</td>
<td>1.6</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>2030</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

It may be noted that the total number of students categorized by major disadvantage did not equal the 2455 students identified as youth with special needs. The fact that nearly one-fifth of all youth with special needs were not assigned a category of major disadvantage may be an indication that the types of disadvantage did not form discrete categories and that they may have been closely associated to each other, thereby causing difficulty in the designation of any one category as the major disadvantage. Several written comments by persons completing the survey instrument indicated this to be the reason for not indicating a major category of disadvantage for each student.
Boys and girls categorized by major disadvantage

The distributions of boys by major disadvantage as shown in Table 11 indicates that the large majority of boys with special needs were categorized as intellectually handicapped, educationally deprived, and socially disadvantaged. Again, very few students were attributed either of the major disadvantages physically handicapped or ethnically disadvantaged.

### TABLE 11

CLASSIFICATIONS OF NINTH GRADE BOYS WITH SPECIAL NEEDS IN OHIO NON-METROPOLITAN HIGH SCHOOLS BY MAJOR DISADVANTAGE CATEGORY

<table>
<thead>
<tr>
<th>Category of Disadvantage</th>
<th>Number of Boys Exhibiting Major Disadvantage</th>
<th>% of Total B.W.S.N. for Whom a Major Category Was Indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectually Handicapped</td>
<td>477</td>
<td>37.4</td>
</tr>
<tr>
<td>Educationally Deprived</td>
<td>357</td>
<td>28.0</td>
</tr>
<tr>
<td>Socially Disadvantaged</td>
<td>229</td>
<td>18.0</td>
</tr>
<tr>
<td>Economically Deprived</td>
<td>164</td>
<td>12.9</td>
</tr>
<tr>
<td>Physically Handicapped</td>
<td>28</td>
<td>2.2</td>
</tr>
<tr>
<td>Ethnically Disadvantaged</td>
<td>19</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>1274</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Table 12 shows essentially the same distribution of girls among the six categories as was shown for boys with the exception that the percentages of students categorized as educationally deprived and socially disadvantaged were reversed. Although the categorizations of
boys and girls did differ significantly at the .01 level when subjected to the \( x^2 \) test of significance, the magnitude of the differences is quite small when percentage points are considered. The relative numbers of both boys and girls categorized by each of the six major types of disadvantage are quite similar.

**TABLE 12**

CLASSIFICATIONS OF NINTH GRADE GIRLS WITH SPECIAL NEEDS IN OHIO NON-METROPOLITAN HIGH SCHOOLS BY MAJOR DISADVANTAGE CATEGORY

<table>
<thead>
<tr>
<th>Category of Disadvantage</th>
<th>Number of Girls</th>
<th>% of Total G.W.S.N. for Whom a Major Category Was Indicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectually Handicapped</td>
<td>267</td>
<td>35.3</td>
</tr>
<tr>
<td>Socially Disadvantaged</td>
<td>190</td>
<td>25.1</td>
</tr>
<tr>
<td>Educationally Deprived</td>
<td>149</td>
<td>19.7</td>
</tr>
<tr>
<td>Economically Deprived</td>
<td>123</td>
<td>16.3</td>
</tr>
<tr>
<td>Physically Handicapped</td>
<td>14</td>
<td>1.9</td>
</tr>
<tr>
<td>Ethnically Disadvantaged</td>
<td>13</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>756</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Approximately four-fifths of both boys and girls were categorized in the three categories, intellectually handicapped, educationally deprived, and socially disadvantaged. The majority of the remaining boys and girls were categorized as economically deprived and a very few in each of the categories ethnically disadvantaged and physically handicapped.
Economic Deprivation as a factor influencing the classification of students as youth with special needs

Economic deprivation was shown to not be one of the leading categories selected as the major disadvantage leading to students' classification as youth with special needs. Table 13 indicates, however, that economic deprivation was a factor in the classification of nearly two-thirds of all students identified as youth with special needs. This fact may be an indication that a quite close relationship existed between economic deprivation and other categories of disadvantage.

TABLE 13

NUMBERS AND PERCENTAGES OF STUDENTS FOR WHOM ECONOMIC DEPRIVATION WAS CONSIDERED A FACTOR IN THEIR IDENTIFICATION AS YOUTH WITH SPECIAL NEEDS

<table>
<thead>
<tr>
<th>School size Category</th>
<th>Numbers of YWSN</th>
<th>Numbers of YWSN Rated as Economically Deprived</th>
<th>% of YWSN rated as Economically Deprived</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>the major factor</td>
<td>contributed much</td>
</tr>
<tr>
<td>0 - 100</td>
<td>520</td>
<td>83</td>
<td>130</td>
</tr>
<tr>
<td>101 - 200</td>
<td>822</td>
<td>102</td>
<td>215</td>
</tr>
<tr>
<td>201 - 375</td>
<td>1113</td>
<td>102</td>
<td>283</td>
</tr>
<tr>
<td>All Schools</td>
<td>2455</td>
<td>287</td>
<td>628</td>
</tr>
</tbody>
</table>

School size appeared to have had little relationship to the percentages of youth with special needs categorized as economically deprived as may be noted by the close agreement among school size categories.
Educational deprivation as a factor influencing the classification of students as youth with special needs

Although educational deprivation ranked second in importance as the major factor in the classification of youth with special needs, Table 14 shows that it was a factor in nearly nine-tenths of all cases.

TABLE 14

NUMBERS AND PERCENTAGES OF STUDENTS FOR WHOM EDUCATIONAL DEPRIVATION WAS CONSIDERED A FACTOR IN THEIR IDENTIFICATION AS YOUTH WITH SPECIAL NEEDS

<table>
<thead>
<tr>
<th>School size Category</th>
<th>Numbers of YWSN</th>
<th>Numbers of YWSN Rated as Educationally Deprived</th>
<th>% of YWSN rated as Educationally Deprived</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>the major factor contributed</td>
<td>contributed some</td>
</tr>
<tr>
<td>0 - 100</td>
<td>520</td>
<td>126</td>
<td>207</td>
</tr>
<tr>
<td>101 - 200</td>
<td>822</td>
<td>186</td>
<td>347</td>
</tr>
<tr>
<td>201 - 375</td>
<td>1113</td>
<td>194</td>
<td>531</td>
</tr>
<tr>
<td>All Schools</td>
<td>2455</td>
<td>506</td>
<td>1085</td>
</tr>
</tbody>
</table>

The percentages of youth with special needs rated as educationally deprived showed some variation among size categories. Although this variation was about six percentage points, it was quite small in comparison to the total percentages rated as educationally deprived. The fact that the medium-sized schools showed a higher percentage than either the small schools or the large schools indicated that percentage of educationally deprived students was not likely related to school size.
Ethnic disadvantage as a factor influencing the classification of students as youth with special needs

The findings concerning ethnic disadvantage as a factor influencing the classification of students with special needs were quite different than had been anticipated. The literature dealing with the disadvantaged had indicated racial disadvantage to be one of the leading types of disadvantage. This might have been true for the disadvantaged of the cities; however, the findings of this study did not show this to be true of the non-metropolitan youth with special needs in Ohio.

Ethnic disadvantage was considered as the major factor in but a very few cases, as shown in Table 15, and it was considered as a factor in the classification of youth with special needs in only about one out of eight individuals.

Percentages of youth with special needs classified as ethnically disadvantaged by school size category did not indicate a relationship with school size.
TABLE 15

NUMBERS AND PERCENTAGES OF STUDENTS FOR WHOM ETHNIC DISADVANTAGE WAS CONSIDERED A FACTOR IN THEIR CLASSIFICATION AS YOUTH WITH SPECIAL NEEDS

<table>
<thead>
<tr>
<th>School size Category</th>
<th>Numbers of YWSN</th>
<th>Numbers of YWSN Rated as Ethnically Disadvantaged</th>
<th>% of YWSN rated as Ethnically Disadvantaged</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>the major factor</td>
<td>contributed much</td>
</tr>
<tr>
<td>0 - 100</td>
<td>520</td>
<td>4</td>
<td>28</td>
</tr>
<tr>
<td>101 - 200</td>
<td>822</td>
<td>13</td>
<td>29</td>
</tr>
<tr>
<td>201 - 375</td>
<td>1113</td>
<td>15</td>
<td>59</td>
</tr>
<tr>
<td>All Schools</td>
<td>2455</td>
<td>32</td>
<td>116</td>
</tr>
</tbody>
</table>

Social disadvantage as a factor influencing the classification of students as youth with special needs

Three-fourths of all youth with special needs exhibited some degree of social disadvantage as a reason for their classification. Table 16 shows this was true for students in each of the three size categories. Social disadvantage was given as the major factor, however, in less than one-fifth of the cases.

The high percentage of youth with special needs categorized as socially disadvantaged may be an indication that this category was closely associated with other categories of disadvantage.
TABLE 16
NUMBERS AND PERCENTAGES OF STUDENTS FOR WHOM SOCIAL DISADVANTAGE WAS CONSIDERED A FACTOR IN THEIR CLASSIFICATION AS YOUTH WITH SPECIAL NEEDS

<table>
<thead>
<tr>
<th>School size Category</th>
<th>Numbers of YWSN</th>
<th>Numbers of YWSN Rated as Socially Disadvantaged</th>
<th>% of YWSN rated as Socially Disadvantaged</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>the factor</td>
<td>contributed much</td>
</tr>
<tr>
<td>0 - 100</td>
<td>520</td>
<td>79</td>
<td>164</td>
</tr>
<tr>
<td>101 - 200</td>
<td>822</td>
<td>153</td>
<td>262</td>
</tr>
<tr>
<td>201 - 375</td>
<td>1113</td>
<td>187</td>
<td>297</td>
</tr>
<tr>
<td>All Schools</td>
<td>2155</td>
<td>419</td>
<td>723</td>
</tr>
</tbody>
</table>

Physical handicap as a factor influencing the classification of students as youth with special needs

Physical handicap was used as a factor the fewest times of the six categories of disadvantage even though it was indicated as the major factor more often than ethnic disadvantage. Table 17 shows that, generally, less than ten per cent of youth with special needs were considered physically handicapped to any degree. A possible reason for the slightly greater percentage shown by the medium-sized schools may have been that schools which rated students in this category were so few that perhaps by chance, more schools which indicated this category of disadvantage happened to be in the middle-sized category.
TABLE 17
NUMBERS AND PERCENTAGES OF STUDENTS FOR WHOM PHYSICAL HANDICAP WAS CONSIDERED A FACTOR IN THEIR CLASSIFICATION AS YOUTH WITH SPECIAL NEEDS

<table>
<thead>
<tr>
<th>School size Category</th>
<th>Numbers of YWSN</th>
<th>Numbers of YWSN Rated as Physically Handicapped</th>
<th>% of YWSN rated as Physically Handicapped</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>the major factor</td>
<td>contributed much</td>
</tr>
<tr>
<td>0 - 100</td>
<td>520</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>101 - 200</td>
<td>822</td>
<td>22</td>
<td>25</td>
</tr>
<tr>
<td>201 - 375</td>
<td>1113</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>All Schools</td>
<td>2455</td>
<td>42</td>
<td>60</td>
</tr>
</tbody>
</table>

Intellectual handicap as a factor influencing the classification of students as youth with special needs

Intellectual handicap was one of the three most frequently used categories as factors for the classification of students as youth with special needs. Table 18 shows that it was indicated as the major factor more often than it was rated as contributing much or contributing some. This is the only category in which this was true. This fact would help explain why that intellectually handicapped ranked first as the major factor in considering students as disadvantaged, yet was indicated to be a factor in fewer cases than was educationally deprived.

Four out of five youths with special needs were considered to be intellectually handicapped. This ratio remained quite constant among school size categories.
TABLE 18
NUMBERS AND PERCENTAGES OF STUDENTS FOR WHOM INTELLECTUAL HANDICAP WAS CONSIDERED A FACTOR IN THEIR IDENTIFICATION AS YOUTH WITH SPECIAL NEEDS

<table>
<thead>
<tr>
<th>School size Category</th>
<th>Numbers of YWSN</th>
<th>Numbers of YWSN Rated as Intellectually Handicapped</th>
<th>% of YWSN rated as Intellectually Handicapped</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>the major factor</td>
<td>contributed much</td>
</tr>
<tr>
<td>0 - 100</td>
<td>520</td>
<td>154</td>
<td>144</td>
</tr>
<tr>
<td>101 - 200</td>
<td>822</td>
<td>261</td>
<td>240</td>
</tr>
<tr>
<td>201 - 375</td>
<td>1113</td>
<td>329</td>
<td>334</td>
</tr>
<tr>
<td>All Schools</td>
<td>2455</td>
<td>744</td>
<td>718</td>
</tr>
</tbody>
</table>

Relationships among types of disadvantage

The high percentages of all youth with special needs who had received a rating in some of the categories of disadvantage suggested that positive relationships must have existed among some of the categories. Table 19 shows the coefficients of correlation between ratings for each of the possible pairs of categories of disadvantage.
TABLE 19

CORRELATIONS BETWEEN RATINGS FOR EACH OF THE POSSIBLE PAIRINGS OF TYPES OF DISADVANTAGE

<table>
<thead>
<tr>
<th></th>
<th>Economically Deprived</th>
<th>Ethnically Disadvantaged</th>
<th>Socially Disadvantaged</th>
<th>Physically Handicapped</th>
<th>Intellectually Handicapped</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnically Disadvantaged</td>
<td>167ª</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socially Disadvantaged</td>
<td>270ª</td>
<td>124ª</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physically Handicapped</td>
<td>-.031</td>
<td>-.010</td>
<td>-.015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intellectually Handicapped</td>
<td>-.043</td>
<td>-.014</td>
<td>-.251ª</td>
<td>-.016</td>
<td></td>
</tr>
<tr>
<td>Educationally Deprived</td>
<td>.044</td>
<td>.030</td>
<td>-.137ª</td>
<td>-.053</td>
<td>.134ª</td>
</tr>
</tbody>
</table>

ª - Significant at the .01 level.

Significant correlations indicated two groups of positively related categories of disadvantage. One group of categories shown to be positively correlated with each other were economic deprivation, ethnic disadvantage, and social disadvantage. These positive correlations indicate that if a student received a rating in one of these three categories there was a tendency for the student to also be rated in the other two categories. The other positive correlation was found between intellectually handicapped and educationally deprived. This positive correlation was expected in that it indicated that a student
rated in either of the two categories tended to be rated in the other also.

Significant negative associations were found to exist between social disadvantage and each of the categories educationally deprived and intellectually handicapped. These negative correlations indicate that if a student were rated as either educationally deprived or intellectually handicapped, that the student tended to not be rated as socially disadvantaged.

Chapter Summary

The chapter dealt with the numbers and categories of youth with special needs at the ninth grade level in Ohio's non-metropolitan high schools. The findings were based upon data supplied by 133 schools of a sample 150 schools. The sample was drawn from the population of 473 non-metropolitan Ohio high schools which contained students at the ninth grade level. High school principals were asked to enlist the aid of their guidance counselors, teachers, and other personnel to aid in the identification of all ninth grade students in their school who, in their judgment would not successfully complete a regular high school educational program.

Of all ninth grade students in the sample of non-metropolitan high schools, an average of about 14 per cent were considered to be youth with special needs. A significantly higher percentage of the boys enrolled in these schools was identified as having special needs than was found for the girls. These percentages were approximately
17 for boys and 10 for girls. Considerable variation existed from school to school in the percentages of ninth grade students identified as being disadvantaged. No apparent cause of this variation was determined; however, the variation was found to not be closely associated with school size.

A summary of the categories of youth with special needs is shown in Table 20 with the percentages of all disadvantaged for whom each of the types of disadvantage was considered to be a factor.

**TABLE 20**

**SUMMARY OF CATEGORIES OF YOUTH WITH SPECIAL NEEDS**

<table>
<thead>
<tr>
<th>Category of Disadvantage</th>
<th>Per Cent YWSN Rated As The Major Factor</th>
<th>Per Cent YWSN Rated in Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectually Handicapped</td>
<td>36.7</td>
<td>80.7</td>
</tr>
<tr>
<td>Educationally Deprived</td>
<td>24.9</td>
<td>87.2</td>
</tr>
<tr>
<td>Socially Disadvantaged</td>
<td>20.6</td>
<td>75.3</td>
</tr>
<tr>
<td>Economically Deprived</td>
<td>14.1</td>
<td>64.1</td>
</tr>
<tr>
<td>Physically Handicapped</td>
<td>2.1</td>
<td>8.0</td>
</tr>
<tr>
<td>Ethnically Disadvantaged</td>
<td>1.6</td>
<td>12.7</td>
</tr>
</tbody>
</table>

Most students received ratings in more than one category of disadvantage suggesting that the types of disadvantage were not discrete categories and that associations existed among them.
One group of categories of disadvantage which were found to be associated were:

- Economic deprivation
- Ethnic disadvantage
- Social disadvantage.

Positive association was also found to exist between intellectual handicap and educational deprivation.
CHAPTER V

CHARACTERISTICS OF NINTH GRADE YOUTH WITH SPECIAL NEEDS
IN NON-METROPOLITAN OHIO HIGH SCHOOLS

Introduction

The primary objective of this phase of the study was to describe ninth grade youth with special needs in terms of selected characteristics of these youth.

A determination of the characteristics of youth with special needs was made through a study of 155 students identified as youth with special needs in eight randomly selected non-metropolitan Ohio high schools. There were 169 ninth grade students not considered as youth with special needs randomly selected in the eight schools to serve as a comparison group. The selected characteristics of both groups of students were studied for the purpose of identifying existing differences between youth with special needs and other ninth grade students.

Characteristics which were studied related to the general categories of student background, student home and family status, and aspects of the students' educational experiences. Hypotheses in the null form were developed and tested for each of the characteristics studied.
Characteristics of student background

These characteristics of student background which were employed as basis of comparison between youth with special needs and other students may be found in Table 21. The characteristics for which statistically significant differences were found between ninth grade youth with special needs and other ninth grade students are shown. Significant differences between the two groups are indicated for boys tested separately, girls tested separately, and for boys and girls combined. Data and findings pertaining to each of the characteristics are discussed individually.

TABLE 21

CHARACTERISTICS OF STUDENT BACKGROUND EMPLOYED AS BASIS OF COMPARISON BETWEEN NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS IN NON-METROPOLITAN OHIO HIGH SCHOOLS

<table>
<thead>
<tr>
<th>Characteristics Studied</th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of student</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Place of birth</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Years lived in place of birth</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Race of student</td>
<td>...</td>
<td>...</td>
<td>No</td>
</tr>
<tr>
<td>Location of first school attended</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Years attended first school attended</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>
TABLE 21—Continued

<table>
<thead>
<tr>
<th>Characteristics Studied</th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of schools attended</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Presence of physical or health problem</td>
<td>No</td>
<td>...</td>
<td>No</td>
</tr>
</tbody>
</table>

Yes - Statistically significant difference found between IWSN and Others.

No - Statistically significant difference not found between IWSN and Others.

... - Numbers not sufficient for statistical comparison.

**Age of Student**

**Hypothesis:**

There is no significant difference in the "ages" of ninth grade youth with special needs and other ninth grade students.

The null hypothesis of no differences in ages was rejected on the basis of data presented in Table 22. Although the ninth grade youth with special needs were about three-fourths of a year older than the other ninth-grade students, this difference was not as great as had been anticipated. The New York Holding Power Project had used an age differential of two years as one predictor of future dropouts.¹

TABLE 22

AGES OF NINTH GRADE YOUTH WITH SPECIAL NEEDS COMPARED WITH OTHER NINTH GRADE STUDENTS IN NON-METROPOLITAN OHIO HIGH SCHOOLS

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>YWSM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>96</td>
<td>58</td>
<td>154</td>
</tr>
<tr>
<td>Mean age</td>
<td>15.73</td>
<td>15.45</td>
<td>15.62</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>.87</td>
<td>.84</td>
<td>.865</td>
</tr>
<tr>
<td>OTHERS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>107</td>
<td>61</td>
<td>168</td>
</tr>
<tr>
<td>Mean age</td>
<td>14.94</td>
<td>14.72</td>
<td>14.860</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>.59</td>
<td>.33</td>
<td>.521</td>
</tr>
<tr>
<td>Difference between ages of YWSM and Others</td>
<td>.79</td>
<td>.73</td>
<td>.763</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>7.612a</td>
<td>6.317a</td>
<td>9.680a</td>
</tr>
</tbody>
</table>

a - Significant at the .01 level.

An additional failure at the high school level before a student made the decision to drop out of school would make the figures quite comparable, however.

