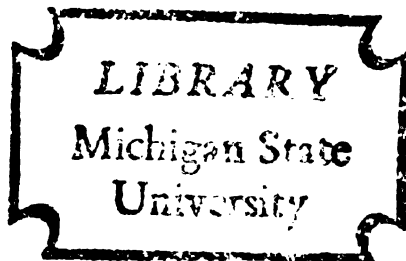


MENTAL RETARDATION AS A FUNCTION OF RACE,
SEX AND SOCIAL ECONOMIC STATUS

Thesis for the Degree of Ph. D.
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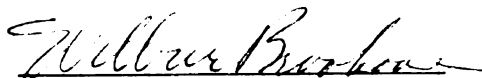
Mental Retardation as a Function of
Race, Sex and Social Economic Status

presented by

Jonas Chenault, Jr.

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ABSTRACT

MENTAL RETARDATION AS A FUNCTION OF RACE, SEX AND SOCIAL ECONOMIC STATUS

By

Jonas Chenault, Jr.

The present study examined the concept of educable mental retardation as a function of race, sex and socioeconomic class over time in an urban school system. A systematic randomly drawn sample of 858 test protocols and case histories were drawn from the file records of the Detroit Public School Psychological Clinic. The total sample consisted of 326 Blacks, 276 Caucasians, 585 males and 273 females. All subjects had been administered an individual psychological evaluation and subsequently recommended for placement in classes for the educable mentally retarded in the Detroit Public School System during the time span of September, 1911 to January, 1970. Cases where organic brain damage was recorded by the clinic physician were excluded from the sample.

The results obtained indicated the following:

1. The concept of educable mental retardation, as used by the Detroit Public School System for special class placement was found to vary as a function of sex,

socio-economic class and time blocks. Race was not found to be a significant variable.

2. The exit pattern (e.g. return to regular grades) of students classified as educable mentally retarded was found to vary as a function of race.

Sex and socio-economic class did not contribute significantly to the variance noted in E.M.R. students' exit patterns.

3. The delay in placement of certified educable mentally retarded students did not vary as a function of race, sex and socio-economic class.

4. The initial age and grade of students at the time of psychological examination varied only partially as a function of race, sex and socio-economic class.

More specifically, age at the time of evaluation varied significantly with socio-economic class and time, but not with sex or race.

Grade at the time of evaluation varied significantly with race and time, however, no significant main effects were found in its relationship with sex or socio-economic class.

5. Measured intelligence of educable mentally retarded students, over time, varies negatively with the length of time spent in special classes despite an initial increase in first retest scores.

6. Within special classes for students classified as educable mentally retarded, Blacks and Caucasians differed significantly only as a function of the student's place of birth.

The factors of number of schools attended, mobility, semesters repeated in regular grades prior to special class placement, and the number of siblings in the family were not found to be statistically significant.

Based on the findings of this study, the following conclusions have been made:

1. The concept of educable mental retardation, as used by the Detroit Public School System for the placement of students in special classes, has fluctuated significantly over the forty-nine year time period examined. Moreover, the findings of significant main effects for sex and socio-economic class indicate that males from low socio-economic status homes are more likely to be diagnosed and placed in classes for the educable mentally retarded than females from comparable socio-economic backgrounds. Although race was not found to be a significant factor in special class placement, the disproportionate increase of Blacks found in special classes over time suggest a differential placement practice along racial lines, particularly as the trend relates to Black males.

2. The exit pattern for E.M.R. students placed in special classes was found to vary as a function of race.

This finding is indicative of a school policy which basically retains Black students in special classes once they are diagnosed and placed. Caucasian students, on the other hand, were found to have access to exist such as transferring to parochial schools, moving from the school district, or entering the job market.

3. Students from high socio-economic homes are more likely to be referred at an earlier age for psychological evaluation if retardation is suspected.

4. Social promotion appears to have become a more prevalent practice as the racial composition of the school system changed from Caucasian to Black.

5. Measured intelligence, over time, for the E.M.R. student appears to follow the same fluctuative pattern as the Self Concept of Academic Ability of E.M.R. students.

6. A significant proportion of Black students found in classes for the E.M.R. have migrated to Detroit from southern states, while their Caucasian counterparts have migrated primarily from the Appalachian region.

MENTAL RETARDATION AS A FUNCTION OF RACE,
SEX AND SOCIAL ECONOMIC STATUS

By

Jonas Chenault, Jr.

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CHAPTER I

HISTORY

Special Education in the United States during the last twenty years has greatly increased the number of classes serving the handicapped. Most authorities would agree that the greatest growth spurt of special education programs has occurred during the Post-World War II period. Mackie (1969) in reporting the increase in special education programs during this period states,

Pupil enrollments in the total program of special education in the United States increased almost 500 per cent between 1948 and 1966, five times faster than the 70 per cent increase in the nation's school-age population during the same period (Mackie, 1969, p. 4).