The age of the students that were identified as youth with special needs was similar to that of the Ohio ninth grade dropout. The Ohio Dropout Study showed that the large majority of the ninth grade dropouts were sixteen years of age or less.2

The differences in ages of youth with special needs and other students were quite similar for boys and girls and there was little

---

2Nachman, op. cit., p. 11.
difference shown between the ages of boys and girls in the same grouping.

The mean age of the ninth grade student, which was based upon age as of February 1, does indicate that many of the youth with special needs were approaching age sixteen by the second semester of the ninth grade. Sixteen is often the minimum age for placement in occupational experience programs.

Place of origin

Hypothesis:

There is no significant difference in the "place of origin" of ninth grade youth with special needs and other ninth grade students.

**Table 23**

Distributions of Ninth Grade Youth with Special Needs and Other Ninth Grade Students on the Basis of Location of Place of Origin

<table>
<thead>
<tr>
<th>Location of Place of Birth</th>
<th>Boys IWSN Others</th>
<th>Girls IWSN Others</th>
<th>Boys and Girls IWSN Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ohio school district now attending</td>
<td>55 68 30 44</td>
<td>85 112</td>
<td></td>
</tr>
<tr>
<td>Outside of district now attending</td>
<td>40 39</td>
<td>27 21</td>
<td>67 56</td>
</tr>
<tr>
<td>Other Ohio non-Appalachian area</td>
<td>20 21</td>
<td>15 13</td>
<td>35 34</td>
</tr>
<tr>
<td>Other Ohio Appalachian area</td>
<td>6 5</td>
<td>3 3</td>
<td>9 8</td>
</tr>
<tr>
<td>Other state non-Appalachian area</td>
<td>4 5</td>
<td>5 1</td>
<td>9 6</td>
</tr>
<tr>
<td>Other state Appalachian area</td>
<td>10 6</td>
<td>4 0</td>
<td>14 6</td>
</tr>
<tr>
<td>Other country</td>
<td>0 2</td>
<td>0 4</td>
<td>0 2</td>
</tr>
</tbody>
</table>

The numbers of students in some categories were not sufficient for a valid application of the chi square test of significance of difference; therefore, categories were combined and tested for difference as shown below. Yates' correction for continuity was also incorporated due to a cell frequency below 5.

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th></th>
<th>Girls</th>
<th></th>
<th>Boys and Girls</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IWSN</td>
<td>Others</td>
<td>IWSN</td>
<td>Others</td>
<td>IWSN</td>
<td>Others</td>
</tr>
<tr>
<td>District now</td>
<td>55</td>
<td>68</td>
<td>30</td>
<td>44</td>
<td>85</td>
<td>112</td>
</tr>
<tr>
<td>attending</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other non-</td>
<td>24</td>
<td>28</td>
<td>20</td>
<td>18</td>
<td>44</td>
<td>40</td>
</tr>
<tr>
<td>Appalachian district</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Appalachian</td>
<td>16</td>
<td>11</td>
<td>7</td>
<td>3</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>district</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ x^2 = 1.910 \]
\[ x^2 = 2.921 \]
\[ x^2 = 2.340 \]
\[ x^2 \text{.05} = 5.991 \]
\[ P > .05 \]
\[ x^2 \text{.05} = 5.991 \]
\[ P > .05 \]
\[ x^2 \text{.05} = 5.991 \]
\[ P > .05 \]

The hypothesis could not be rejected on the basis of the information presented above. Origin in the Appalachian area apparently had little relation to a student's classification as a youth with special needs. The majority of both the youth with special needs and other students were born in the school district they were attending at the ninth grade level.

**Years lived in place of birth**

**Hypothesis:**

There is no significant difference in the "number of years lived in the place of origin" for youth with special needs and other students.
The hypothesis could not be rejected on the basis of the data shown in Table 24. The mean numbers of years a student lived in the community in which he was born showed that there was little difference in the early mobility of the families of both groups of students. The fact that there was considerable variation in the degree of mobility of students of both groups was indicated by the relatively high standard deviations shown.

**TABLE 24**

**COMPARISON ON THE BASIS OF NUMBER OF YEARS LIVED IN PLACE OF ORIGIN BY NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS**

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IWSN</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>94</td>
<td>57</td>
<td>151</td>
</tr>
<tr>
<td>Mean years lived in place of origin</td>
<td>10.76</td>
<td>9.88</td>
<td>10.42</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>5.68</td>
<td>5.72</td>
<td>5.69</td>
</tr>
<tr>
<td><strong>OTHERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>107</td>
<td>61</td>
<td>168</td>
</tr>
<tr>
<td>Mean years lived in place of origin</td>
<td>10.88</td>
<td>11.12</td>
<td>10.96</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>5.17</td>
<td>5.00</td>
<td>5.10</td>
</tr>
<tr>
<td>Difference between means of IWSN and Others</td>
<td>.12</td>
<td>1.24</td>
<td>.54</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>.161c</td>
<td>1.253c</td>
<td>.895c</td>
</tr>
</tbody>
</table>

* c - Not significant at the .05 level.
Race of students

Hypothesis:

There is no significant difference in the "race" of youth with special needs and other students.

<table>
<thead>
<tr>
<th>Race</th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IWSN Others</td>
<td>IWSN Others</td>
<td>IWSN Others</td>
</tr>
<tr>
<td>Caucasian</td>
<td>90 104</td>
<td>51 61</td>
<td>141 165</td>
</tr>
<tr>
<td>Negro</td>
<td>2 3</td>
<td>2 0</td>
<td>4 3</td>
</tr>
<tr>
<td>Other</td>
<td>0 0</td>
<td>3 0</td>
<td>3 0</td>
</tr>
</tbody>
</table>

The numbers of students whose race was other than Caucasian were so few that meaningful tests of significance could not be made without combining categories. Statistical comparison was made with categories combined as shown below with Yates' correction for continuity employed because of low cell frequencies.

<table>
<thead>
<tr>
<th></th>
<th>IWSN</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>141</td>
<td>165</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

\[ x^2 = 1.374 \]
\[ x^2_{.05} = 3.841 \]
\[ P > .05 \]
The null hypothesis could not be rejected on the basis of the above data. The very low numbers of youth with special needs whose race was other than Caucasian had been anticipated. The categories of disadvantage discussed in Chapter IV of this study had shown ethnic disadvantage to be one of the least used factors contributing to a student's classification as a youth with special needs. These findings would suggest that race of student apparently has little relationship to disadvantage in the non-metropolitan high schools of Ohio.

Location of first school attended

Hypothesis:

There is no significant difference in the "location of first school attended" by youth with special needs and other students.

TABLE 26

COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF LOCATION OF FIRST SCHOOL ATTENDED

<table>
<thead>
<tr>
<th>Location of first School Attended</th>
<th>Boys YWNS Others</th>
<th>Girls YWNS Others</th>
<th>Boys and Girls YWNS Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ohio school district now attending</td>
<td>68 85</td>
<td>35 49</td>
<td>103 134</td>
</tr>
<tr>
<td>Outside of district now attending</td>
<td>27 22</td>
<td>23 12</td>
<td>50 34</td>
</tr>
<tr>
<td>Other Ohio non- Appalachian area</td>
<td>18 15</td>
<td>16 7</td>
<td>34 22</td>
</tr>
<tr>
<td>Other Ohio Appalachian area</td>
<td>6 1</td>
<td>4 3</td>
<td>10 4</td>
</tr>
<tr>
<td>Other state non- Appalachian area</td>
<td>2 4</td>
<td>2 2</td>
<td>4 6</td>
</tr>
<tr>
<td>Other state Appalachian area</td>
<td>1 1</td>
<td>1 0</td>
<td>2 1</td>
</tr>
<tr>
<td>Other country</td>
<td>0 1</td>
<td>0 0</td>
<td>0 1</td>
</tr>
</tbody>
</table>
Small numbers of students in some location categories shown in Table 26 necessitated combining categories for the employment of chi square as a test of significance for this characteristic. Categories were combined as shown below with Yates' correction for continuity used in the chi square test for boys and for girls when tested separately. Although these tests did not show significance at the .05 level, when boys and girls were combined a significant chi square resulted. The hypothesis of no difference was therefore rejected.

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th></th>
<th>Girls</th>
<th></th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IWSM</td>
<td>Others</td>
<td>IWSM</td>
<td>Others</td>
<td>IWSM</td>
</tr>
<tr>
<td>District now attending</td>
<td>68</td>
<td>55</td>
<td>35</td>
<td>49</td>
<td>103</td>
</tr>
<tr>
<td>Other non-Appalachian district</td>
<td>20</td>
<td>20</td>
<td>18</td>
<td>9</td>
<td>38</td>
</tr>
<tr>
<td>Other Appalachian district</td>
<td>7</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>( \chi^2 = 1.223 )</td>
<td>( \chi^2 = 4.310 )</td>
<td>( \chi^2 = 7.505 )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \chi^{2.05} = 5.991 )</td>
<td>( \chi^{2.05} = 5.991 )</td>
<td>( \chi^{2.05} = 5.991 )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( P &gt; .05 )</td>
<td>( P &gt; .05 )</td>
<td>( P &lt; .05 )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Although there was a statistically significant difference in the two groups of students in the location of their first school attended, it may be noted that about two-thirds of the youth with special needs started school in the district in which they were attending at the time of their identification. This ratio did not differ greatly from the approximate four out of five other students who started school in the same district which they were attending at the time of the study.
Number of years attended first school

Hypothesis:

There is no significant difference in the "number of years attended first school" by youth with special needs and other students.

TABLE 27

COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS UPON THE BASIS OF THE NUMBER OF YEARS ATTENDED THEIR FIRST SCHOOL

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>I W S N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>95</td>
<td>58</td>
<td>153</td>
</tr>
<tr>
<td>Mean years attended first school</td>
<td>7.22</td>
<td>7.26</td>
<td>7.24</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>3.49</td>
<td>2.98</td>
<td>3.30</td>
</tr>
<tr>
<td>OTHERS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>107</td>
<td>61</td>
<td>168</td>
</tr>
<tr>
<td>Mean years attended first school</td>
<td>7.75</td>
<td>7.95</td>
<td>7.82</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>2.81</td>
<td>2.45</td>
<td>2.68</td>
</tr>
<tr>
<td>Difference between means of IWSN and Others</td>
<td>.47</td>
<td>.69</td>
<td>.58</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>1.187c</td>
<td>1.389c</td>
<td>1.755c</td>
</tr>
</tbody>
</table>

- Not significant at the .05 level.

The hypothesis was not rejected. The pattern of the data shown in Table 27 relating to the numbers of years a student attended his first school was quite similar to the findings relating to the number of years the student lived in his place of birth. A rather close association between these two characteristics was expected as they both reflected early mobility of the student.
The relatively high mean number of years that students attended their first school was an indication that the student population of non-metropolitan schools was not highly mobile during their early school years.

### Number of schools attended

**Hypothesis:**

There is no significant difference in the "number of schools attended" by youth with special needs and other students.

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YWSN</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>95</td>
<td>58</td>
<td>153</td>
</tr>
<tr>
<td>Mean number of schools attended</td>
<td>1.96</td>
<td>2.00</td>
<td>1.97</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.79</td>
<td>1.21</td>
<td>1.59</td>
</tr>
<tr>
<td><strong>OTHERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>106</td>
<td>61</td>
<td>167</td>
</tr>
<tr>
<td>Mean number of schools attended</td>
<td>1.50</td>
<td>1.34</td>
<td>1.44</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.12</td>
<td>.70</td>
<td>.99</td>
</tr>
<tr>
<td>Difference between means of YWSN and Others</td>
<td>.46</td>
<td>.66</td>
<td>.53</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>2.199&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.626&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.616&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup> - Significant at the .01 level.

<sup>b</sup> - Significant at the .05 level.
The hypothesis is rejected on the basis of the data appearing in Table 28. Although those students classified as youth with special needs had attended more schools than had other students, the mean numbers of schools attended for the two groups were but two for youth with special needs and one and one-half for other students.

Even though the magnitude of the difference between the means of the two groups was small, the higher standard deviations shown for youth with special needs indicated more variation among this group in the numbers of schools attended than was true for the other ninth grade students. The range (not shown in this Table) for this characteristic of students was from 0 to 16 for youth with special needs. This fact would support the possibility that a few students may have affected appreciably the mean number of schools attended by youth with special needs.

**Health or physical problems**

**Hypothesis:**

There is no significant difference in the numbers of youth with special needs and other students who have "health or physical problems affecting their school work."

The hypothesis could not be rejected on the basis of the data presented in Table 29. Boys tested separately and both boys and girls tested together did not show significant differences between the numbers of youth with special needs and other students who indicated that health or physical problems affected their school work. The one very
low cell frequency prevented the employment of chi square as a valid test of significance between the two groups of girls.

**TABLE 29**

**COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF NUMBERS POSSESSING HEALTH OR PHYSICAL PROBLEMS**

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YSN Others</td>
<td>YSN Others</td>
<td>YSN Others</td>
</tr>
<tr>
<td>Students listing health or physical problems</td>
<td>7</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Students not listing health or physical problems</td>
<td>88</td>
<td>98</td>
<td>50</td>
</tr>
</tbody>
</table>

\[ \chi^2 = .276 \]
\[ \chi^2 > .05 \]
\[ \chi^2 = 2.286 \]
\[ \chi^2 > .05 \]

It may be noted that approximately 10 per cent of the youth with special needs indicated that health or physical problems affected their school work. This compares closely with the 8 per cent, as reported in Chapter IV, of youth with special needs for which a physical handicap had been indicated as a factor in their classification. The investigator, when checking student permanent records and health records, found few recorded indications of physical or health problems of students who had indicated such a problem did exist. Although such problems may often not have been recorded, apparently school personnel were aware of physical and health problems which were of a nature that school work was affected.
Characteristics pertaining to students' home and family status

The aspects of students' families and homes which were studied are found in Table 30 with indications of which characteristics were found to be different for youth with special needs and other students.

**TABLE 30**

**Characteristics of Families and Homes Used as Basis of Comparison Between Ninth Grade Youth with Special Needs and Other Ninth Grade Students in Non-Metropolitan Ohio High Schools**

<table>
<thead>
<tr>
<th>Characteristics Studied</th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental status</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of children in the family</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of persons living in household</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Educational level of Father</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Educational level of Mother</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Occupational status of Father</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of non-working Fathers</td>
<td>No</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Occupational status of Mother</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of working Mothers</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

*Yes* - Statistically significant difference found between TWSN and Others.

*No* - Statistically significant difference not found between TWSN and Others.
The characteristics shown in Table 30 will be discussed individually with hypotheses and data pertaining to each.

**Home Status**

**Hypothesis:**

There is no significant difference in the "status of the home" of youth with special needs and other students.

**TABLE 31**

**HOME STATUS OF NINTH GRADE YOUTH WITH SPECIAL NEEDS COMPARED WITH THAT OF OTHER NINTH GRADE STUDENTS**

<table>
<thead>
<tr>
<th>Home Status</th>
<th>Boys IWSN Others</th>
<th>Girls IWSN Others</th>
<th>Boys and Girls IWSN Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living with both parents*</td>
<td>74</td>
<td>37</td>
<td>111</td>
</tr>
<tr>
<td>Not living with both parents*</td>
<td>22</td>
<td>21</td>
<td>43</td>
</tr>
<tr>
<td>Living with father only</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Living with mother only</td>
<td>15</td>
<td>16</td>
<td>31</td>
</tr>
<tr>
<td>Living with relatives</td>
<td>3</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Living with foster parents</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

* - Chi square tests were made using only data appearing in these two rows.
The hypothesis was rejected on the basis of data appearing in Table 31. Low frequency counts in several categories necessitated statistical comparison on the basis of whether or not a student was living with both parents. Yates' correction for continuity was also employed in the test of significance between the two groups of girls.

It is apparent that the youth with special needs was more likely to be from a broken home than was the other student. Although not tested statistically, the data indicates that little difference was shown between boys and girls in this respect. Over one-third of the youth with special needs were not living with both parents compared to less than ten per cent for the other students. Of those students not living with both parents, the large majority were living with their mother only. These facts suggest that educational programs to serve special needs of these students may need to incorporate some functions which would normally be assumed by the male head of the household.

**Number of children in family**

**Hypothesis:**

There is no significant difference in the "number of children in the families" of youth with special needs and other students.

The null hypothesis of no significant difference in the number of children in the families of youth with special needs and other students was rejected.

The mean family size for boys with special needs was about two children more than for other boys. For girls with special needs the
average family size was seven children which was nearly three children more than for the families of other girls. These large family sizes may have been a factor associated with economic deprivation which was earlier indicated as affecting two-thirds of the students identified as youth with special needs.

**Table 32**

COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF THE NUMBER OF CHILDREN IN THEIR FAMILIES

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YWSN</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>96</td>
<td>58</td>
<td>154</td>
</tr>
<tr>
<td>Mean number of children in family</td>
<td>5.92</td>
<td>7.05</td>
<td>6.34</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>2.83</td>
<td>3.44</td>
<td>3.11</td>
</tr>
<tr>
<td><strong>OTHERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>107</td>
<td>61</td>
<td>168</td>
</tr>
<tr>
<td>Mean number of children in family</td>
<td>3.94</td>
<td>4.21</td>
<td>4.04</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>2.05</td>
<td>1.99</td>
<td>2.03</td>
</tr>
<tr>
<td>Difference between means of YWSN and Others</td>
<td>1.98</td>
<td>2.84</td>
<td>2.30</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>5.752&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.541&lt;sup&gt;a&lt;/sup&gt;</td>
<td>7.945&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup> - Significant at the .01 level.

Discussions with school personnel had revealed that many students, especially the girls, who had been identified as youth with special needs were shouldering many responsibilities of the home and
care of younger brothers and sisters. Others were expected to work as babysitters or waitresses to contribute toward the support of large families. A vocational education program which incorporates work for wages might prove appropriate for students in such situations.

**Number of persons in household**

**Hypothesis:**

There is no significant difference in the "number of persons living in the household" of youth with special needs and other students.

**TABLE 33**

COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF NUMBERS OF PERSONS LIVING IN THEIR HOUSEHOLDS

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TWSN</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>92</td>
<td>58</td>
<td>150</td>
</tr>
<tr>
<td>Mean number of persons living in household</td>
<td>6.08</td>
<td>6.59</td>
<td>6.27</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>2.78</td>
<td>2.86</td>
<td>2.81</td>
</tr>
<tr>
<td><strong>OTHERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>107</td>
<td>61</td>
<td>168</td>
</tr>
<tr>
<td>Mean number of persons living in household</td>
<td>5.18</td>
<td>5.51</td>
<td>5.30</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.65</td>
<td>1.76</td>
<td>1.69</td>
</tr>
<tr>
<td>Difference between means of TWSN and Others</td>
<td>.90</td>
<td>1.08</td>
<td>.97</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>2.819&lt;sup&gt;a&lt;/sup&gt;</td>
<td>2.491&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.795&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

- a - Significant at the .01 level.
- b - Significant at the .05 level.
The hypothesis was rejected on the basis of the data shown in Table 33. The findings for boys and for girls were quite similar. The families of youth with special needs had, on the average, about one more person living in the household than did the families of other students.

The difference shown for this characteristic was not as great as was the difference in numbers of children in the family. One possible explanation for this fact may be that students from the larger families may have had more older brothers and sisters who had married and were no longer living in the home. Another may be that the smaller difference is a reflection of the fact that many youth with special needs were living with one parent only. Whether either one or both of these possibilities influenced the findings, the fact remains that youth with special needs were from larger households than were other students.

Educational level of father

Hypothesis:

There is no significant difference in the "highest grade level completed by the fathers" of youth with special needs and other students.

The hypothesis of no significant difference in the educational levels of the fathers was rejected on the basis of the data appearing in Table 34. The fathers of youth with special needs showed about a year and one-half less education than the fathers of other ninth grade students. The mean years of school completed by the fathers of ninth
grade youth with special needs, as shown in Table 34, was comparable to that found for the fathers of ninth grade dropouts. These values were 9.48 and 8.83 respectively.

**Table 34**

**COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF THE HIGHEST GRADE LEVEL COMPLETED BY THEIR FATHERS**

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TWSN</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>92</td>
<td>52</td>
<td>144</td>
</tr>
<tr>
<td>Mean grade level completed by father</td>
<td>9.74</td>
<td>9.02</td>
<td>9.48</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.93</td>
<td>2.39</td>
<td>2.13</td>
</tr>
<tr>
<td><strong>OTHERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>105</td>
<td>60</td>
<td>165</td>
</tr>
<tr>
<td>Mean grade level completed by father</td>
<td>10.95</td>
<td>11.10</td>
<td>11.06</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>2.61</td>
<td>2.43</td>
<td>2.54</td>
</tr>
<tr>
<td>Difference between means of TWSN and Others</td>
<td>1.21</td>
<td>2.08</td>
<td>1.58</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>3.660a</td>
<td>4.559a</td>
<td>5.678a</td>
</tr>
</tbody>
</table>

a - Significant at the .01 level.