Historical Origin

Historically, the origin of public school sponsored special education classes for the mentally retarded in the United States can be traced back to the early part of the twentieth century (Kanner, 1964). The theoretical roots of special education, however, have a chronology which reflects the influence of Plato, Aristotle, Itard, Esquirol, Darwin, Galton, and Binet, among many. Collectively, these diverse theories of human nature, when

buttressed with the statistical methodology of Quetelet, form a normative model which has been employed as a justification for establishing social, educational, and psychological policies for dealing with "deviant behavior." Indeed, it is felt that,

. . . the history of research upon intelligence provides an instructive example of the close link between science and the society in which it is rooted (Tuddenham, 1963, p. 515).

Interest in the concept of mental retardation and education during the early nineteenth century received a fresh impetus following Itard's alleged attempts to train the famous Wild Boy of Aveyron (Humphrey and Humphrey, 1932). The subsequent publication of Esquirol's Des Maladies Mentales in 1838 set the stage for scientific inquiry into the differential classification of the feeble-minded which previously had been characterized by investigation and theorizing "dominated by the anatomical preoccupations of the phrenologist" (Tuddenham, 1963, p. 472). In conjunction with and extension of Esquirol's position was Alfred Binet's and Th. Simon's development of the first intelligence tests. Binet and Simon, in describing their charge from the French Minister of Public Instruction state:

In October, 1904, the Minister of Public Instruction named a commission which was charged with the study of measures to be taken for insuring the benefits of instruction to defective children. After a number of sittings, this commission regulated all that pertained to the type of establishment to be created, the

conditions of admission into the school, the teaching force and the pedagogical methods to be employed. They decided that no child suspected of retardation should be eliminated from the ordinary school and admitted into a special class, without first being subjected to a pedagogical and medical examination from which it could be certified that because of the state of his intelligence, he was unable to profit, in an average measure, from the instruction given in the ordinary schools (Binet and Simon, 1905, p. 281).

The development and revision of the Binet Scales of general intelligence provided a pragmatic tool for clinicians and educators faced with the problems of mental classification, social planning and pedagogy. It is perhaps ironical that despite the original purpose of the Binet scale, which was the classification of abilities, that its adoption and use would be extended to cover etiology and eugenics. The question of purpose and limitation of the original scale is clearly stated by Binet and Simon in the following manner:

Our purpose is to be able to measure the intellectual capacity of a child who is brought to us in order to know whether he is normal or retarded. We should, therefore, study his condition at the time and that only. We have nothing to do either with his past history or with his future; consequently we shall neglect his etiology, and we shall make no attempt to distinguish between acquired and congenital idiocy; for a stronger reason we shall set aside all consideration of pathological anatomy which might explain his intellectual deficiency. So much for his past. As to that which concerns his future, we shall exercise the same abstinence; we do not attempt to establish or prepare a prognosis and we leave unanswered the question of whether his retardation is curable, or even improvable (Binet and Simon, 1905, p. 283).

In the United States, H. H. Goddard's translation and use of the 1905 and 1907 Binet Scales at the Vineland Training School for the Feeble-minded set the tenor for incorporating psychometry in the special education pedagogy of the early twentieth century. Goddard's zealous advocacy of Binet's approach to the measurement of intelligence, coupled with his subsequent publication of The Kallikak Family in 1912, set the stage for a hereditarian thesis. Based upon the genealogical history of the Kallikak family, Goddard attempted to link and interpret the high incidence of feeble-mindedness, indigence and deviance found in the Kallikaks to genetics. Canceling the initial acceptance of Goddard's thesis, later research findings indicated that: (1) Goddard's research model was biased--e.g. selection factor, (2) environmental factors contributed greatly to the development of intelligence--e.g. Iowa Studies, and moreover (3) that genetic transmission of mental abilities has a questionable influence on the development of intelligence.

In a decade of psychology whose big event was the use of intelligence tests for military screening purposes during World War I (Boring, 1950), Goddard's role as a "social reformer" is perhaps best summarized in the following statement taken from Tuddenham's historical interpretation of Goddard's views as gleaned from Goddard's book, Human Efficiency and Levels of Intelligence:

Stated in its boldest form, our thesis is that the chief determiner of human conduct is a unitary mental process which we call intelligence: that this process is conditioned by a nervous mechanism which is inborn: that the degree of efficiency to be attained by that nervous mechanism and the consequent grade of intelligence or mental level for each individual is determined by the kind of chromosomes that come together with the union of the germ cells: that it is but little affected by any later influences except such serious accidents as may destroy part of the mechanism (Goddard, 1920, p. 1).