The lower educational level of the father may be reflected in lower value placed upon education by the children of these families.

³Nachman, op. cit., p. 34.
Educational level of mother

Hypothesis:

There is no significant difference in the "highest grade level completed by the mothers" of youth with special needs and other students.

The hypothesis of no significant difference in the educational levels of mothers was also rejected. The data presented in Table 35 shows a pattern quite similar to that of Table 34 relating to the educational level of fathers of youth with special needs. The difference in educational levels of mothers was also approximately a year and a half.

**TABLE 35**

**COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF THE HIGHEST GRADE LEVEL COMPLETED BY THEIR MOTHERS**

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YWSN</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>91</td>
<td>55</td>
<td>146</td>
</tr>
<tr>
<td>Mean grade level completed by mother</td>
<td>9.68</td>
<td>10.07</td>
<td>9.82</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>2.42</td>
<td>2.20</td>
<td>2.34</td>
</tr>
<tr>
<td><strong>OTHERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>107</td>
<td>60</td>
<td>167</td>
</tr>
<tr>
<td>Mean grade level completed by mother</td>
<td>11.24</td>
<td>11.63</td>
<td>11.38</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>2.22</td>
<td>1.86</td>
<td>2.10</td>
</tr>
<tr>
<td><strong>Difference between means of YWSN and Others</strong></td>
<td>1.56</td>
<td>1.56</td>
<td>1.56</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>4.728&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.118&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6.189&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup> - Significant at the .01 level.
Although the highest grade level completed by the mothers of youth with special needs was slightly higher than for fathers, the finding was in keeping with that of mothers of ninth grade dropouts which was 9.24.

An increasing educational level of the total population might explain the slightly higher educational levels of parents for this study than was shown by the dropout study in 1963.

**Occupational status of father**

**Hypothesis:**

There is no significant difference in the "occupational status score of fathers" of youth with special needs and other students as measured by the North-Hatt Scale of Occupational Prestige.

The null hypothesis of no significant difference in the occupational status of fathers of youth with special needs and fathers of other students was rejected on the basis of the data appearing in Table 36. Although the "t" test did not show a significant difference between the mean occupational status scores for the fathers of the two groups of girls, significant differences were shown for boys and for boys and girls combined. The large standard deviations associated with this characteristic and the lower number of girls tested would have affected the significance test to some degree.

The lower occupational status exhibited by fathers of youth with special needs might be associated with economic deprivation of

\[4\text{Ibid.}, \ p. \ 34.\]
these students or it might also be a result of lower educational
levels of the fathers.

TABLE 36

COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH
GRADE STUDENTS ON THE BASIS OF OCCUPATIONAL
STATUS SCORE OF THEIR FATHERS

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>YWSN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>75</td>
<td>36</td>
<td>111</td>
</tr>
<tr>
<td>Mean occupational status score</td>
<td>60.07</td>
<td>59.38</td>
<td>59.84</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>8.99</td>
<td>9.89</td>
<td>9.25</td>
</tr>
<tr>
<td>OTHERS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>100</td>
<td>57</td>
<td>157</td>
</tr>
<tr>
<td>Mean occupational status score</td>
<td>65.03</td>
<td>63.18</td>
<td>64.36</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>10.15</td>
<td>9.20</td>
<td>9.83</td>
</tr>
<tr>
<td>Difference between means of YWSN and Others</td>
<td>4.96</td>
<td>3.80</td>
<td>4.52</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>3.359&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.885&lt;sup&gt;c&lt;/sup&gt;</td>
<td>3.794&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

a - Significant at the .01 level.

<sup>c</sup> - Not significant at the .05 level.

Number of non-working fathers

Hypothesis:

There is no significant difference in the numbers of non-working
fathers of youth with special needs and other students.

The null hypothesis is rejected for this characteristic when
both boys and girls are grouped. A valid test of differences between
the two groups of girls could not be made employing chi square test because of a very low cell frequency. Yates' correction for continuity was utilised in the statistical computation between groups of boys. Although the needed value for significance was closely approached, significant differences were not shown at the .05 level for boys.

### Table 37

<table>
<thead>
<tr>
<th>Categories</th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IWSN</td>
<td>Others</td>
<td>IWSN</td>
</tr>
<tr>
<td>Working male head of household*</td>
<td>86</td>
<td>104</td>
<td>49</td>
</tr>
<tr>
<td>Non-working male head of household*</td>
<td>10</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Unemployed</td>
<td>5</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Disabled</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Retired</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

*Chi square tests were made with data from these two rows only.

\[
x^2 = 3.700 \\
x^2.05 = 3.841 \\
P > .05
\]

\[
x^2 = 10.555 \\
x^2.05 = 7.815 \\
P < .05
\]

The proportion of youth with special needs whose fathers, or male heads of households were not working, was about one to eight.
This does not represent a large segment of the youth with special needs; however, when combined with those students who were living in households without a male head, it does show that a rather substantial segment of this group of students were from homes without a working male head of household.

**Occupational status of mother**

Hypothesis:

There is no significant difference in the "occupational status scores of mothers" of youth with special needs and other students as measured by the North-Hatt Scale of Occupational Prestige.

The null hypothesis of no significant differences in the occupational status scores of working mothers was also rejected when boys and girls were combined.

The differences between mean occupational status scores for mothers shown in Table 38 were slightly higher than were found for fathers. The low numbers of working mothers were obviously the reason for significance not shown for boys tested separately and girls tested separately. The means and standard deviations were quite similar for all three tests, therefore, the increased numbers resulting from testing boys and girls together were responsible for the increased significance shown.

The lower occupational status of mothers of youth with special needs may again be associated with economic status of the disadvantaged, or it might also have been associated with the lower educational level of the mothers of youth with special needs.
TABLE 38

COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF OCCUPATIONAL STATUS SCORES OF THEIR MOTHERS

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IWSN</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>27</td>
<td>18</td>
<td>45</td>
</tr>
<tr>
<td>Mean occupational status score</td>
<td>56.05</td>
<td>55.18</td>
<td>55.70</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>10.77</td>
<td>11.35</td>
<td>10.89</td>
</tr>
<tr>
<td><strong>OTHERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>38</td>
<td>19</td>
<td>57</td>
</tr>
<tr>
<td>Mean occupational status score</td>
<td>61.63</td>
<td>61.36</td>
<td>61.54</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>12.31</td>
<td>13.10</td>
<td>12.47</td>
</tr>
<tr>
<td>Difference between means of IWSN and Others</td>
<td>5.58</td>
<td>6.18</td>
<td>5.84</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>1.894c</td>
<td>1.531c</td>
<td>2.482b</td>
</tr>
</tbody>
</table>

b - Significant at the .05 level.
c - Not significant at the .05 level.

Mothers who were housewives only

Hypothesis:

There is no significant difference in the numbers of youth with special needs and other students whose "mothers are housewives" only.

The hypothesis of no significant difference between the two groups of students on the basis of working mothers could not be rejected. Roughly a third of the mothers of both groups of students were employed outside the home. Data presented in Table 39 also indicates that this proportion was about the same for mothers of both boys and of girls.
TABLE 39
COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF THE NUMBERS WHOSE MOTHERS WERE HOUSEWIVES ONLY

<table>
<thead>
<tr>
<th></th>
<th>Boys IWSN</th>
<th>Others</th>
<th>Girls IWSN</th>
<th>Others</th>
<th>Boys and Girls IWSN</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mothers whose occup-</td>
<td>66</td>
<td>68</td>
<td>39</td>
<td>42</td>
<td>105</td>
<td>110</td>
</tr>
<tr>
<td>ation was homemaking</td>
<td>only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mothers who worked</td>
<td>27</td>
<td>38</td>
<td>18</td>
<td>19</td>
<td>45</td>
<td>57</td>
</tr>
<tr>
<td>outside the home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[
x^2 = 1.048 \\
x^2_{.05} = 3.841 \\
P > .05
\]

\[
x^2 = .003 \\
x^2_{.05} = 3.841 \\
P > .05
\]

\[
x^2 = .616 \\
x^2_{.05} = 3.841 \\
P > .05
\]

For the student in non-metropolitan high schools, the fact that the mother worked outside the home did not appear to be related to a student's classification as a youth with special needs.

Characteristics related to student educational experiences

The student characteristics studied which related to his educational experiences are shown in Table 40 with those characteristics indicated which were found to be different for youth with special needs and other students. The hypotheses and findings concerning each of these characteristics are discussed individually.
### Table 40

**Characteristics Relating to Student Educational Experiences Used as Basis of Comparison Between Youth With Special Needs and Other Ninth Grade Students in Non-Metropolitan Ohio High Schools**

<table>
<thead>
<tr>
<th>Characteristics Studied</th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest in school work</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Participation in school activities</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Participation in church activities</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of grade retentions</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Educational aspirations</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Occupational aspirations</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>I. Q.</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Reading level</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Grade point averages</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Absence from school</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Course of study pursued</td>
<td>Yes</td>
<td>...</td>
<td>Yes</td>
</tr>
<tr>
<td>Enrollment in Vocational Education</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Enrollment in Occupational type courses</td>
<td>...</td>
<td>...</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Yes - Statistically significant difference found between TWSN and Others.

... - Numbers not sufficient for statistical comparison.
Interest in school work

Hypothesis:

There is no significant difference in the "level of interest in school work" of ninth grade youth with special needs and other ninth grade students.

TABLE 41

COMPARISON OF NINTH GRADe YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS UPON THE BASIS OF LEVEL OF INTEREST IN SCHOOL WORK

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>IWSN</td>
<td>96</td>
<td>58</td>
<td>154</td>
</tr>
<tr>
<td>Number of students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean rating for interest in school work*</td>
<td>2.23</td>
<td>2.26</td>
<td>2.24</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>.86</td>
<td>.74</td>
<td>.82</td>
</tr>
<tr>
<td>OTHERS</td>
<td>107</td>
<td>61</td>
<td>168</td>
</tr>
<tr>
<td>Number of students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean rating for interest in school work*</td>
<td>2.92</td>
<td>2.95</td>
<td>2.93</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>.75</td>
<td>.64</td>
<td>.71</td>
</tr>
</tbody>
</table>

Difference between mean ratings of IWSN and Others: .69 .69 .69

"t" ratio: 6.046a 5.457a 8.066a

a - Significant at the .01 level.

* - Scale of interest in school work:

Very High I'm Interested It's OK Not Much None
4 3 2 1 0

The hypothesis of no difference in the level of interest in school work between youth with special needs and other students was
rejected. The differences between means shown in Table 41 were exactly the same for both boys and girls, and level of interest was essentially the same for both sexes as well.

Even though the statistical test of difference between the mean levels of interest for the two groups was highly significant, the mean level of interest indicated by youth with special needs was considerably higher than had been anticipated. The mean score of 2.24 seems to indicate that the lack of success of these students was not largely due to lack of interest in school per se but that other characteristics of the student or of the educational program pursued may have been responsible. The possibility arises that if level of interest indicated was a true indication of interest on the part of the student, then the curriculum may not have been geared to their level of ability of the student with special needs.

Participation in school activities

Hypothesis:

There is no significant difference in the "numbers of school activities participated in" by youth with special needs and other students.

Based upon the data presented in Table 42, the hypothesis was rejected. The mean number of activities participated in by other students was two, which was nearly twice that shown for youth with special needs. The mean number of activities participated in by boys and by girls with special needs was about the same; however, for other students
the girls showed participation in a slightly higher number of activities than boys.

**TABLE 4.2**

**COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF NUMBERS OF SCHOOL ACTIVITIES PARTICIPATED IN**

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Y W S N</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>92</td>
<td>58</td>
<td>150</td>
</tr>
<tr>
<td>Mean numbers of school activities participated in</td>
<td>1.17</td>
<td>1.14</td>
<td>1.16</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.15</td>
<td>1.08</td>
<td>1.12</td>
</tr>
<tr>
<td><strong>OTHERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>107</td>
<td>61</td>
<td>168</td>
</tr>
<tr>
<td>Mean numbers of school activities participated in</td>
<td>1.88</td>
<td>2.25</td>
<td>2.01</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.43</td>
<td>1.15</td>
<td>1.35</td>
</tr>
<tr>
<td>Difference between means of YWSN and Others</td>
<td>0.71</td>
<td>1.11</td>
<td>0.85</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>3.791&lt;sup&gt;a&lt;/sup&gt;</td>
<td>5.404&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6.102&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

* - Significant at the .01 level.

This characteristic, when viewed as a measure of sociability, suggests that youth with special needs are at a disadvantage socially. The activities available in a school may not have held interest for the disadvantaged student, or the characteristics of the student may not have been such that his participation was solicited. Many high school activities are selective in nature and are not available to the
underachieving student. Athletics, honor society, language clubs, science clubs, and even pep clubs often hold academic standards for participation which would almost automatically eliminate the less-able student.

**Participation in church activities**

**Hypothesis:**

There is no significant difference in the degree of "participation in church activities" by youth with special needs and by other students.

The hypothesis was rejected on the basis of the data shown in Table 13. Findings regarding level of participation in church activities were similar for both boys and girls. Mean levels of participation by youth with special needs and by other students indicates that the term "some" would best describe the level of church participation by youth with special needs, and the term "often" would best describe the level of participation by other students. The relatively high standard deviations indicate a considerable variation in the levels of participation among both groups.

Church participation, although not a school activity, is another measure of social participation of the student and perhaps a reflection of social participation of the family as well.
TABLE 4.3

COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF DEGREE OF PARTICIPATION IN CHURCH ACTIVITIES

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>I W S N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>96</td>
<td>58</td>
<td>154</td>
</tr>
<tr>
<td>Mean rating for church participation*</td>
<td>2.06</td>
<td>2.24</td>
<td>2.13</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.44</td>
<td>1.36</td>
<td>1.41</td>
</tr>
<tr>
<td>OTHERS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>107</td>
<td>61</td>
<td>168</td>
</tr>
<tr>
<td>Mean rating for church participation*</td>
<td>2.80</td>
<td>2.89</td>
<td>2.83</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.20</td>
<td>1.11</td>
<td>1.17</td>
</tr>
<tr>
<td>Difference between mean ratings of IWSN and Others</td>
<td>.74</td>
<td>.65</td>
<td>.70</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>3.993*</td>
<td>2.840*</td>
<td>4.896*</td>
</tr>
</tbody>
</table>

a - Significant at the .01 level.

* - Rating scale for attendance at church activities:

Regular    Often    Some    Seldom    Never
4          3        2       1        0

Numbers of grade retentions

Hypothesis:

There is no significant difference in the "numbers of grade retentions" of youth with special needs and other students.

The hypothesis of no significant difference in grade retentions of ninth grade youth with special needs and other ninth grade students was rejected. A difference in the mean numbers of grade
retentions for the two groups was less than one year as shown in Table 44. It did appear that girls may have been retained less often than boys. Ninth grade youth with special needs had, on the average, been retained one year. This finding was to be expected for it would account for the one year age differential between the two groups reported earlier.

**TABLE 44**

**COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF NUMBERS OF GRADE RETENTIONS**

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TWSN</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>96</td>
<td>58</td>
<td>154</td>
</tr>
<tr>
<td>Mean numbers of grade retentions</td>
<td>1.06</td>
<td>.78</td>
<td>.96</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>.90</td>
<td>.80</td>
<td>.87</td>
</tr>
<tr>
<td><strong>OTHERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>107</td>
<td>61</td>
<td>168</td>
</tr>
<tr>
<td>Mean numbers of grade retentions</td>
<td>.22</td>
<td>.07</td>
<td>.16</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>.51</td>
<td>.25</td>
<td>.44</td>
</tr>
<tr>
<td>Difference between means of TWSN and Others</td>
<td>.84</td>
<td>.71</td>
<td>.80</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>8.315&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6.638&lt;sup&gt;a&lt;/sup&gt;</td>
<td>10.416&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup> - Significant at the .01 level.

The fact that some students had repeated grades who were not classified as youth with special needs suggests that this criterion alone should not be used for the identification of the disadvantaged. The standard deviation of nearly one year for youth with special needs
would add further support to this suggestion for it indicates that many youth with special needs had not been retained.

**Educational aspiration**

**Hypothesis:**

There is no significant difference in the "educational aspirations" of youth with special needs and other students as measured by the highest grade level the student expected to complete.

**Table 45**

**Comparison of Ninth Grade Youth with Special Needs and Other Ninth Grade Students on the Basis of the Highest Grade Level Expected to Complete**

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>YWSN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>96</td>
<td>58</td>
<td>154</td>
</tr>
<tr>
<td>Mean years schooling expected to complete</td>
<td>12.23</td>
<td>12.28</td>
<td>12.25</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.61</td>
<td>1.80</td>
<td>1.68</td>
</tr>
<tr>
<td>OTHERS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>107</td>
<td>61</td>
<td>168</td>
</tr>
<tr>
<td>Mean years schooling expected to complete</td>
<td>14.28</td>
<td>14.33</td>
<td>14.30</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.85</td>
<td>1.62</td>
<td>1.77</td>
</tr>
<tr>
<td>Difference between means of YWSN and Others</td>
<td>2.05</td>
<td>2.05</td>
<td>2.05</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>8.372^a</td>
<td>6.534^a</td>
<td>10.648^a</td>
</tr>
</tbody>
</table>

^a - Significant at the .01 level.
The hypothesis was rejected on the basis of the data presented in Table 45. The findings for this characteristic were almost identical for both boys and for girls. Other students indicated that on the average, they planned to complete two grade levels beyond that indicated by youth with special needs.

Of most importance, however, is the fact that the mean for the highest grade level expected to be completed by youth with special needs was slightly beyond grade twelve, which would mean graduation from high school. These students were originally identified by their high school principals, guidance counselors, and teachers as "students who in their judgment would not complete a regular high school educational program."

The finding concerning educational aspirations of youth with special needs, although apparently not realistic in relation to the judgment of their local educators, suggests that were these students provided an educational program in which they might achieve success, the desire to pursue might not be lacking.

**Occupational aspirations**

**Hypothesis:**

There is no significant difference in the "occupational aspirations" of youth with special needs and other students as rated by the North-Hatt Scale of Occupational Prestige.

The hypothesis of no difference in occupational aspirations was also rejected for the information provided in Table 46 shows that
the occupational aspirations of youth with special needs were much lower than were the aspirations for other ninth grade students. This finding proved to be true both for girls and for boys.

**TABLE 46**

**COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF THEIR OCCUPATIONAL ASPIRATIONS**

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TWSN</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>85</td>
<td>46</td>
<td>131</td>
</tr>
<tr>
<td>Mean occupational prestige rating</td>
<td>60.63</td>
<td>58.26</td>
<td>59.80</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>9.62</td>
<td>13.05</td>
<td>10.96</td>
</tr>
<tr>
<td><strong>OTHERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>104</td>
<td>57</td>
<td>161</td>
</tr>
<tr>
<td>Mean occupational prestige rating</td>
<td>70.58</td>
<td>71.00</td>
<td>70.73</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>11.03</td>
<td>10.85</td>
<td>10.93</td>
</tr>
<tr>
<td>Difference between mean occupational prestige ratings for TWSN and Others</td>
<td>9.95</td>
<td>12.74</td>
<td>10.93</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>6.533*</td>
<td>5.409*</td>
<td>8.489*</td>
</tr>
</tbody>
</table>

\* - Significant at the .01 level.

It was realized that aspirations of students even at the ninth grade level are not entirely realistic for some students gave occupations for which they had practically no chance of attaining due to limited abilities. Although not tested, there appeared to be a tendency for youth with special needs to aspire to occupations at approximately the same level as that of their parents. The occupational aspirations
of other ninth grade students tended to be higher than those of their parents. The presence of such a trend appears to be borne out when mean occupational aspiration scores of students are compared with mean occupational status scores of their parents which were presented in Tables 36 and 38.

Several students did not indicate an occupation in which they expected to be employed. A test of significance was made to determine if the difference in the frequency of students not listing occupational aspirations was greater for youth with special needs than would be expected by chance alone. The information utilized for the test follows:

<table>
<thead>
<tr>
<th></th>
<th>YWSN</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students listing occupational aspirations</td>
<td>137</td>
<td>161</td>
</tr>
<tr>
<td>Students not listing occupational aspirations</td>
<td>17</td>
<td>8</td>
</tr>
</tbody>
</table>

\[ x^2 = 4.485 \]
\[ x^2,05 = 3.841 \]
\[ P < .05 \]

If the listing of an occupational aspiration can be assumed to be a valid indication that such an aspiration does exist, then the above data indicates that fewer youth with special needs had defined an occupation to which they aspired than had other students. Exploratory study and trial of occupations might be in order for these students.
Mental ability

Hypothesis:

There is no significant difference in the "mental ability" of youth with special needs and other students as measured by their most recent I. Q. test scores.

| TABLE 47 |
| COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF MENTAL ABILITY |

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I W S N</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>85</td>
<td>44</td>
<td>129</td>
</tr>
<tr>
<td>Mean I. Q. Scores</td>
<td>89.59</td>
<td>89.11</td>
<td>89.43</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>14.33</td>
<td>12.71</td>
<td>13.75</td>
</tr>
<tr>
<td><strong>OTHERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>99</td>
<td>59</td>
<td>158</td>
</tr>
<tr>
<td>Mean I. Q. Scores</td>
<td>106.56</td>
<td>106.96</td>
<td>106.69</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>12.51</td>
<td>12.74</td>
<td>12.55</td>
</tr>
<tr>
<td>Difference between mean I. Q. scores of IWSN and Others</td>
<td>16.97</td>
<td>17.85</td>
<td>17.26</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>8.577a</td>
<td>7.023a</td>
<td>11.101a</td>
</tr>
</tbody>
</table>

- Significant at the .01 level.

The hypothesis of no significant difference in the mental ability of youth with special needs and of other ninth grade students was rejected on the basis of the data provided in Table 47. Nearly identical findings are shown for both boys and girls in respect to this
characteristic with a difference between mean I. Q. scores of over 17 points between the two groups.

Some researchers express concern over the comparison of I. Q. test scores which were not derived through use of the same testing instrument, for standard deviations often vary widely among different mental ability tests. The sources from which I. Q. scores were gained for this study were largely from three tests having similar national mean scores and standard deviations. The numbers of test scores representing any one test was approximately the same for youth with special needs and for other students. I. Q. test scores were obtained from almost equal numbers of both groups of students in each school of the sample, thus further tending to negate the effect which the use of different test instruments may have had upon the outcome of this comparison.

The rather large difference between the mean I. Q. scores of the two groups indicates that youth with special needs would certainly be at a disadvantage if expected to pursue courses of study geared to the abilities of those who were judged would be successful in a regular high school program.

The large standard deviations shown in I. Q. scores indicates also the wide variability in the mental ability exhibited by the disadvantaged students. This wide variation in mental ability exceeds that shown by the standard deviation of I. Q. scores among other ninth grade students. This would suggest that a vocational education program geared to the level of the less-able student would not necessarily
serve the occupational education needs of all disadvantaged students.

**Reading level**

**Hypothesis:**

There is no significant difference in the "reading level" of youth with special needs and other students as measured by their most recent reading achievement grade placement score.

**TABLE 48**

COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF THEIR READING LEVEL

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
<th>Boys and Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>YWSN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>69</td>
<td>40</td>
<td>109</td>
</tr>
<tr>
<td>Mean reading grade placement</td>
<td>-1.52</td>
<td>-1.53</td>
<td>-1.52</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.81</td>
<td>1.94</td>
<td>1.85</td>
</tr>
<tr>
<td>OTHERS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>81</td>
<td>46</td>
<td>127</td>
</tr>
<tr>
<td>Mean reading grade placement</td>
<td>-0.39</td>
<td>0.21</td>
<td>0.33</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>1.56</td>
<td>1.59</td>
<td>1.56</td>
</tr>
<tr>
<td>Difference between means for YWSN and Others</td>
<td>1.91</td>
<td>1.74</td>
<td>1.75</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>6.960(^a)</td>
<td>4.576(^a)</td>
<td>8.329(^a)</td>
</tr>
</tbody>
</table>

\(^a\) - Significant at the .01 level.

On the basis of data reported in Table 48, the hypothesis of no difference in the reading level of ninth grade youth with special needs and other ninth grade students was rejected.
The mean reading level of youth with special needs was nearly two years below that of other ninth grade students. Nearly identical data are shown for both boys and for girls. The standard deviation shown for reading level of youth with special needs indicates that a few of these students were reading at or above their grade level; however, these numbers may have been quite small.

This characteristic does indicate that the disadvantaged were likely hampered in achievement in high school by course materials prepared for students with greater competency in reading than displayed by the disadvantaged. The low reading level of youth with special needs would imply that consideration be given this characteristic of these students in the design of vocational educational programs to serve them.

**Academic Achievement**

**Hypothesis:**

There is no significant difference in the "academic achievement" of youth with special needs and other students as measured by their point averages for grades seven, eight, and nine.

The hypothesis of no difference in academic achievement between youth with special needs and other students was rejected. The difference between the mean grade points for the two groups was more than one full letter grade at the ninth grade level as shown in Table 49. The mean grade point for youth with special needs would have been but a high D. This grade average did not appear extremely low for this group;
however, all grades for each student were averaged whether they represented a "solid" subject or other courses such as physical education or music. A student may have been failing most of his "solid" courses yet exhibiting acceptable performance in others which would tend to influence grade point average upward.

### TABLE 49

**COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF THEIR GRADE POINT AVERAGES**

<table>
<thead>
<tr>
<th></th>
<th>Grade Seven</th>
<th>Grade Eight</th>
<th>First Semester Grade Nine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>YWSN</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>107</td>
<td>117</td>
<td>136</td>
</tr>
<tr>
<td>Mean grade point average*</td>
<td>1.69</td>
<td>1.63</td>
<td>1.41</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>.68</td>
<td>.61</td>
<td>.66</td>
</tr>
<tr>
<td><strong>OTHERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>157</td>
<td>161</td>
<td>168</td>
</tr>
<tr>
<td>Mean grade point average*</td>
<td>2.61</td>
<td>2.61</td>
<td>2.52</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>.69</td>
<td>.69</td>
<td>.76</td>
</tr>
<tr>
<td>Difference between means of YWSN and Others</td>
<td>.92</td>
<td>.98</td>
<td>1.11</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>10.68*</td>
<td>12.254*</td>
<td>13.434*</td>
</tr>
</tbody>
</table>

* Significant at the .01 level.

* - Grade point scale: A = 4, B = 3, C = 2, D = 1, E or F = 0.

Similar findings regarding academic achievement of boys and of girls were found as shown in Tables 50 and 51 respectively. One trend that each of these tables appears to establish is a declining grade point average as the disadvantaged student progressed from the seventh
grade to the ninth grade. Although the mean grade point average for other students showed a slight decline from grade seven to grade nine, the decrease in level of achievement for youth with special needs was greater.

**TABLE 50**

**COMPARISON OF NINTH GRADE BOYS WITH SPECIAL NEEDS AND OTHER NINTH GRADE BOYS ON THE BASIS OF THEIR GRADE POINT AVERAGES**

<table>
<thead>
<tr>
<th></th>
<th>Grade Seven</th>
<th>Grade Eight</th>
<th>First Semester Grade Nine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BOYS WITH SPECIAL NEEDS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of boys</td>
<td>65</td>
<td>73</td>
<td>82</td>
</tr>
<tr>
<td>Mean grade point average</td>
<td>1.57</td>
<td>1.52</td>
<td>1.40</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>.74</td>
<td>.65</td>
<td>.69</td>
</tr>
<tr>
<td><strong>OTHER BOYS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of boys</td>
<td>99</td>
<td>102</td>
<td>107</td>
</tr>
<tr>
<td>Mean grade point average</td>
<td>2.54</td>
<td>2.55</td>
<td>2.47</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>.71</td>
<td>.70</td>
<td>.83</td>
</tr>
</tbody>
</table>

Difference between means of
Boys with Special Needs and Others

<table>
<thead>
<tr>
<th>&quot;t&quot; ratio</th>
<th>8.399⁴</th>
<th>9.900⁴</th>
<th>9.449⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td>a - Significant at the .01 level.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The widening gap between the academic achievement of the disadvantaged and of his classmates may be an indication that a regular high school curriculum was such that he had even less chance for success than during his earlier school years. If the high school was to successfully prepare these students for the world of work and useful
citizenship, it was evident that educational programs were needed
erother than those in which the students were not experiencing success.

**TABLE 51**

**COMPARISON OF NINTH GRADE GIRLS WITH SPECIAL NEEDS AND OTHER NINTH GRADE GIRLS ON THE BASIS OF THEIR GRADE POINT AVERAGES**

<table>
<thead>
<tr>
<th></th>
<th>Grade Seven</th>
<th>Grade Eight</th>
<th>First Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GIRLS WITH SPECIAL NEEDS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of girls</td>
<td>42</td>
<td>44</td>
<td>54</td>
</tr>
<tr>
<td>Mean grade point average</td>
<td>1.87</td>
<td>1.83</td>
<td>1.42</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>.54</td>
<td>.49</td>
<td>.63</td>
</tr>
<tr>
<td><strong>OTHER GIRLS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of girls</td>
<td>58</td>
<td>59</td>
<td>61</td>
</tr>
<tr>
<td>Mean grade point average</td>
<td>2.73</td>
<td>2.72</td>
<td>2.60</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>.66</td>
<td>.65</td>
<td>.61</td>
</tr>
<tr>
<td>Difference between means of</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girls with Special Needs and Others</td>
<td>.86</td>
<td>.89</td>
<td>1.18</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>6.996&lt;sup&gt;a&lt;/sup&gt;</td>
<td>7.582&lt;sup&gt;a&lt;/sup&gt;</td>
<td>10.243&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup> - Significant at the .01 level.

School attendance

**Hypothesis:**

There is no significant difference in the "number of days absent from school" for youth with special needs and other students during grades seven, eight, and nine.

The hypothesis of no difference between the two groups in the mean number of days absent from school was also rejected.
TABLE 52
COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF NUMBER OF DAYS ABSENT FROM SCHOOL

<table>
<thead>
<tr>
<th></th>
<th>Grade Seven</th>
<th>Grade Eight</th>
<th>First Semester Grade Nine</th>
</tr>
</thead>
<tbody>
<tr>
<td>IWSN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>109</td>
<td>110</td>
<td>151</td>
</tr>
<tr>
<td>Mean days absent</td>
<td>9.24</td>
<td>11.83</td>
<td>6.46</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>9.91</td>
<td>11.40</td>
<td>6.62</td>
</tr>
<tr>
<td>OTHERS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>154</td>
<td>140</td>
<td>168</td>
</tr>
<tr>
<td>Mean days absent</td>
<td>5.16</td>
<td>5.88</td>
<td>2.26</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>6.05</td>
<td>6.73</td>
<td>3.32</td>
</tr>
<tr>
<td>Difference in means of IWSN and Others</td>
<td>4.08</td>
<td>5.95</td>
<td>4.20</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>4.132*</td>
<td>5.140*</td>
<td>7.270*</td>
</tr>
</tbody>
</table>

* - Significant at the .01 level.

The findings concerning absences of students followed a pattern similar to the findings relating to academic achievement. The data presented in Table 52 shows a slightly increasing level of absence for other ninth grade students. The mean days absent for youth with special needs, however, was nearly double that of other students and showed a more rapidly increasing rate of absence from the seventh grade to grade nine. The days absent at the ninth grade level were reported for the first semester only; therefore, these figures may be doubled for an estimation of total days absent for the school year.
### TABLE 53

COMPARISON OF NINTH GRADE BOYS WITH SPECIAL NEEDS AND OTHER NINTH GRADE BOYS ON THE BASIS OF NUMBER OF DAYS ABSENT FROM SCHOOL

<table>
<thead>
<tr>
<th></th>
<th>Grade Seven</th>
<th>Grade Eight</th>
<th>First Semester Grade Nine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BOYS WITH SPECIAL NEEDS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of boys</td>
<td>70</td>
<td>75</td>
<td>95</td>
</tr>
<tr>
<td>Mean days absent</td>
<td>8.64</td>
<td>11.69</td>
<td>5.75</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>10.28</td>
<td>11.64</td>
<td>6.86</td>
</tr>
<tr>
<td><strong>OTHER BOYS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of boys</td>
<td>97</td>
<td>90</td>
<td>107</td>
</tr>
<tr>
<td>Mean days absent</td>
<td>4.65</td>
<td>5.23</td>
<td>2.46</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>5.02</td>
<td>5.74</td>
<td>3.63</td>
</tr>
<tr>
<td>Difference between mean days absent for Boys with Special Needs and Other boys</td>
<td>3.99</td>
<td>6.46</td>
<td>3.29</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>3.318&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.636&lt;sup&gt;a&lt;/sup&gt;</td>
<td>4.324&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<sup>a</sup> - Significant at the .01 level.

The data shown in Tables 53 and 54 show similar patterns of absence for boys and girls respectively. Although not tested statistically, the mean numbers of days of school missed by girls was greater than for boys.

The greater number of absences by youth with special needs and their increasing rate of absence as they enter the high school years was also a probable indication of decreased satisfaction with the educational experiences of the student. Greater difficulty of subject matter, less interest on the part of the student, or even increasing demands of the home may have contributed to the increased absence rate.
of the disadvantaged. Regardless of the cause, the student evidently did not feel a strong need for diligent pursuit of his high school studies. Educational experiences appear to be in order which would be specifically designed considering the abilities, interests, and aspirations of youth with special needs.

**TABLE 54**

**COMPARISON OF NINTH GRADE GIRLS WITH SPECIAL NEEDS AND OTHER NINTH GRADE GIRLS ON THE BASIS OF NUMBER OF DAYS ABSENT FROM SCHOOL**

<table>
<thead>
<tr>
<th></th>
<th>Grade Seven</th>
<th>Grade Eight</th>
<th>First Semester Grade Nine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GIRLS WITH SPECIAL NEEDS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of girls</td>
<td>39</td>
<td>35</td>
<td>56</td>
</tr>
<tr>
<td>Mean days absent</td>
<td>10.31</td>
<td>12.11</td>
<td>7.68</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>9.25</td>
<td>11.04</td>
<td>6.07</td>
</tr>
<tr>
<td><strong>OTHER GIRLS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of girls</td>
<td>57</td>
<td>50</td>
<td>61</td>
</tr>
<tr>
<td>Mean days absent</td>
<td>6.04</td>
<td>7.04</td>
<td>1.92</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>7.45</td>
<td>8.15</td>
<td>2.67</td>
</tr>
<tr>
<td>Difference between mean days absent for Girls with Special Needs and Other Girls</td>
<td>4.27</td>
<td>5.07</td>
<td>5.76</td>
</tr>
<tr>
<td>&quot;t&quot; ratio</td>
<td>2.500&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.439&lt;sup&gt;b&lt;/sup&gt;</td>
<td>6.740&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

- **a** - Significant at the .01 level.
- **b** - Significant at the .05 level.

**Course of study pursued**

Hypothesis:

There is no significant difference in "course of study pursued" by youth with special needs and other ninth grade students.
Data presented in Table 55 provided the basis for rejection of the hypothesis of no significant difference in the course of study pursued by youth with special needs and by other students. The large majority of the disadvantaged were pursuing the general curriculum with about one out of four pursuing a vocational curriculum, and a very few an academic curriculum. Other ninth grade students were nearly equally divided between the general and academic curricula with the exception that approximately ten per cent were pursuing a vocational curriculum. There were a very few youth with special needs who were in special education; however, these students were also enrolled in vocational education; therefore, they appear in the data under the category of vocational education.

Since only one girl with special needs was found to be pursuing an academic curriculum, this low cell frequency prevented
application of chi square as a test of significance. The pattern of enrollment for girls appeared to be similar to that of boys, however.

**Enrollment in Vocational Education**

Hypothesis:

There is no significant difference in the enrollment in vocational education courses by youth with special needs and by other students.

This hypothesis was also rejected on the basis of data shown in Table 55. Enrollment in a vocational education course was used as the sole criterion for determination of which students were pursuing a vocational curriculum. The numbers of students pursuing a vocational curriculum and the numbers of students enrolled in a vocational education course were therefore identical. Vocational agriculture and vocational home economics were the only vocational education courses for which ninth grade students were eligible. Since only boys were enrolled in vocational agriculture and only girls enrolled in vocational home economics, the figures also represented enrollment for these two courses.

The data concerning enrollment in vocational education showed that the disadvantaged student was about three times as likely to be enrolled in vocational education as would his classmates; yet, less than one-third of these students were pursuing vocational education. The fact that these disadvantaged students, even though enrolled in vocational education, were identified as students who would not complete
a regular high school curriculum, suggests that the regular programs of vocational education are not well suited to the needs of this group of students.

**Enrollment in occupational-type courses**

**Hypothesis:**

There is no significant difference in the "enrollment in occupational-type courses" by youth with special needs and other students.

The hypothesis of no significant difference between youth with special needs and other students on the basis of enrollment in occupational-type courses was rejected. Table 56 shows the distribution of enrollment for both groups in courses of an occupational nature. Typing had also been included; however, no ninth grade students were enrolled. Enrollment in Industrial Arts and mechanical drawing were combined due to a very few students enrolled in mechanical drawing. The higher enrollments shown for home economics in this testing were due to the inclusion of home economics students which were non-vocational.

Over half of the disadvantaged were enrolled in courses of an occupational nature compared to about one-third of the other students. Again, the fact that the youth with special needs were identified as students who would not complete a regular high school educational program points toward a conclusion that a traditional high school curriculum does not serve these students well.
TABLE 56

COMPARISON OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS ON THE BASIS OF ENROLLMENT IN OCCUPATIONAL-TYPE COURSES

<table>
<thead>
<tr>
<th></th>
<th>YWSN</th>
<th>OTHERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not enrolled in an occupational-type course</td>
<td>67</td>
<td>117</td>
</tr>
<tr>
<td>Enrolled in an occupational-type course:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial Arts or Mechanical Drawing</td>
<td>38</td>
<td>31</td>
</tr>
<tr>
<td>Home Economics</td>
<td>30</td>
<td>14</td>
</tr>
<tr>
<td>Agriculture</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>Sub-total*</td>
<td>87</td>
<td>51</td>
</tr>
<tr>
<td>TOTAL*</td>
<td>154</td>
<td>168</td>
</tr>
</tbody>
</table>

* - Not included in the statistical analysis.

\[
\chi^2 = 24.949
\]

\[
\chi^2_{.05} = 9.488
\]

\[
P < .05
\]

Discriminating Characteristics

It was desired to establish those characteristics of students which tended to most often differentiate between youth with special needs and other students. The tests of significance of difference between the two groups on the basis of single characteristics studied were made using varying numbers of students dependent upon the number for whom data were available for the specific characteristic studied. It was necessary, in the computation of the discriminant function, however, to use only those students for whom complete data were available for all characteristics to be included in the computation.
The number of characteristics was first limited to those for which comparisons between youth with special needs and other students had suggested a tendency for the characteristic to be somewhat common to the disadvantaged. These were further limited to those characteristics for which data were available for most of the students.

Table 57 lists the 12 characteristics of students which were subjected to analysis by computation of the discriminant function. These characteristics are listed in the order in which each tended to discriminate between youth with special needs and other students.

**TABLE 57**

**CHARACTERISTICS SUBJECTED TO ANALYSIS BY COMPUTATION OF THE DISCRIMINANT FUNCTION**

(N = 161)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>$b_1$</th>
<th>&quot;t&quot; value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of children in family</td>
<td>-.0373</td>
<td>2.9425a</td>
</tr>
<tr>
<td>Grade point average (grade 8)</td>
<td>.0138</td>
<td>2.4837a</td>
</tr>
<tr>
<td>Family status</td>
<td>-.1175</td>
<td>1.8633</td>
</tr>
<tr>
<td>Reading level for grade</td>
<td>.0354</td>
<td>1.4800</td>
</tr>
<tr>
<td>Occupational level of father</td>
<td>.0037</td>
<td>1.2135</td>
</tr>
<tr>
<td>Age of student</td>
<td>-.0616</td>
<td>.7849</td>
</tr>
<tr>
<td>Grade retentions</td>
<td>-.0650</td>
<td>.7761</td>
</tr>
<tr>
<td>Curriculum pursued</td>
<td>.0270</td>
<td>.5698</td>
</tr>
<tr>
<td>Number of schools attended</td>
<td>-.0107</td>
<td>.4430</td>
</tr>
<tr>
<td>Intelligence Quotient</td>
<td>.0014</td>
<td>.4116</td>
</tr>
<tr>
<td>Participation in school activities</td>
<td>.0100</td>
<td>.3702</td>
</tr>
<tr>
<td>Absence (grade 8)</td>
<td>-.0007</td>
<td>.2033</td>
</tr>
</tbody>
</table>

* a - Significant at the .05 level.
Although the discriminant function is often employed in the
development of an equation for the prediction of which of two ways
an individual will most likely be classified, its use in this study
was principally as an indicator of the relative efficiency of each
of the characteristics as a discriminator between youth with special
needs and other students. The "t" values are indicators of this rela-
tive efficiency.

Only two characteristics show significance at the .05 level;
however, other "t" values closely approach this level of significance.
It is believed that incomplete data concerning all characteristics
for large numbers of students, especially the disadvantaged, limited
the validity of this analysis.

Chapter Summary

A determination of the characteristics of youth with special
needs was made through a study of 155 students identified as youth
with special needs in eight randomly selected non-metropolitan Ohio
high schools. There were 169 ninth grade students not considered as
youth with special needs randomly selected in the eight schools to serve
as a comparison group. The selected characteristics of both groups of
students were studied for the purpose of identifying existing differ-
ences between youth with special needs and other ninth grade students.

Selected characteristics of students for which there were sig-
nificant differences found between the mean scores of the two groups
are shown in summary Table 58.
### Table 58

SUMMARY OF STUDENT CHARACTERISTICS FOR WHICH SIGNIFICANT DIFFERENCES EXISTED BETWEEN NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>YMSN Means</th>
<th>Other Students Means</th>
<th>Difference Between Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>15.62</td>
<td>14.86</td>
<td>0.76</td>
</tr>
<tr>
<td>Number schools attended</td>
<td>1.97</td>
<td>1.44</td>
<td>0.53</td>
</tr>
<tr>
<td>Number children in family</td>
<td>6.34</td>
<td>4.04</td>
<td>2.30</td>
</tr>
<tr>
<td>Number persons in household</td>
<td>6.27</td>
<td>5.30</td>
<td>0.97</td>
</tr>
<tr>
<td>Father's educational level</td>
<td>9.48</td>
<td>11.06</td>
<td>1.58</td>
</tr>
<tr>
<td>Mother's educational level</td>
<td>9.82</td>
<td>11.38</td>
<td>1.56</td>
</tr>
<tr>
<td>Father's occupational level (prestige scale)</td>
<td>59.84</td>
<td>64.36</td>
<td>4.52</td>
</tr>
<tr>
<td>Mother's occupational level (prestige scale)</td>
<td>55.70</td>
<td>61.54</td>
<td>5.84</td>
</tr>
<tr>
<td>Interest in school work (scale 0-4)</td>
<td>2.24</td>
<td>2.93</td>
<td>0.69</td>
</tr>
<tr>
<td>Participation in school activities (Number of activities)</td>
<td>1.16</td>
<td>2.01</td>
<td>0.85</td>
</tr>
<tr>
<td>Participation in church activities (scale 0-4)</td>
<td>2.13</td>
<td>2.83</td>
<td>0.70</td>
</tr>
<tr>
<td>Grade retentions</td>
<td>.96</td>
<td>.16</td>
<td>.80</td>
</tr>
<tr>
<td>Educational aspirations (grade level)</td>
<td>12.25</td>
<td>14.30</td>
<td>2.05</td>
</tr>
<tr>
<td>Occupational aspirations (prestige scale)</td>
<td>59.80</td>
<td>70.73</td>
<td>10.93</td>
</tr>
<tr>
<td>Intelligence Quotient</td>
<td>89.43</td>
<td>106.69</td>
<td>17.26</td>
</tr>
<tr>
<td>Reading level for grade</td>
<td>-1.52</td>
<td>33</td>
<td>1.75</td>
</tr>
<tr>
<td>Grade point average - grade 7</td>
<td>1.69</td>
<td>2.61</td>
<td>0.92</td>
</tr>
<tr>
<td>Grade point average - grade 8</td>
<td>1.63</td>
<td>2.61</td>
<td>0.98</td>
</tr>
<tr>
<td>Grade point average - grade 9</td>
<td>1.41</td>
<td>2.52</td>
<td>1.11</td>
</tr>
<tr>
<td>Absence - grade 7</td>
<td>9.24</td>
<td>5.16</td>
<td>4.08</td>
</tr>
<tr>
<td>Absence - grade 8</td>
<td>11.83</td>
<td>5.88</td>
<td>5.95</td>
</tr>
<tr>
<td>Absence - grade 9</td>
<td>12.92</td>
<td>5.52</td>
<td>8.40</td>
</tr>
<tr>
<td>(based on 1st semester)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Other characteristics of students for which significant differences were observed between youth with special needs and other students are contained in Table 59.

**TABLE 59**

**SUMMARY OF ADDITIONAL DIFFERING CHARACTERISTICS OF NINTH GRADE YOUTH WITH SPECIAL NEEDS AND OTHER NINTH GRADE STUDENTS**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>IWSN</th>
<th>OTHERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Started school in present district</td>
<td>two of three</td>
<td>four of five</td>
</tr>
<tr>
<td>Not living with both parents</td>
<td>one of three</td>
<td>one of twelve</td>
</tr>
<tr>
<td>Male head of household not working</td>
<td>one of eight</td>
<td>one of fifty</td>
</tr>
<tr>
<td>No occupational aspiration listed</td>
<td>one of nine</td>
<td>one of twenty-five</td>
</tr>
<tr>
<td>Curriculum pursued</td>
<td>three of four in general curriculum; one of four in vocational curriculum; others divided equally between general and academic</td>
<td></td>
</tr>
<tr>
<td>Enrollment in occupational-type courses</td>
<td>one-half</td>
<td>one-third</td>
</tr>
</tbody>
</table>

It was found that the two groups of students did not differ significantly in race, place of origin, years lived in place of origin, or years attended their first school. There were also no significant differences in the numbers of students having health or physical problems, or in the numbers of working mothers.

The general pattern of findings between the disadvantaged and other students were quite similar for both boys and girls.
CHAPTER VI

IMPORTANCE OF SELECTED CHARACTERISTICS OF VOCATIONAL EDUCATION PROGRAMS FOR YOUTH WITH SPECIAL NEEDS

Introduction

The specific objective of the study toward which this chapter is directed was the determination of the relative importance high school principals placed upon educational programs for youth with special needs and upon selected characteristics of vocational education programs for these students.

A questionnaire was developed and mailed to the high school principals of the 133 sample non-metropolitan Ohio high schools which had identified the ninth grade students with special needs in their schools in an earlier phase of this study. The principals were asked to rank the importance of an educational program to serve youth with special needs in relation to other selected educational innovations for which educational resources might be utilised. Principals also ranked the importance of occupational education in an educational program for youth with special needs in relation to other selected possible alternatives.

Importance ratings were assigned by principals to each of 30 selected characteristics of vocational education programs to serve youth with special needs.
The information presented in this chapter was based upon the data supplied by the 108 questionnaires returned.

Relative importance of educational programs to serve youth with special needs

An indication was desired of the importance which high school principals placed upon especially designed educational programs for the disadvantaged high school student. Principals were asked to assume that one educational innovation was to be introduced into their school each year for the next six years, unlimited by existing resources. They were then asked to indicate the year in which they would incorporate each of six selected innovations into their school program. Table 60 contains the selected innovations and the mean scores obtained for each item. A low mean score indicated that principals would incorporate an innovation at an earlier date than other innovations.

The difference between the mean ratings of the first two innovations indicated that an educational program for youth with special needs was of considerably greater importance than the other selected innovations. The relatively low standard deviation for this innovation indicated a greater degree of agreement among principals as to the importance of this innovation than was true for the remaining items.

The small differences between mean ratings and higher standard deviations for the language laboratory, multiple track programs, and teacher assistants, indicated less agreement among principals as to the relative importance of these innovations.
TABLE 60
SELECTED EDUCATIONAL INNOVATIONS IN RANK ORDER BY MEAN SCORES
ASSIGNED BY HIGH SCHOOL PRINCIPALS
(N = 108)

<table>
<thead>
<tr>
<th>Innovation</th>
<th>Mean Score</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>An educational program especially designed to serve youth with special needs</td>
<td>69.058</td>
<td>1.078</td>
</tr>
<tr>
<td>A language laboratory</td>
<td>70.081</td>
<td>1.512</td>
</tr>
<tr>
<td>Multiple track programs with specialized staff</td>
<td>70.105</td>
<td>1.565</td>
</tr>
<tr>
<td>Teacher assistants</td>
<td>70.210</td>
<td>1.673</td>
</tr>
<tr>
<td>Closed circuit television</td>
<td>71.663</td>
<td>1.298</td>
</tr>
<tr>
<td>Data processing services for student, personnel, and system data</td>
<td>71.709</td>
<td>1.454</td>
</tr>
</tbody>
</table>

School size and the importance of serving youth with special needs

When rankings for the selected educational innovations are made by school size category as shown in Table 61, it may be noted that the educational program for youth with special needs was considered of most importance regardless of school size. The slightly different ranking for some innovations occurred among those innovations for which mean scores and standard deviations had indicated a lesser degree of agreement among high school principals.
TABLE 61
RANK ORDERS FOR SELECTED EDUCATIONAL INNOVATIONS
BY SCHOOL SIZE CATEGORY

<table>
<thead>
<tr>
<th>Educational Innovations</th>
<th>Rankings by School Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-100 (N=40)</td>
</tr>
<tr>
<td>An educational program especially designed to serve youth with special needs</td>
<td>1</td>
</tr>
<tr>
<td>A language laboratory</td>
<td>2</td>
</tr>
<tr>
<td>Multiple track programs with specialized staff</td>
<td>3.5</td>
</tr>
<tr>
<td>Teacher assistants</td>
<td>3.5</td>
</tr>
<tr>
<td>Closed circuit television</td>
<td>5</td>
</tr>
<tr>
<td>Data processing services for student, personnel, and system data</td>
<td>6</td>
</tr>
</tbody>
</table>

Importance of selected alternatives for serving youth with special needs

It was desired to determine how school administrators felt that disadvantaged high school students could best be served in their schools. Principals were asked to rank four possible broad avenues of approach to the problem in the order in which they felt that their school could best fulfill its responsibility toward these students. The four selected alternatives appear in Table 62 in the order of mean rankings assigned by principals.
### TABLE 62

**SELECTED ALTERNATIVES FOR SERVING YOUTH WITH SPECIAL NEEDS**

**AS RANKED BY HIGH SCHOOL PRINCIPALS**

(N = 105)

<table>
<thead>
<tr>
<th>Alternatives for Serving Youth With Special Needs</th>
<th>Mean Rank</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiating a program of occupational education with major emphasis upon the development of the necessary attitudes, skills, and abilities which will enable the student to become usefully employed in occupations having limited skill requirements.</td>
<td>1.870</td>
<td>1.305</td>
</tr>
<tr>
<td>Initiating a program with major emphasis upon remedial or repair of present academic and social deficiencies in order for youth with special needs to complete a regular high school curriculum.</td>
<td>2.269</td>
<td>1.398</td>
</tr>
<tr>
<td>Providing education for employment for youth with special needs by modifying your present vocational program in order to provide more individual and appropriate instruction.</td>
<td>2.843</td>
<td>1.239</td>
</tr>
<tr>
<td>Permitting youth with special needs to leave high school when it becomes evident that success will not be achieved in a regular curriculum with some agency other than the school accepting the responsibility for his preparation and transition into useful employment.</td>
<td>3.407</td>
<td>1.304</td>
</tr>
</tbody>
</table>

\[ W = .2836 \]

\[ P > .05 \]

The relatively high standard deviations suggested an absence of general agreement among principals as to the best approach for serving youth with special needs in their schools. The degree of
agreement among principals was tested by computation of the Kendall coefficient of concordance which produced a low, non-significant value for W. This test further indicated lack of agreement among principals as to the most desirable approach to the problem of meeting the high school’s responsibilities toward the disadvantaged. It could not be concluded that the rankings of the mean scores for the four alternatives listed in Table 62 represented the order in which high school principals believed that the disadvantaged could best be served.

**School size and importance of selected alternatives**

The rankings of the four selected alternatives for serving youth with special needs are shown in Table 63 as they were ranked by principals according to school size category. When grouped by school size, there was not significant agreement among principals except for the middle-sized schools. Although a statistically significant coefficient of concordance was found for the rankings of the one group of principals, the magnitude of agreement was relatively low as indicated by the value of W.

The absence of general agreement among principals as to the best approach to serving youth with special needs suggested that the most appropriate avenue of approach to the problem may differ due to factors other than school size.
### Importance of selected characteristics of vocational education programs for youth with special needs

The selected characteristics of vocational education programs for disadvantaged high school students are listed in Table 64 in the rank order of their importance as evaluated by 108 high school principals. The rank order was established utilizing the mean importance rating assigned each of the items. The standard deviation is also

| Alternatives for Serving Youth With Special Needs (as ranked by all principals) | Rankings by School Size Category |
|---|---|---|---|---|
| | 0-100 (N=39) | 101-200 (N=37) | 201-375 (N=29) |
| Mean Rank | Mean Rank | Mean Rank |
| occupational education | 2.00 | 1.65 | 1.97 | 1 |
| to become usefully employed. . . . | | | |
| remedial or repair of present academic and social deficiencies. . . . | 2.40 | 2 | 2.14 | 2 | 2.26 | 2 |
| modifying your present vocational program. . . . | 2.85 | 3 | 2.76 | 3 | 2.94 | 3 |
| leave high school . . . some agency other than the school accepting the responsibility. . . . | 3.40 | 4 | 3.46 | 4 | 3.36 | 4 |

W = .2287 \( \text{P} > .05 \)  
W = .3689 \( \text{P} < .05 \)  
W = .2732 \( \text{P} > .05 \)

---

**TABLE 63**

RANKINGS, BY SCHOOL SIZE CATEGORY, OF SELECTED ALTERNATIVES FOR SERVING YOUTH WITH SPECIAL NEEDS
shown for each characteristic as an indication of the variability among principals ratings of importance of each characteristic to the conduct of a vocational education program for youth with special needs.

Based upon the importance rating used in the evaluation of each item, only the first item, that of limiting pupil-teacher ratios, was rated high enough to be considered highly important. The next 21 characteristics were considered to be of much importance. The mean ratings for these items fell between 2.5 and 3.5 which represented the upper and lower limits of "much importance" on the rating scale.

A pronounced gap appeared in the mean ratings between items 22 and 23. The abrupt decrease in means of .5 between these two items indicated that principals considered the remaining eight characteristics to be of considerably less importance than the preceding items.

The relatively high standard deviations appearing for the last thirteen characteristics indicated less agreement among principals as to the importance of these items.

The importance ratings which Ohio high school principals assigned to the characteristics of vocational education programs for youth with special needs were quite similar to those reported by Groves in his nation-wide study involving teachers and administrators of such programs. Most of the items listed in Table 64 or similar items were used by Groves and received comparable ratings. Of the 23 characteristics
rated as highly important, nearly all were rated as highly important or of much importance in the national study.\(^1\)

The four items which were ranked last by Ohio principals were identical to the four items ranked last by teachers and administrators of vocational education programs for the disadvantaged.\(^2\) The very close agreement between the two studies substantiates the importance of these selected characteristics of vocational programs for youth with special needs.

**TABLE 6\(\text{a}\)**

RESPONSES OF HIGH SCHOOL PRINCIPALS TO THE DEGREE OF IMPORTANCE OF SELECTED CHARACTERISTICS OF VOCATIONAL EDUCATION PROGRAMS FOR YOUTH WITH SPECIAL NEEDS

\((N = 108)\)

<table>
<thead>
<tr>
<th>Selected Characteristics</th>
<th>Mean Rating of Response(^a)</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limiting enrollment or pupil-teacher ratios to permit more individualized instruction and attention.</td>
<td>1</td>
<td>3.56</td>
</tr>
<tr>
<td>Providing professional people from the regular school system such as: social workers, guidance counselors, school psychologists, reading specialists, etc. to work with the students and teachers in occupational programs for IWSN.</td>
<td>2</td>
<td>3.47</td>
</tr>
</tbody>
</table>

\(^1\)Graves, *op. cit.*, pp. 148-155.

\(^2\)Ibid., pp. 156-157.
<table>
<thead>
<tr>
<th>Selected Characteristics</th>
<th>Rank</th>
<th>Mean Rating of Response</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designing the curriculum for occupational programs for YWSN specifically for the type of students enrolled.</td>
<td>3</td>
<td>3.46</td>
<td>0.880</td>
</tr>
<tr>
<td>Having a planned system for identifying potential enrollees in occupational programs for YWSN prior to their entrance into high school.</td>
<td>4</td>
<td>3.43</td>
<td>0.726</td>
</tr>
<tr>
<td>Testing thoroughly all students before allowing them to enter occupational programs for YWSN.</td>
<td>5</td>
<td>3.38</td>
<td>0.693</td>
</tr>
<tr>
<td>Employing the teacher of occupational programs for YWSN on a full-time basis for these programs.</td>
<td>6</td>
<td>3.37</td>
<td>0.871</td>
</tr>
<tr>
<td>Securing the assistance of business and industry in providing opportunities for YWSN to apply and practice skills and abilities developed in the occupational program.</td>
<td>7</td>
<td>3.32</td>
<td>0.795</td>
</tr>
<tr>
<td>Providing school programs in the form of special or remedial courses to assist YWSN in correcting or improving any learning deficiency.</td>
<td>8</td>
<td>3.27</td>
<td>0.830</td>
</tr>
<tr>
<td>Scheduling the teachers of occupational programs for YWSN so that they have released or free school time to work and counsel with employers and parents.</td>
<td>9.5</td>
<td>3.26</td>
<td>0.847</td>
</tr>
<tr>
<td>Providing YWSN ample opportunity to apply and practice skills and abilities by involving them in cooperative work experience or other such experiences related to the occupational training program.</td>
<td>9.5</td>
<td>3.26</td>
<td>0.689</td>
</tr>
<tr>
<td>Selected Characteristics</td>
<td>Rank</td>
<td>Mean Rating of Response</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------------</td>
<td>------</td>
<td>-------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Involving parents of IWSN in the occupational program through counseling sessions, parent-teacher visitation, and consultations with other school personnel.</td>
<td>11</td>
<td>3.24</td>
<td>.807</td>
</tr>
<tr>
<td>Offering a total program in which the general education courses are integrated within the occupational program for IWSN and directed toward their abilities and interests.</td>
<td>12</td>
<td>3.23</td>
<td>.973</td>
</tr>
<tr>
<td>Employing teachers of occupational programs for IWSN having special education or preparatory training to enable the teacher to work with the type of students involved.</td>
<td>13</td>
<td>3.21</td>
<td>.843</td>
</tr>
<tr>
<td>Planning the curriculum to provide for a large percentage of the time to be spent in laboratory or shop activities rather than in classroom recitation.</td>
<td>14</td>
<td>3.18</td>
<td>.863</td>
</tr>
<tr>
<td>Requiring students in occupational programs for IWSN to participate in occupational work experience or on-the-job training as part of their training program.</td>
<td>15</td>
<td>3.17</td>
<td>.848</td>
</tr>
<tr>
<td>Selecting students to participate in occupational programs for IWSN through the use of a cooperative committee composed of the vocational teacher, guidance counselor, an administrator, and interested teachers.</td>
<td>16</td>
<td>3.15</td>
<td>.895</td>
</tr>
<tr>
<td>Involving agencies outside of the school such as: state employment services, state rehabilitation agency, etc., to assist the students in occupational programs for IWSN to become employable.</td>
<td>17</td>
<td>3.02</td>
<td>.886</td>
</tr>
<tr>
<td>Selected Characteristics</td>
<td>Rank</td>
<td>Mean Rating of Response</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------------------</td>
<td>------</td>
<td>-------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Contracting teachers of occupational programs for IWSN on an extended service basis with a twelve-month contract.</td>
<td>18</td>
<td>2.88</td>
<td>1.011</td>
</tr>
<tr>
<td>Adapting or modifying the regular vocational curriculum to fit the needs of IWSN who cannot succeed in the regular vocational program.</td>
<td>19</td>
<td>2.84</td>
<td>1.095</td>
</tr>
<tr>
<td>Providing administrative assistance from the state department of education to the local administrator in the conduct of occupational programs for IWSN.</td>
<td>20</td>
<td>2.77</td>
<td>.963</td>
</tr>
<tr>
<td>Employing teachers who have strong ability to teach and work with IWSN regardless of the teacher's vocational ability or background.</td>
<td>21</td>
<td>2.76</td>
<td>1.101</td>
</tr>
<tr>
<td>Providing occupational work experience for wages through arrangements with business and industry in the area.</td>
<td>22</td>
<td>2.73</td>
<td>1.010</td>
</tr>
<tr>
<td>Securing teachers with a minimum of one year of employment experience outside of public education to teach in the occupational program for IWSN.</td>
<td>23</td>
<td>2.24</td>
<td>1.191</td>
</tr>
<tr>
<td>Providing occupational work experience for wages within the school setting.</td>
<td>24</td>
<td>2.14</td>
<td>1.123</td>
</tr>
<tr>
<td>Selecting students for occupational programs for IWSN on the basis of aptitude tests.</td>
<td>25</td>
<td>2.13</td>
<td>1.153</td>
</tr>
<tr>
<td>Setting a minimum and maximum age level to limit the enrollment in occupational programs for IWSN.</td>
<td>26</td>
<td>2.09</td>
<td>1.107</td>
</tr>
</tbody>
</table>
### TABLE 64—Continued

<table>
<thead>
<tr>
<th>Selected Characteristics</th>
<th>Rank</th>
<th>Mean Rating of Response</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting a minimum and maximum level of ability or I.Q. to limit the enrollment in occupational programs for IWSN.</td>
<td>27</td>
<td>1.86</td>
<td>1.219</td>
</tr>
<tr>
<td>Using a standard curriculum developed at the state level in conducting occupational education for IWSN.</td>
<td>28</td>
<td>1.55</td>
<td>1.131</td>
</tr>
<tr>
<td>Limiting participation in occupational programs for IWSN to only one category of special need such as: educationally deprived, ethnically disadvantaged, etc.</td>
<td>29</td>
<td>1.10</td>
<td>1.013</td>
</tr>
<tr>
<td>Limiting participation in occupational programs for IWSN to only one classification or grade level such as: freshman, senior, dropout, etc.</td>
<td>30</td>
<td>1.02</td>
<td>.907</td>
</tr>
</tbody>
</table>

**a - Scale:**

<table>
<thead>
<tr>
<th>Highly Important</th>
<th>Much Importance</th>
<th>Some Importance</th>
<th>Little Importance</th>
<th>No Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Principals rankings of importance of characteristics by school size categories**

It was desired to determine if school size may have influenced the relative importance of selected characteristics of vocational education programs for the disadvantaged. Table 65 shows the rank order for each characteristic as established by mean ratings according to school size category. Although there were some apparent differences
in the importance ratings by school size category, analysis of variance showed that these differences were no greater than might have been expected by chance alone. It was, therefore, concluded that school size did not influence the relative importance of the selected characteristics studied. Although close agreement in ranks was evidenced for most items, the closest agreement appeared in the items considered least important. There was almost complete agreement as to the rankings of the last eight items.

TABLE 65
PRINCIPALS RANKINGS BY SCHOOL SIZE CATEGORIES OF THE IMPORTANCE OF SELECTED CHARACTERISTICS OF VOCATIONAL EDUCATION PROGRAMS FOR YOUTH WITH SPECIAL NEEDS

<table>
<thead>
<tr>
<th>Selected Characteristics</th>
<th>Ranks for All Schools (N=108)</th>
<th>Ranks By Size Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limiting enrollment or pupil-teacher ratios to permit more individualised instruction and attention.</td>
<td>1</td>
<td>1 1 1 4</td>
</tr>
<tr>
<td>Providing professional people from the regular school system such as: social workers, guidance counselors, school psychologists, reading specialists, etc. to work with the students and teachers in occupational programs for YWSN.</td>
<td>2 7.5 2.5 1</td>
<td></td>
</tr>
<tr>
<td>Designing the curriculum for occupational programs for YWSN specifically for the type of students enrolled.</td>
<td>3 7.5 2.5 2</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 65--Continued

<table>
<thead>
<tr>
<th>Selected Characteristics</th>
<th>Ranks for All Schools</th>
<th>Ranks By Size Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N=108)</td>
<td>0-100 (N=40)</td>
</tr>
<tr>
<td>Having a planned system for identifying potential enrollees in occupational programs for YWSN prior to their entrance into high school.</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Testing thoroughly all students before allowing them to enter occupational programs for YWSN.</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Employing the teacher of occupational programs for YWSN on a full-time basis for these programs.</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Securing the assistance of business and industry in providing opportunities for YWSN to apply and practice skills and abilities developed in the occupational program.</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Providing school programs in the form of special or remedial courses to assist YWSN in correcting or improving any learning deficiency.</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Scheduling the teachers of occupational programs for YWSN so that they have released or free school time to work and counsel with employers and parents.</td>
<td></td>
<td>9.5</td>
</tr>
<tr>
<td>Providing YWSN ample opportunity to apply and practice skills and abilities by involving them in cooperative work experience or other such experiences related to the occupational training program.</td>
<td></td>
<td>9.5</td>
</tr>
</tbody>
</table>
TABLE 65—Continued

<table>
<thead>
<tr>
<th>Selected Characteristics</th>
<th>Ranks for All Schools (N=108)</th>
<th>Ranks by Size Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-100 (N=40)</td>
<td>101-200 (N=37)</td>
</tr>
<tr>
<td>Involving parents of YWSN in the occupational program through counseling sessions, parent-teacher visitation, and consultations with other school personnel.</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Offering a total program in which the general education courses are integrated within the occupational program for YWSN and directed toward their abilities and interests.</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Employing teachers of occupational programs for YWSN having special education or preparatory training to enable the teacher to work with the type of students involved.</td>
<td>13</td>
<td>9.5</td>
</tr>
<tr>
<td>Planning the curriculum to provide for a large percentage of the time to be spent in laboratory or shop activities rather than in classroom recitation.</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>Requiring students in occupational programs for YWSN to participate in occupational work experience or on-the-job training as part of their training program.</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>Selecting students to participate in occupational programs for YWSN through the use of a cooperative committee composed of the vocational teacher, guidance counselor, and administrator, and interested teachers.</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td>Selected Characteristics</td>
<td>Ranks for All Schools</td>
<td>Ranks By Size Categories</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------------</td>
<td>-----------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Involving agencies outside of the school such as: state employment services, state rehabilitation agency, etc., to assist the students in occupational programs for TWSN to become employable.</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>Contracting teachers of occupational programs for TWSN on an extended service basis with a twelve-month contract.</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>Adapting or modifying the regular vocational curriculum to fit the needs of TWSN who cannot succeed in the regular vocational program.</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Providing administrative assistance from the state department of education to the local administrator in the conduct of occupational programs for TWSN.</td>
<td>20</td>
<td>18</td>
</tr>
<tr>
<td>Employing teachers who have strong ability to teach and work with TWSN regardless of the teacher's vocational ability or background.</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td>Providing occupational work experience for wages through arrangements with business and industry in the area.</td>
<td>22</td>
<td>21</td>
</tr>
<tr>
<td>Selected Characteristics</td>
<td>Ranks for All Schools (N=108)</td>
<td>Ranks By Size Categories</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------------</td>
<td>-------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Securing teachers with a minimum of one year of employment experience outside of public education to teach in the occupational program for TWSN.</td>
<td>23</td>
<td>23 23 23 26</td>
</tr>
<tr>
<td>Providing occupational work experience for wages within the school setting.</td>
<td>24</td>
<td>24 25.5 25</td>
</tr>
<tr>
<td>Selecting students for occupational programs for TWSN on the basis of aptitude tests.</td>
<td>25</td>
<td>25 25.5 23</td>
</tr>
<tr>
<td>Setting a minimum and maximum age level to limit the enrollment in occupational programs for TWSN.</td>
<td>26</td>
<td>27 24 24</td>
</tr>
<tr>
<td>Setting a minimum and maximum level of ability or I.Q. to limit the enrollment in occupational programs for TWSN.</td>
<td>27</td>
<td>26 27 27</td>
</tr>
<tr>
<td>Using a standard curriculum developed at the state level in conducting occupational education for TWSN.</td>
<td>28</td>
<td>28 28 28</td>
</tr>
<tr>
<td>Limiting participation in occupational programs for TWSN to only one category of special need such as: educationally deprived, ethnically disadvantaged, etc.</td>
<td>29</td>
<td>29 29 29.5</td>
</tr>
</tbody>
</table>
TABLE 65—Continued

<table>
<thead>
<tr>
<th>Selected Characteristics</th>
<th>Ranks for All Schools (N=108)</th>
<th>Ranks By Size Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0-100 (N=40)</td>
</tr>
<tr>
<td>Limiting participation in occupational programs for YWSN to only one classification or grade level such as: freshman, senior, dropout, etc.</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

\[ F = 0.12 \]

Critical value at .05 level = 3.09

Importance of characteristics relating to the five areas of consideration in the conduct of programs

The 30 characteristics of vocational education programs for youth with special needs rated by principals were listed in the instrument in groups of six items under five headings. Characteristics relating to each of the five areas were ranked by mean scores according to responses from the principals of the three different size categories of schools. Differences in rankings of the 6 items in each area by school size category were tested for statistical significance through analysis of variance of the mean ratings.

Administration -- Providing occupational work experience for wages within the school setting was not considered to be of much importance to the operation of vocational education programs for the disadvantaged. The other five items shown in Table 66 were considered
as either highly important or of much importance in the conduct of such a program. Principals from the three school sizes were in close agreement as to the relative importance of all six characteristics. Although slight differences in rankings appeared, analysis of variance showed these differences to not be statistically significant.

TABLE 66

COMPARISONS OF MEAN SCORES, BY SCHOOL SIZE CATEGORY, OF PRINCIPALS RANKINGS ON 6 ITEMS RELATING TO ADMINISTRATION OF VOCATIONAL EDUCATION PROGRAMS FOR YOUTH WITH SPECIAL NEEDS

<table>
<thead>
<tr>
<th>Selected Characteristics</th>
<th>Mean Scores and Ranks By School Size Category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-100 (N=40)</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td></td>
<td>Mean Rank</td>
</tr>
<tr>
<td>Limiting enrollment or pupil-teacher ratios to permit more individualized instruction and attention.</td>
<td>3.52 1</td>
</tr>
<tr>
<td>Having a planned system for identifying potential enrollees in occupational programs for YWSN prior to their entrance into high school.</td>
<td>3.40 2</td>
</tr>
<tr>
<td>Requiring students in occupational programs for YWSN to participate in occupational work experience or on-the-job training as part of their training program.</td>
<td>3.15 3</td>
</tr>
<tr>
<td>Providing administrative assistance from the state department of education to the local administrator in the conduct of occupational programs for YWSN.</td>
<td>2.88 4</td>
</tr>
<tr>
<td>Selected Characteristics</td>
<td>Mean Score &amp; Ranks</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Providing occupational work experience for wages through arrangements with business and industry in the area.</td>
<td>Mean Rank 2.58 5 2.78 5 2.87 4</td>
</tr>
<tr>
<td>Providing occupational work experience for wages within the school setting.</td>
<td>Mean Rank 2.28 6 2.08 6 2.03 6</td>
</tr>
</tbody>
</table>

\[ F = .18 \]

Critical value at .05 level = 3.09

- Scale:

<table>
<thead>
<tr>
<th>Importance</th>
<th>Highly Important</th>
<th>Much Importance</th>
<th>Some Importance</th>
<th>Little Importance</th>
<th>No Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Special services -- All of the six characteristics listed in Table 67 relating to special services were considered to be of much importance in the conduct of vocational education programs for youth with special needs. The relatively close mean ratings for all items indicated the characteristics to be of almost equal importance.

The importance associated with the items relating to special services suggest that, in the judgment of high school principals, the school alone, or one department in the school, cannot adequately serve the educational needs of the disadvantaged.
**TABLE 67**

**COMPARISONS OF MEAN SCORES, BY SCHOOL SIZE CATEGORY, OF PRINCIPALS RANKINGS ON 6 ITEMS RELATING TO SPECIAL SERVICES FOR VOCATIONAL EDUCATION PROGRAMS FOR YOUTH WITH SPECIAL NEEDS**

<table>
<thead>
<tr>
<th>Selected Characteristics</th>
<th>Mean Scores* and Ranks</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>By School Size Category</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0-100  (N=40)</td>
<td>101-200 (N=37)</td>
</tr>
<tr>
<td><strong>Mean Rank</strong></td>
<td>3.33 4</td>
<td>3.51 1</td>
</tr>
<tr>
<td><strong>Mean Rank</strong></td>
<td>3.48 2</td>
<td>3.32 3</td>
</tr>
<tr>
<td><strong>Mean Rank</strong></td>
<td>3.50 1</td>
<td>3.13 4</td>
</tr>
<tr>
<td><strong>Mean Rank</strong></td>
<td>3.13 6</td>
<td>3.41 2</td>
</tr>
<tr>
<td><strong>Mean Rank</strong></td>
<td>3.35 3</td>
<td>3.11 5</td>
</tr>
</tbody>
</table>

Providing professional people from the regular school system such as: social workers, guidance counselors, school psychologists, reading specialists, etc. to work with the students and teachers in occupational programs for YWSN.

Testing thoroughly all students before allowing them to enter occupational programs for YWSN.

Securing the assistance of business and industry in providing opportunities for YWSN to apply and practice skills and abilities developed in the occupational program.

Providing school programs in the form of special or remedial courses to assist YWSN in correcting or improving any learning deficiency.

Involving parents of YWSN in the occupational program through counseling sessions, parent-teacher visitation, and consultations with other school personnel.
TABLE 67--Continued

Mean Scores* and Ranks
By School Size Category

<table>
<thead>
<tr>
<th>Selected Characteristics</th>
<th>Mean Rank</th>
<th>Mean Rank</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involving agencies outside of the school such as: state employment services, state rehabilitation agency, etc., to assist the students in occupational programs for YWSS to become employable.</td>
<td>3.25 5</td>
<td>2.70 6</td>
<td>3.10 6</td>
</tr>
</tbody>
</table>

F = 1.05

Critical value at .05 level = 3.09

a - Scale:

<table>
<thead>
<tr>
<th>Highly Important</th>
<th>Much Importance</th>
<th>Some Importance</th>
<th>Little Importance</th>
<th>No Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Student selection -- Principals considered the use of a committee of knowledgeable educators in the selection of students for occupational programs for the disadvantaged to be of much importance. The five other items which would tend to identify students or to limit enrollment in such a program were rated as of some or little importance to the operation of such a program. Almost complete agreement by school size category was indicated for the rankings of items relating to student selection shown in Table 68.
The importance ratings assigned to these items would suggest that principals would consider professional judgment of school personnel to be of greater importance than more objective measures in the selection of students for these programs.

**TABLE 68**

COMPARISONS OF MEAN SCORES, BY SCHOOL SIZE CATEGORY, OF PRINCIPALS RANKINGS ON 6 ITEMS RELATING TO STUDENT-TRAINEE AREA FOR VOCATIONAL EDUCATION PROGRAMS FOR YOUTH WITH SPECIAL NEEDS

<table>
<thead>
<tr>
<th>Selected Characteristics</th>
<th>0-100 (N=40)</th>
<th>101-200 (N=37)</th>
<th>201-375 (N=31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Scores* and Ranks</td>
<td>Mean Rank</td>
<td>Mean Rank</td>
<td>Mean Rank</td>
</tr>
</tbody>
</table>

Selecting students to participate in occupational programs for YWSN through the use of a cooperative committee composed of the vocational teacher, guidance counselor, an administrator, and interested teachers.

<table>
<thead>
<tr>
<th>Mean Rank</th>
<th>Mean Rank</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.18</td>
<td>1</td>
<td>3.35</td>
</tr>
</tbody>
</table>

Selecting students for occupational programs for YWSN on the basis of aptitude tests.

<table>
<thead>
<tr>
<th>Mean Rank</th>
<th>Mean Rank</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.15</td>
<td>2</td>
<td>2.08</td>
</tr>
</tbody>
</table>

Setting a minimum and maximum age level to limit the enrollment in occupational programs for YWSN.

<table>
<thead>
<tr>
<th>Mean Rank</th>
<th>Mean Rank</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.93</td>
<td>4</td>
<td>2.24</td>
</tr>
</tbody>
</table>

Setting a minimum and maximum level of ability or I.Q. to limit the enrollment in occupational programs for YWSN.

<table>
<thead>
<tr>
<th>Mean Rank</th>
<th>Mean Rank</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.10</td>
<td>3</td>
<td>1.86</td>
</tr>
<tr>
<td>Selected Characteristics</td>
<td>Mean Scores and Ranks By School Size Category</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0-100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(N=40)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>101-200</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(N=37)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>201-375</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(N=31)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean Rank Mean Rank Mean Rank</td>
<td></td>
</tr>
<tr>
<td>Limiting participation in occupational programs for YWSN to only one category of special need such as: educationally deprived, ethnically disadvantaged, etc.</td>
<td>1.05 5 1.32 5 .90 5.5</td>
<td></td>
</tr>
<tr>
<td>Limiting participation in occupational programs for YWSN to only one classification or grade level such as: freshman, senior, dropout, etc.</td>
<td>.98 6 1.16 6 .90 5.5</td>
<td></td>
</tr>
</tbody>
</table>

F = 1.32

Critical value at .05 level = 3.09

a - Scale:

<table>
<thead>
<tr>
<th>Highly Important</th>
<th>Much Importance</th>
<th>Some Importance</th>
<th>Little Importance</th>
<th>No Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Curriculum -- A high degree of agreement as to the importance of the characteristics concerning curriculum was indicated by the mean rating scores for these items shown in Table 69. All items were considered to be of much importance with the exception of the use of a standard curriculum developed at the state level.

The importance ratings for characteristics relating to curriculum indicated a desire for a high degree of flexibility of curriculum.
with opportunity to tailor programs to fit the individuals involved. The adaptation or modification of regular vocational curricula to fit the needs of the disadvantaged was not deemed as important as the provision of occupational work experience.

<table>
<thead>
<tr>
<th>Selected Characteristics</th>
<th>Mean Scores and Ranks By School Size Category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-100 (N=40)</td>
</tr>
<tr>
<td>Designing the curriculum for occupational programs for YWSN specifically for the type of students enrolled.</td>
<td>3.33 1</td>
</tr>
<tr>
<td>Providing YWSN ample opportunity to apply and practice skills and abilities by involving them in cooperative work experience or other such experiences related to the occupational training program.</td>
<td>3.28 2</td>
</tr>
<tr>
<td>Offering a total program in which the general education courses are integrated within the occupational program for YWSN and directed toward their abilities and interests.</td>
<td>3.20 3</td>
</tr>
<tr>
<td>Planning the curriculum to provide for a large percentage of the time to be spent in laboratory or shop activities rather than in classroom recitation.</td>
<td>3.10 4</td>
</tr>
</tbody>
</table>
Adapting or modifying the regular vocational curriculum to fit the needs of IWSN who cannot succeed in the regular vocational program.

Using a standard curriculum developed at the state level in conducting occupational education for IWSN.

\[ F = .04 \]

Critical value at \( .05 \) level = 3.09

a - Scale:

<table>
<thead>
<tr>
<th>Highly Important</th>
<th>Much Importance</th>
<th>Some Importance</th>
<th>Little Importance</th>
<th>No Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Teacher-Instructor -- No significant differences were found between the mean ratings of characteristics by principals according to school size category. All items listed in Table 70 relating to the teacher or instructor of an occupational program for the disadvantaged were considered to be of much importance, with one exception. The mean ratings for the last item indicated that occupational experience on the part of the teacher was considered to be of some importance only. Two apparently conflicting items relative to the
preparation of the teacher each received ratings as being of much importance. These ratings might be interpreted as an indication that principals believed that either special preparation of the teacher or teachers exhibiting special abilities to work with the disadvantaged would be desirable.

TABLE 70

COMPARISONS OF MEAN SCORES, BY SCHOOL SIZE CATEGORY, OF PRINCIPALS RANKINGS ON 6 ITEMS RELATING TO THE TEACHER-INSTRUCTOR AREA OF VOCATIONAL EDUCATION PROGRAMS FOR YOUTH WITH SPECIAL NEEDS

<table>
<thead>
<tr>
<th>Selected Characteristics</th>
<th>Mean Scores and Ranks By School Size Category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-100</td>
</tr>
<tr>
<td></td>
<td>(N=40)</td>
</tr>
<tr>
<td></td>
<td>Mean Rank</td>
</tr>
<tr>
<td>Employing the teacher of occupational programs for YWSN on a full-time basis for these programs.</td>
<td>3.48 1</td>
</tr>
<tr>
<td>Scheduling the teachers of occupational programs for YWSN so that they have released or free school time to work and counsel with employers and parents.</td>
<td>3.13 3</td>
</tr>
<tr>
<td>Employing teachers of occupational programs for YWSN having special education or preparatory training to enable the teacher to work with the type of students involved.</td>
<td>3.28 2</td>
</tr>
<tr>
<td>Contracting teachers of occupational programs for YWSN on an extended service basis with a twelve-month contract.</td>
<td>2.75 4</td>
</tr>
</tbody>
</table>
Employing teachers who have strong ability to teach and work with IWSN regardless of the teacher's vocational ability or background.

Securing teachers with a minimum of one year of employment experience outside of public education to teach in the occupational program for IWSN.

<table>
<thead>
<tr>
<th>Selected Characteristics</th>
<th>Mean Scoresa and Ranks By School Size Category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-100</td>
</tr>
<tr>
<td>(N=108)</td>
<td>Mean Rank</td>
</tr>
</tbody>
</table>

F = .21

Critical value at .05 level = 3.09

a - Scale:

<table>
<thead>
<tr>
<th>Highly Important</th>
<th>Much Importance</th>
<th>Some Importance</th>
<th>Little Importance</th>
<th>No Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Chapter Summary

A determination of important characteristics of vocational education programs for youth with special needs was made by means of ratings assigned selected characteristics of such programs by 108 Ohio high school principals. These principals were also asked to indicate the relative importance of educational programs for serving youth with special needs in relation to other educational innovations.
for which resources might be allocated. An indication of the best
approach to serving the disadvantaged high school student was sought
by asking principals to rank four possible broad approaches to the
problem which their school might take to fulfill its responsibility
toward these students.

High school principals considered an educational program es-
pecially designed to serve youth with special needs to be of consider-
ably greater importance than the other educational innovations used
for comparative purposes. This finding was also true for the ratings
when analyzed by school size category.

There was not a significant degree of agreement among all 108
high school principals as to the best approach for their school in
meeting its responsibilities toward youth with special needs. When
analyzed by school size category, a statistically significant low de-
gree of agreement was shown for the rankings by the middle-sized
schools. In the case of a significant degree of agreement of rankings,
the occupational education program to prepare the disadvantaged for
useful employment was ranked first, followed by a program of remedial
or repair of academic and social deficiencies. Ranked below these al-
ternatives was the modification of the present vocational program.
Permitting the student to leave school with some other agency accepting
the responsibility was ranked last. Although the rankings by the small
and large schools were not statistically significant at the .05 level,
the mean ranks were in the same order for all three school size cate-
gories.
Importance ratings assigned by high school principals to 30 selected characteristics of vocational education programs for the disadvantaged showed 22 of the items to be considered as highly important or of much importance to the conduct of such programs. The remaining eight characteristics were considered to be of much less importance than the first 22 items. The relative importance of selected characteristics rated by Ohio high school principals agreed closely with those of administrators and teachers of vocational education programs for youth with special needs as reported by Groves.

The relative importance of characteristics of vocational programs for youth with special needs did not differ with school size. This was true for all 30 characteristics combined as well as for each of the five areas of concern when tested individually.
CHAPTER VII

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The study was conducted to determine those characteristics of students and important aspects of vocational education programs essential to serving youth with special needs in the non-metropolitan areas of Ohio.

The purpose of this chapter is to summarize the procedures and techniques employed and major findings of the study and also to set forth appropriate conclusions. Conclusions will be based upon analysis and evaluation of information from questionnaires used in the study, data gathered from students and schools, and from review of literature relative to disadvantaged youth and vocational education.

Recommendations for action are made as suggested by findings and conclusions of the study. Suggestions also are made for further study of areas related to vocational education programs for youth with special needs.
SUMMARY OF THE STUDY

Need for the study

The need for the study was based upon the following points:

1. A rapidly changing technology and society had widened a social and economic gulf between the educated, well prepared segment of our society and its less-well educated, poorly trained counterpart.

2. National recognition of the educational needs of the dis­advantaged resulted in legislation to expand vocational education with specific provisions that youth with special needs were to be served.

3. There had not been widespread initiation of vocational education programs to serve youth with special needs following the Vocational Education Act of 1963.

4. A knowledge of the dimensions of the problem was necessary to the planning of vocational education programs to serve these students.

5. Little was found relative to the numbers, locations, and characteristics of youth with special needs nor to important aspects of vocational education programs designed to serve them.

6. Much of the literature concerning the topic was directed toward the disadvantaged of the large cities with little reference to youth of non-metropolitan areas.

7. No studies were found which identified and described youth with special needs in Ohio's non-metropolitan high schools before they dropped out of school.
Major purpose of the study

The major purpose of the study was the determination of characteristics of students and of important aspects of vocational education programs essential to the serving of youth with special needs in non-metropolitan Ohio high schools.

Specific Objectives

The following specific objectives were identified in order to facilitate the development of this study:

1. To identify numbers of youth with special needs at the ninth grade level in non-metropolitan high schools in the state of Ohio.

2. To determine the relative influence of selected factors contributing toward their classification as youth with special needs.

3. To determine how selected characteristics of youth with special needs at the ninth grade level in non-metropolitan Ohio schools differ from those of other ninth grade students in the same schools.

4. To determine the relative importance high school educators place upon educational programs for youth with special needs and upon selected characteristics of vocational education programs for these students.

Method of Investigation

Determination of population

The population for the study was determined through identification of all high schools enrolling ninth grade students which
were located in non-metropolitan areas of the state of Ohio. A total of 473 such schools were identified.

Identification and categorization of youth with special needs

An identification form was developed and mailed to a random sample of 150 non-metropolitan Ohio high schools for the identification of all ninth grade youth with special needs in these schools and also the rating of each student as to the relative influence of each of six types of disadvantage. Usable responses were received from 133 schools.

The data were analyzed to show the percentages of ninth grade youth with special needs and the relationship of these percentages to school size. The relative influence which each of six types of disadvantage was deemed to contribute toward students' classification as youth with special needs was determined as was the tendency for clusters or groups of types of disadvantage to be related.

Determination of characteristics of youth with special needs

Youth with special needs were studied in a proportionate sampling, by school size category, of schools participating in the identification of youth with special needs. Personal visits were made by the investigator to each of the eight schools in the sample for the purpose of collecting data concerning student characteristics. Selected data were gathered from students and from school records for youth with special needs and for an equal number of randomly selected other ninth grade youth in each of these schools.
The data were analyzed to determine differences between the two groups of students in terms of the selected characteristics studied. Analysis was also made to determine the degree to which clusters or groups of characteristics tended to differentiate between youth with special needs and other youth.

**Determination of the importance of selected characteristics of vocational education programs for youth with special needs**

A questionnaire was developed and mailed to the high school principals of each of the 133 schools which had earlier identified its ninth grade youth with special needs. Each principal was asked to indicate the relative importance of educational programs for serving youth with special needs in relation to other educational innovations toward which resources might be directed. Principals were also asked to indicate the importance which occupational education should have in such programs, and the importance of selected characteristics of vocational education programs for youth with special needs.

**Summary of Findings**

The major findings of the study are summarized in relation to the specific objectives of the study.

**Identification of numbers of youth with special needs**

Of all ninth grade students in the non-metropolitan high schools of Ohio, about 14 per cent were considered to be youth with special
needs. As shown by analysis of variance, a significantly higher percentage of boys were identified as having special needs than were girls. These percentages were approximately 17 for boys and 10 for girls. Considerable variation existed from school to school in the percentages of ninth grade students identified as being disadvantaged. Coefficients of correlation showed this variation to not be closely associated with school size, however.

Projections, based upon the percentages established from the sample schools, showed that over 5400 disadvantaged ninth grade boys and 3200 girls were in Ohio's 473 non-metropolitan high schools. Nearly four-fifths of these students were in schools having total ninth grade enrollments in excess of 100 students.

Categories of youth with special needs

School principals identifying their youth with special needs indicated the major type of disadvantage for each student identified as well as rating the student in other categories of disadvantage exhibited by the student. The categories of disadvantage and the distribution of the 2455 students among those categories are shown in Table 7-1.

Most students were rated in two or more categories of disadvantage suggesting that the types of disadvantage were not discrete categories and that associations existed among them.

Two groups of types of disadvantage were found to be related to one another as shown by coefficients of correlation. Students rated
in one of the categories, economically deprived, socially disadvantaged, or racially disadvantaged tended to also be rated in the other two categories. Students rated as either educationally deprived or intellectually handicapped tended to be rated in the other category as well.

<table>
<thead>
<tr>
<th>Category of Disadvantage</th>
<th>% YWSN Rated As The Major Factor</th>
<th>% YWSN Rated In Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectually Handicapped</td>
<td>36.7</td>
<td>80.7</td>
</tr>
<tr>
<td>Educationally Deprived</td>
<td>24.9</td>
<td>87.2</td>
</tr>
<tr>
<td>Socially Disadvantaged</td>
<td>20.6</td>
<td>75.3</td>
</tr>
<tr>
<td>Economically Deprived</td>
<td>14.1</td>
<td>64.1</td>
</tr>
<tr>
<td>Physically Handicapped</td>
<td>2.1</td>
<td>8.0</td>
</tr>
<tr>
<td>Ethnically Disadvantaged</td>
<td>1.6</td>
<td>12.7</td>
</tr>
</tbody>
</table>

**Characteristics of youth with special needs**

Ninth grade youth with special needs in the non-metropolitan high schools of Ohio were found to differ to some degree from other ninth grade students in terms of most of the characteristics studied. Differences were established through "t" tests of differences between means and the chi square.
Student and family background -- Comparisons between the 154 youth with special needs and the 169 other students in the sample showed differences as follows:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Youth With Special Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>averaged nine months older</td>
</tr>
<tr>
<td>Number of schools attended</td>
<td>averaged half a school more</td>
</tr>
<tr>
<td>Number of children in family</td>
<td>averaged over two more</td>
</tr>
<tr>
<td>Number persons living in household</td>
<td>averaged one more</td>
</tr>
<tr>
<td>Parents' educational level</td>
<td>averaged one and a half years lower</td>
</tr>
<tr>
<td>Parents' occupational level</td>
<td>averaged lower than others</td>
</tr>
<tr>
<td>Participation in church activities</td>
<td>averaged lower than others</td>
</tr>
<tr>
<td>Not living with both parents</td>
<td>one in three - others one in 12</td>
</tr>
<tr>
<td>Male head of household not working</td>
<td>one of eight - others one in 50</td>
</tr>
<tr>
<td>No occupational aspiration given</td>
<td>one of nine - others one of 25</td>
</tr>
</tbody>
</table>

Background characteristics not showing differences between the disadvantaged and other students were: race of student, place of origin, or the number of years lived in the place of origin. Also no difference was found regarding working or non-working mothers of the two groups.

Educational experiences of the student -- Comparisons by use of "t" tests and the chi square between the 154 ninth grade youth with special needs and the 169 other ninth grade students showed the information which follows.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Youth With Special Needs</th>
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</thead>
<tbody>
<tr>
<td>Interest in school work</td>
<td>lower</td>
</tr>
<tr>
<td>Started school in present district</td>
<td>two of three - others four of five</td>
</tr>
<tr>
<td>Participation in school activities</td>
<td>about one less</td>
</tr>
<tr>
<td>Grade retentions</td>
<td>averaged about one</td>
</tr>
<tr>
<td>Educational aspirations</td>
<td>averaged about grade 12</td>
</tr>
<tr>
<td>Occupational aspirations</td>
<td>much lower</td>
</tr>
<tr>
<td>Reading level</td>
<td>nearly two grades lower</td>
</tr>
<tr>
<td>Intelligence quotient</td>
<td>averaged 17 points lower</td>
</tr>
<tr>
<td>Grade point average</td>
<td>more than one letter grade lower--declining since grade seven</td>
</tr>
<tr>
<td>Absence</td>
<td>nearly twice as much--doubled since grade seven</td>
</tr>
<tr>
<td>Curriculum pursued</td>
<td>more in general and vocational curricula--three of four in general curriculum, one of four in vocational curriculum</td>
</tr>
<tr>
<td>Enrollment in occupational-type courses</td>
<td>one of two - others one of three</td>
</tr>
</tbody>
</table>

No differences were found between the two groups of students as to the number of years they had attended their first school nor in the numbers of students reporting health or physical problems affecting their school work.

**Discriminating characteristics** -- A determination of discrimination characteristics between youth with special needs and other students was made by employment of the discriminant function. The "t" value for each of the characteristics in the discriminant function was
used as an indicator of the relative efficiency of that characteristic as a discriminator between youth with special needs and other students.

Twelve characteristics included in the discriminant function in their relative order as discriminators between youth with special needs and other students were:

- Number of children in the family
- Grade point average (grade 8)
- Family status
- Reading level for grade
- Occupational level of father
- Age of student
- Number of grade retentions
- Curriculum pursued
- Number of schools attended
- Intelligence quotient
- Participation in school activities
- Absence (grade 8).

**Important characteristics of vocational education programs for youth with special needs**

**Importance of serving the disadvantaged** — An especially designed educational program to serve youth with special needs was considered to be of higher priority by more high school principals than were other selected educational innovations toward which resources of
their schools might have been directed. This was established through the mean priority ratings assigned by 108 principals responding from the 133 schools which had earlier identified their ninth grade youth with special needs. When ranked by school size category, school size was found to have little influence upon the order in which priorities were assigned to the innovations considered. These items in the order of priority assigned by high school principals were:

- An educational program especially designed to serve youth with special needs
- A language laboratory
- Multiple track programs with specialized staff
- Teacher assistants
- Closed circuit television
- Data processing services for student, personnel, and system data.

**Importance of selected alternatives for serving youth with special needs** -- Four alternative approaches to serving the disadvantaged were presented to the 108 high school principals for their ranking in the order in which each approach would best fulfill their high schools' responsibility toward youth with special needs. The selected alternatives in the order of importance as indicated by principals' averaged rankings were:

1. Initiating a program of occupational education with major emphasis upon the development of the necessary attitudes, skills, and abilities which will enable the student to become usefully employed in occupations having limited skill requirements.
2. Initiating a program with major emphasis upon remedial or repair of present academic and social deficiencies in order for youth with special needs to complete a regular high school curriculum.

3. Providing education for employment for youth with special needs by modifying your present vocational program in order to provide more individual and appropriate instruction.

4. Permitting youth with special needs to leave high school when it becomes evident that success will not be achieved in a regular curriculum with some agency other than the school accepting the responsibility for his preparation and transition into useful employment.

Kendall's coefficient of concordance was used as a test of the degree of agreement exhibited by principals in their rankings. The degree of agreement among principals as to the relative importance of the four alternatives was not sufficiently high to conclude that the above order represented the "true" rankings of the items for non-metropolitan high schools.

Importance of selected characteristics of programs -- Determinations were made of the importance of 30 selected characteristics of vocational education programs for the disadvantaged through mean importance ratings assigned by 108 high school principals. Items were rated on a five-point importance rating scale with the terms "highly important," "much importance," "some importance," "little importance," and "no importance" represented on the scale. Analysis of variance showed no significant differences between school size categories in the mean ratings assigned.
The selected characteristics rated were related to five areas of consideration in the conduct of vocational education programs to serve this segment of high school youth.

Administrative area -- Limiting pupil-teacher ratios to permit more individualized instruction was considered to be the most important of the 30 characteristics studied as well as the most important of the administrative considerations studied. Principals believed, too, that there should be a planned system for identification of potential enrollees prior to their entrance into high school. It was believed that students in occupational programs for youth with special needs should be required to participate in occupational work experience or on-the-job training, that this experience should be provided through arrangements with business and industry, and that the student should receive wages while gaining this experience. The provision of occupational work experience for wages within the school setting was not considered to be of "much importance," however. Principals also believed that administrative assistance should be provided the local administrator by the state department of education in the conduct of such programs.

Special services area -- All six items relating to special services were considered to be of "much importance in the conduct of a vocational education program especially designed to serve youth with special needs. These were: (1) providing professional people from the regular school system such as social workers, guidance counselors, school psychologists, reading specialists, etc. to work with students
and teachers in the program; (2) thorough testing of all students before enrollment in the programs; (3) providing special or remedial courses to assist in correcting or improving learning deficiencies; (4) securing assistance of business and industry in providing opportunities for the application and practice of skills and abilities developed; (5) involving parents through counseling sessions, visitations, and consultations with other school personnel; and (6) involving agencies outside of the school such as state employment services, state rehabilitation agency, etc. to assist the students in occupational programs for youth with special needs to become employable.

Student selection -- Principals believed that the selection of students to participate in occupational programs for the disadvantaged should be made through the use of a cooperative committee composed of the vocational teacher, guidance counselor, an administrator, and interested teachers. Principals did not believe that students should be selected solely on the basis of aptitude tests. Characteristics which would tend to impose limits upon those eligible for enrollment were not considered to be of "much importance." These were: the use of minimum and maximum age levels and levels of ability; limiting enrollment to one type of disadvantaged student such as educationally deprived, ethnically disadvantaged, etc.; or limiting enrollment to but one grade level.

Curriculum -- It was believed that the curriculum should be designed specifically for the type of students enrolled in the program but that a standard curriculum developed at the state level would not
be satisfactory in conducting a vocational program for youth with special needs. High school principals believed it important to provide opportunities to apply and practice skills and abilities through cooperative work experience related to the training program and that a large percentage of the time should be spent in laboratory or shop activities rather than in classroom recitation. They also considered it important that general education courses be integrated within the occupational program. Although an occupational work experience-type program was considered to be of "much importance," adapting or modifying the regular vocational curriculum to fit the needs of those who could not succeed in the regular vocational program was also considered of "much importance."

Teacher-Instructor — Two differing concepts of teacher qualifications were rated as being of "much importance" in the conduct of vocational education programs for the disadvantaged. Employing teachers for these programs who have had special education or preparatory training to enable them to work with the type students involved, was considered to be of "much importance." Of similar importance was the employment of teachers who have strong ability to teach and work with youth with special needs regardless of the teacher's vocational ability or background. It was not considered of "much importance" that teachers be secured with a minimum of one year of employment experience outside of public education.

Principals considered of "much importance" that teachers for these programs be employed on a full-time basis for these programs and
that the teacher have released or free school time to work and counsel with employers and parents. They also believed that the teacher should be employed on a twelve-month basis.

CONCLUSIONS

The following conclusions were drawn based on the interpretation of the data presented in this study.

1. One of every seven ninth grade students in Ohio's non-metropolitan high schools was considered to be disadvantaged.

2. A significantly higher percentage of the ninth grade boys was classified as youth with special needs than was girls. The ratio of boys to girls was approximately three to two.

3. The percentages of students in a school identified as youth with special needs in the non-metropolitan high schools were not closely associated with school size.

4. There were wide variations among schools in the percentages of students considered to be disadvantaged. Percentages ranged from 3 to 40 per cent of the ninth grade enrollment.

5. The greatest numbers of youth with special needs in the non-metropolitan high schools were characterized as being intellectually handicapped, educationally deprived, socially disadvantaged, and economically deprived.

6. Very few of the disadvantaged in the non-metropolitan high schools were considered to be physically handicapped or ethnically disadvantaged.
7. Ninth grade youth with special needs in non-metropolitan schools were most often characterized by combinations of undesirable conditions rather than by a single condition. Economic deprivation, ethnic disadvantage, and social disadvantage were related to each other, as were intellectual handicap and educational deprivation.

8. Youth with special needs differed from other students in home and family background as evidenced by characteristics such as: larger families, lower educational and occupational levels of parents and four times as many broken homes.

9. There were significant differences between the disadvantaged and other students in their abilities and educational experiences as evidenced by characteristics such as lower reading levels, lower intelligence test scores, lower grades, higher rates of absence, and lower occupational aspirations.

10. The non-metropolitan disadvantaged did not differ from other students in terms of race, place of origin, whether or not the mother worked outside the home, nor whether the student had physical or health problems affecting his school work.

11. High school principals recognized an unmet responsibility in serving youth with special needs. They evidenced their concern by placing a higher priority upon especially designed education programs to serve the disadvantaged than upon other, recent, selected educational innovations.

12. Significant agreement was not evidenced among high school principals as to the best avenue to meeting the school's responsibility
to youth with special needs. Among the possibilities considered were special occupational education programs, modification of present vocational programs, programs with remedial emphasis, and permitting the student to drop out of school.

13. High school principals believed that when occupational education programs are developed they should be characterized by previously identified unique features pertaining to student selection, curriculum, special services, teacher preparation, and administration.

RECOMMENDATIONS

The following recommendations are made by the investigator as a result of having made this study. The recommendations represent the judgment of the investigator and are based on conclusions drawn from the study, and ideas and suggestions growing out of the study. It is recommended that:

1. Attention of the state department of education be directed toward serving the educational needs of the disadvantaged of the non-metropolitan areas of the state as well as those of urban centers.

2. That each school identify its youth with special needs before entry into high school or early at the high school level to permit realistic planning to serve these students.

3. That especially designed vocational and occupational education programs be initiated to serve youth with special needs in the non-metropolitan high schools of the state.

4. That first efforts by the state to provide appropriate vocational and occupational education programs for youth with special
needs in the non-metropolitan areas be directed toward those high schools identifying the greatest numbers of disadvantaged students.

5. That vocational and occupational education programs for youth with special needs be directed toward preparation and entry into appropriate occupations consistent with the abilities, interests, and potential of the students to be served.

6. That the academic courses needed by youth with special needs be especially geared to the levels of ability, interest, and occupational needs of the students enrolled in order to provide a realistic opportunity for success on the part of these students.

7. That occupational education programs be developed which incorporate work for wages in business or industry as an integral part of the educational program.

8. That, when numbers and interests of students permit, special sections for youth with special needs be provided within the regular vocational services of the high schools.

9. That special efforts by the state department of education be directed toward school administrators and boards of education for the purpose of developing concern for and assisting schools to provide realistic educational experiences for the disadvantaged.

10. That additional state and federal support be provided to assist in the rapid development and adoption of vocational and occupational programs for youth with special needs.
11. That teacher education institutions provide training and experience in teaching and coordinating vocational and occupational education programs for youth with special needs.

12. That special teaching materials be developed for use in vocational and occupational education programs which are consistent with the lower reading levels, abilities, and aspirations of these students.

13. That vocational guidance and counseling programs be provided in the junior high school years to assist the disadvantaged in making realistic educational and occupational choices.

14. That pre-vocational experiences directed toward the discovery and development of interests and abilities be provided at the junior high level to assist youth with special needs in making wise educational and occupational choices.

15. That the twenty-three characteristics considered by principals to be of "much importance" be incorporated as guidelines in the operation of vocational and occupational programs for youth with special needs.

Recommendations for Further Study

The investigator recognizes that this has been a study into a recently recognized area of responsibility of vocational education into which little research has been done and that the study has been of an exploratory nature. This study should represent but one of a series of studies related to the provision of vocational and occupational education for youth with special needs.
Additional areas of needed research include:

1. Determination of numbers and characteristics of youth with special needs in the metropolitan areas of the state.

2. Further study concerning characteristics of schools and communities associated with varying percentages of youth with special needs.

3. Further determination of the role which vocational and occupational education can play in serving the educational needs of the disadvantaged.

4. Further identification of essential components of vocational and occupational education programs to serve youth with special needs.

5. Identification of appropriate types of occupations for which youth with special needs may be successfully prepared.

6. Research dealing with the development of effective methods of preparing teachers for vocational and occupational education programs for youth with special needs.

7. Further identification of characteristics of the disadvantaged which have implications for the planning and development of occupational and vocational education programs for these students.
APPENDIX A
January 5, 1967

(Addressed to High School Principals)

Your help is needed in learning more about under-achieving high school students in order that more effective educational programs may be built to prepare them for employment. Your close association with the educational problems of these students and your insight into their needs and potential make your help invaluable to this effort.

A study to learn more about youth with special needs is being conducted by The Ohio State University in cooperation with the Vocational Division of the Department of Education. The study is under the direction of James Hamilton and all information furnished by you will be held in strictest confidence by the investigator.

The data from your school will be tabulated and combined with that secured from similar Ohio schools. No school names nor student names will appear in the report of the study.

Your school is one of a sample that we have drawn. Since your school represents many other schools, it is of utmost importance that we receive your reply.

We appreciate your assistance in securing this information. We believe that you will be interested in the results of the study; therefore, you will be provided with a summary of the study upon its completion.

If at all possible, we would appreciate your completing and returning the enclosed form within ten days.

Sincerely yours,

H. D. Brum, Supervisor
Disadvantaged Youth Program
THE IDENTIFICATION OF YOUTH WITH SPECIAL NEEDS

In order to effectively design programs to meet the educational needs of youth with special needs, it is necessary that we know more about such youth.

This study seeks to identify high school youth with special needs before they drop out of school and are lost to the educational system. For this reason students at the ninth grade level have been selected for the study as lack of success at this level is often soon followed by drop out.

For the purposes of this study "youth with special needs" are those students who have academic, socio-economic, or other handicaps that prevent them from succeeding in the regular high school educational program. Success in the regular high school educational program shall be defined as remaining in school and progressing toward graduation.

Factors which may contribute toward a student's classification as a "youth with special needs" are:

- **Economically Deprived** - parents whose primary income is from welfare aid or family is classified in the poverty incomes below $3000 per year
- **Educationally Deprived** - ranking in the lower portion of the class or classified as slow normal because of academic problems
- **Ethnically Disadvantaged** - racially associated problems affecting educational success
- **Socially Disadvantaged** - those having special social problems which affect their educational success such as alienated youth, loss of parents, etc.
- **Physically Handicapped** - permanent or limiting physical disabilities including poor health
- **Intellectually Handicapped** - low mental ability

Those persons are not to be included who are so physically handicapped, mentally retarded, or emotionally unstable that they require intensive diagnostic and corrective attention from the medical, psychological, or psychiatric professions.

All information furnished by you will be held in strictest confidence by the investigator. Neither names of students nor names of schools will appear in the report of the study. The identification of individual students is necessary for a sampling of students in the second phase of the study. If you prefer to identify students by code number rather than by name, Form 2 is included for your convenience. Form 2 should be kept in your files for future reference.

Please feel free to enlist the assistance of your guidance counselors, teachers, or other school personnel who may assist in the identification of all ninth grade youth with special needs in your school.
# Identification Form for Youth with Special Needs

## Form 1

**NAME OF SCHOOL**

**ADDRESS**

**NAME OF PERSON COMPLETING REPORT**

**POSITION**

**TOTAL NINTH GRADE ENROLLMENT:** Boys  Girls

List by name (or by a code number to which you retain a key) each 9th grade student who in your judgment will not be successful in a regular high school educational program.

(Success shall be defined as satisfactorily completing a regular high school educational program and graduation from high school)

One or more of the following factors may contribute toward a student's lack of success in the regular high school educational program.

Indicate for each student the approximate influence which each of these factors makes toward his or her classification as a student with special needs by circling the appropriate number in each column below as shown in the example.

**Rating Scale:**
- 3 - The Major Factor (indicate only one Major Factor per student)
- 2 - Contributes Much
- 1 - Contributes Some
- 0 - Is not a Factor

### Names of Students (or code numbers) | Sex | Economically Deprived | Educationally Deprived | Ethnically Disadvantaged | Socially Disadvantaged | Physically Handicapped | Intellectually Handicapped
---|---|---|---|---|---|---|---
Johnny Doe (Example) | M F | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |
M F | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |
M F | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |
M F | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |
M F | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 | 3 2 1 0 |
<table>
<thead>
<tr>
<th>NAMES OF STUDENTS (or code numbers)</th>
<th>SEX</th>
<th>ECONOMICALLY DEPRIVED</th>
<th>EDUCATIONALLY DEPRIVED</th>
<th>TECHNICALLY DISADVANTAGED</th>
<th>SOCIALLY DISADVANTAGED</th>
<th>PHYSICALLY HANDICAPPED</th>
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Form 2 - YOUTH WITH SPECIAL NEEDS

(This form is for your convenience in assigning code numbers to be used on Form 1 and in maintaining a key to the code numbers in your file for future reference should you wish to identify students by a code number rather than by name)

<table>
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<th>Code Number</th>
<th>Student Name</th>
<th>Code Number</th>
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</table>
(Addressed to High School Principals)

On January 5 you were mailed a questionnaire requesting information concerning youth with special needs in your school. To date a reply had not been received from your school. In the event that your reply has been placed in the mail, please disregard this request.

Your school is one of a scientifically selected sample of Ohio schools which are representative of many similar schools. The students identified as youth with special needs in your school will be representative of many other Ohio youth. The data requested is vital in the development of vocational educational programs to meet the needs of this group of students; therefore, it is of utmost importance that we receive your reply.

If you have not done so, would you, at your earliest convenience, complete and return the identification form for youth with special needs.

Sincerely,

H. D. Brum, Supervisor
Disadvantaged Youth Program
January 28, 1967

(Addressed to High School Principals)

We have not received your response to the questionnaire concerning youth with special needs. In case the material may have been mislaid, a duplication of the earlier mailing is enclosed.

Please disregard this request if the questionnaire has already been placed in the mail.

Sincerely,

James B. Hamilton
Research Technician

Enclosures
### IBM Card Columns

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<td>Number of boys</td>
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<tr>
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<td>Number of girls</td>
</tr>
<tr>
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<td>Total students</td>
</tr>
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<td>Number boys classified as YWSN</td>
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<tr>
<td>15-16</td>
<td>Number girls classified as YWSN</td>
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<tr>
<td>17-18</td>
<td>Total students classified as YWSN</td>
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<td>26</td>
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<td>Sex</td>
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<tr>
<td>33</td>
<td>Intellectually Handicapped - Rating</td>
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APPENDIX B
1. I am a:  **BOY**  **GIRL**  (circle one)

2. I was born in:  1955  1954  1953  1952  1951  1950  (circle the year)

3. My birthday is during the month of:  (circle the month)
   Jan  Feb  Mar  Apr  May  June  July  Aug  Sept  Oct  Nov  Dec

4. I was born in  __________________________  state  ____________ city  ____________ county

5. I lived there ________ years.

6. I started to school in  __________________________ state  ____________ city  ____________ county

7. I went to school there ________ years.

8. Other places I went to school were:
   __________________________ state  ____________ city  ____________ county  for ________ years
   __________________________ state  ____________ city  ____________ county  for ________ years
   __________________________ state  ____________ city  ____________ county  for ________ years
   __________________________ state  ____________ city  ____________ county  for ________ years

9. My interest in school work is:  (circle one)
   very high  I'm interested  Its OK  not much  none

10. I take part in ( 0  1  2  3  4 or more ) school activities.  (circle a number)

11. My attendance at church activities is:  (circle one)
    never  seldom  some  often  regular

12. I live with:  (circle one)
    Both Parents  Father  Mother  Relative  Foster  Other
13. There are _____ children in my family.

14. There are _____ persons living in our household.

15. The highest grade my father completed was grade: (circle one)
   1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 or more

16. He works at __________________________.
   place of work

17. He is a ____________________________.
   position

18. He ____________________________.
   kind of work

19. The highest grade my mother completed was grade: (circle one)
   1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 or more

20. She works at ____________________________.
    place of work

21. She is a ____________________________.
    position

22. She ____________________________.
    kind of work

23. The highest grade level I plan to complete is grade: (circle one)
   8 9 10 11 12 13 14 15 16 or more

24. I have repeated grades: (circle grades repeated)
   1 2 3 4 5 6 7 8 9

25. I ( DO — DO NOT ) have a health or physical problem which affects
    (circle one)
    my school work.

26. My first full-time job when I leave school will probably be:
    ____________________________.

27. Eventually I hope to be a ____________________________.
28. I. Q.: Score ______ %ile ______
   Name of test __________________________
   Date administered ______________________

29. Reading Level: Grade level ______ %ile ______
   Name of test __________________________
   Age at which administered _____________
   Grade at which administered ___________

30. Absence: Grade 7 ______ Grade 8 ______ Grade 9 ______

31. Grade Average: Grade 7 ______ Grade 8 ______ Grade 9 ______

32. Race: Caucasian Negro Other ____________________________

33. Course of Study: General Vocational Academic Slow Learner

34. Special Services Available and Used by This Student: 
   Occup. Type Courses:
   ___ Vocational Guidance Counselor ___ Industrial Arts
   ___ School Psychiatrist ___ Home Economics
   ___ Remedial English ___ Agriculture
   ___ Remedial Math ___ Typing
   ___ (others) ___________________________
   ___ ___________________

35. Is this student enrolled in a vocational education course?
   Yes No Type__________________________

36. If the student remains in school would he or she be eligible for a 
vocational education program for the disadvantaged in his area of interest?
   Yes No _____________________________
   ___ Occupational Work Experience ___ Special Education Courses leading to employment
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<td>Location of birth (Categories 1-6)</td>
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<td>Years lived in birthplace</td>
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<td>Location of first school (Categories 1-6)</td>
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<td>Years in first school</td>
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<td>Number of children in family</td>
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<tr>
<td>24-25</td>
<td>Number of persons in household</td>
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<tr>
<td>26-27</td>
<td>Highest grade level completed by father</td>
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<tr>
<td>28-30</td>
<td>Occupational status of father</td>
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<td>31</td>
<td>Status of non-working father (Categories U, D, R)</td>
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<tr>
<td>32-33</td>
<td>Highest grade level completed by mother</td>
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<td>34-36</td>
<td>Occupational status of mother</td>
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<td>Housewife or employed</td>
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<td>38-39</td>
<td>Highest grade level expected to complete</td>
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<td>Number of grades repeated</td>
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<td>Physical or health problem (Do - Do Not)</td>
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<td>Reading level (or - and 2 digits)</td>
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<td>Enrolled in Vocational Education (Yes, No)</td>
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<td>Eligibility for Vocational Program for Disadvantaged (Yes, No)</td>
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APPENDIX C
March 17, 1967

(Addressed to High School Principals)

The data which your school has furnished concerning youth with special needs (those who will not be successful in a regular high school educational program) is now being processed. We anticipate that this will result in a report which will be useful in developing vocational education programs for your school to meet the needs of this group of high school students.

Would you, as a high school administrator, respond to some questions which we feel are vital to your efforts at the local level, and to our efforts at the state level, to provide the best possible educational programs for all students.

Your continued professionalism is appreciated.

Sincerely,

H. D. Brum, Supervisor
Disadvantaged Youth Programs
SECTION I - INSTRUCTIONS

Assume that your board of education has made the necessary provisions, including facilities and personnel, to initiate one of the following educational innovations in your high school in each of the next six years. Starting with 1968, please insert the year in which you would incorporate each of these innovations or others you would select in preference to these.

19__ A language laboratory
19__ Multiple track programs with specialized staff
19__ Teacher assistants
19__ An educational program especially designed to serve youth with special needs
19__ Closed circuit television
19__ Data processing services for student, personnel, and system data

(Feel free to note and place in sequence other innovations you would prefer to those listed above)

19__
19__

SECTION II - INSTRUCTIONS

Assuming adequate resources were available in your school for youth with special needs, please rank (1st, 2nd, etc.,) the following alternatives in the order which you feel would best fulfill your high school's responsibility toward these students.

__ Initiating a program with major emphasis upon remedial or repair of present academic and social deficiencies in order for youth with special needs to complete a regular high school curriculum.

__ Initiating a program of occupational education with major emphasis upon the development of the necessary attitudes, skills, and abilities which will enable the student to become usefully employed in occupations having limited skill requirements.

__ Permitting youth with special needs to leave high school when it becomes evident that success will not be achieved in a regular curriculum with some agency other than the school accepting the responsibility for his preparation and transition into useful employment.

__ Providing education for employment for youth with special needs by modifying your present vocational program in order to provide more individual and appropriate instruction.

(please list and rank additional alternatives which you would consider)

__
SECTION III - IMPORTANCE OF SELECTED CHARACTERISTICS OF OCCUPATIONAL EDUCATION PROGRAMS FOR YOUTH WITH SPECIAL NEEDS

INSTRUCTIONS

Assuming that a program for youth with special needs is to be initiated in your high school, which is to include education for employment, mark through the appropriate score value to indicate how important you consider each statement to the operation of such a program in your high school.

Note: in the following statements "youth with special needs" will be referred to as Y W S N.

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<td>3</td>
<td>2</td>
<td>1</td>
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</table>

ADMINISTRATIVE AREA

4 3 2 1 0 1. Providing administrative assistance from the state department of education to the local administrator in the conduct of occupational programs for Y W S N.

4 3 2 1 0 2. Having a planned system for identifying potential enrollees in occupational programs for Y W S N prior to their entrance into high school.

4 3 2 1 0 3. Limiting enrollment or pupil-teacher ratios to permit more individualized instruction and attention.

4 3 2 1 0 4. Requiring students in occupational programs for Y W S N to participate in occupational work experience or on-the-job training as part of their training program.

4 3 2 1 0 5. Providing occupational work experience for wages through arrangements with business and industry in the area.

4 3 2 1 0 6. Providing occupational work experience for wages within the school setting.

SPECIAL SERVICES AREA

4 3 2 1 0 1. Providing professional people from the regular school system such as: social workers, guidance counselors, school psychologists, reading specialists, etc. to work with the students and teachers in occupational programs for Y W S N.
SPECIAL SERVICES AREA - continued

43210 2. Testing thoroughly all students before allowing them to enter occupational programs for Y W S N.

43210 3. Involving parents of Y W S N in the occupational program through counseling sessions, parent-teacher visitation, and consultations with other school personnel.

43210 4. Involving agencies outside of the school such as: state employment services, state rehabilitation agency, etc., to assist the students in occupational programs for Y W S N to become employable.

43210 5. Securing the assistance of business and industry in providing opportunities for Y W S N to apply and practice skills and abilities developed in the occupational program.

43210 6. Providing school programs in the form of special or remedial courses to assist Y W S N in correcting or improving any learning deficiency.

STUDENT-TRAINED INFORMATION AREA

43210 1. Limiting participation in occupational programs for Y W S N to only one category of special need such as: educationally deprived, ethnically disadvantaged, etc.

43210 2. Limiting participation in occupational programs for Y W S N to only one classification or grade level such as: freshman, senior, dropout, etc.

43210 3. Selecting students to participate in occupational programs for Y W S N through the use of a cooperative committee composed of the vocational teacher, guidance counselor, an administrator, and interested teachers.

43210 4. Setting a minimum and maximum level of ability or I.Q. to limit the enrollment in occupational programs for Y W S N.

43210 5. Selecting students for occupational programs for Y W S N on the basis of aptitude tests.

43210 6. Setting a minimum and maximum age level to limit the enrollment in occupational programs for Y W S N.
CURRICULUM AREA

43210 1. Designing the curriculum for occupational programs for Y W S N specifically for the type of students enrolled.

43210 2. Offering a total program in which the general education courses are integrated within the occupational program for Y W S N and directed toward their abilities and interests.

43210 3. Adapting or modifying the regular vocational curriculum to fit the needs of Y W S N who cannot succeed in the regular vocational program.

43210 4. Using a standard curriculum developed at the state level in conducting occupational education for Y W S N.

43210 5. Planning the curriculum to provide for a large percentage of the time to be spent in laboratory or shop activities rather than in classroom recitation.

43210 6. Providing Y W S N ample opportunity to apply and practice skills and abilities by involving them in cooperative work experience or other such experiences related to the occupational training program.

TEACHER OR INSTRUCTOR AREA

43210 1. Securing teachers with a minimum of one year of employment experience outside of public education to teach in the occupational program for Y W S N.

43210 2. Employing teachers of occupational programs for Y W S N having special education or preparatory training to enable the teacher to work with the type of students involved.

43210 3. Employing teachers who have strong ability to teach and work with Y W S N regardless of the teacher's vocational ability or background.

43210 4. Scheduling the teachers of occupational programs for Y W S N so that they have released or free school time to work and counsel with employers and parents.

43210 5. Employing the teacher of occupational programs for Y W S N on a full-time basis for these programs.

43210 6. Contracting teachers of occupational programs for Y W S N on an extended service basis with a twelve-month contract.
(Addressed to High School Principals)

On March 17 you were mailed a request asking you to react to some statements regarding vocational education programs for youth with special needs. To date a reply has not been received from your school. In the event that your reply has been placed in the mail, please disregard this request.

Your response to our request is especially desired for your school is one of the Ohio high schools which has identified its ninth grade youth with special needs. Your continued cooperation will aid us in helping your school to serve the special needs of this group of students.

If you have not already done so, would you, at your earliest convenience, respond to and return the questionnaire concerning vocational education programs for youth with special needs.

Sincerely,

H. D. Brum, Supervisor
Disadvantaged Youth Programs
## CODING MASTER

### IBM Card Columns

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<td>Section III Items 1-6 Special Services Area</td>
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<td>Section III Items 1-6 Curriculum Area</td>
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<td>44-49</td>
<td>Section III Items 1-6 Teacher or Instructor Area</td>
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BIBLIOGRAPHY

Public Documents


State Department of Education. Guidelines for Establishing and Operating Vocational Education Programs for Youth With Special Needs. Columbus, Ohio. September, 1966. (Mimeographed.)


Books


Articles and Periodicals


Reports


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Boyer, William Alfred. "The Mental Ability and Scholastic Achievement of Vocational Agriculture Students in Wayne County." The Ohio State University, 1965. (Unpublished Master's Thesis.)


Other Sources

Personal Interview with James Roney, Principal, East High School, Portsmouth, Ohio. February 15, 1967.