From this base Goddard then "proposes a sweeping program of social reform":

It is no useless speculation that tries to see what would happen if society were organized so as to recognize and make use of the doctrine of mental levels . . . it is quite possible to restate practically all of our social problems in terms of mental level. . . . The great advantage of having every man doing work on his own mental level would prove fundamental. Testing intelligence is no longer an experiment or of doubted value. It is fast becoming an exact science. The facts revealed by the Army tests cannot be ignored. Greater efficiency we are always working for. Can these new facts be used to increase our efficiency? No question! We only await the Human Engineer who will undertake the work (Goddard, 1920, p. 1).

The appeal of Goddard's reform rhetoric permeated the teacher training institutions, training institutions for the feeble-minded and even the "citadels of experimental psychology on university campuses." The residual of this genetically based premise (Shuey, 1958; Garrett, 1961; Jensen, 1969) has lingered despite the efforts by some (Spitz, 1945, 1946; Hunt, 1961; Pettigrew, 1964) to refute the hereditarian thesis. As a consequence, the Galtonian conceptual and methodological models can still

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be observed in education policies today as they apply to the mentally retarded (Dunn, 1968) and to the "culturally disadvantaged" (Baratz and Baratz, 1970).

Application of the normative model to the public school population, particularly within the field of special education, has developed along an ever-growing continuum. Located on this continuum is the subset of intellectual deviance whose upper and lower limits are set by psychometric classifications. Estimates of the prevalence of children enrolled in local public schools in need of special education indicate that the upper range or gifted children represent 2.0% of the population, while the mentally retarded represent 2.3% of the population group (Mackie, 1969). Within the latter category, approximately 50% of this subset population represents what is further classified as the upper range of educable mentally retarded (I.Q.s of 50 to 75) (Mackie, 1969). It has been estimated by some (Dunn, 1969; Hurley, 1969) that within this group, 60 to 80 percent of those children labeled mentally retarded are "children from low status background--including Afro-Americans, American Indians, Mexicans, and Puerto Ricans . . . and children from non-middle class environments." The determinants of educability, in addition, are confounded by the increasing number of "disadvantaged students" attending the urban public schools (Schwebel, 1968). It has been predicted

that by 1970, one out of every three students attending the large city schools will be "culturally deprived" (Reisman, 1962). Given this phenomenon plus an increase of over 400% over the past 20 year span in the number of special education classes currently available for the educable mentally retarded, it would appear that the classificatory intersection between the upper range of educable mentally retarded and the urban disadvantaged school population represents either a shifting conceptual definition of mental retardation or a general decline in the intellectual ability of the general population. Evidence discrediting the latter premise (Montagu, 1945; Tuddenham, 1948) forces one to focus on the conceptual definition of mental retardation (Shulman, 1968).

Current Theoretical Dispute

The need for a re-examination of the concept of mental retardation presents a serious challenge to the total community, particularly in light of recent court decisions regarding ability grouping practices (Hobson v. Hansen, 1967) and cultural biases contained in psychometric instruments (Diana v. State Board of Education, 1970). The educational implications of these court decisions, plus the tenor of other cases pending (Schwan v. Lansing School Board, 1970; The Detroit Board of Education v. The State of Michigan, 1968) have provided the impetus for re-examining the public school's role in

providing equal educational opportunities for all students. Investigations relative to the impact of racial isolation and equality of educational opportunity, despite the raising of serious questions concerning the future of urban educational policies (Pettigrew, 1967; Coleman, 1966) have failed to deal with the issue of mental retardation as it relates to equality and accessibility to education in urban areas. Scant attention has been paid to the psycho-social determinants of educability, particularly to interactions between these determinants and the past and current educational policies utilized by school systems in the classifying and placing of "special children" in "special programs."

Questions have been raised about the association between pathologies and social class (Hollingshead and Redlich, 1958; Leighton, et al., 1963; Dohrenwend and Dohrenwend, 1969). There is belief, however, that the distribution of special education, too, has followed socio-economic, ethnic, and racial lines (Dunn, 1968; Mercer, 1965). Social class and the functions of special education have followed a normative model which has subsequently led to a differential distribution of the mentally retarded among the poor and culturally different.

To some (Dexter, 1958; Dunn, 1963; Mercer, 1965) special class placement for the educable mentally retarded, particularly in urban areas, has been interpreted

as being imposed on the culturally disadvantaged and culturally different student.

Broadly interpreted, the theoretical positions of Hollingshead, Redlich, Becker and Dexter imply that deviant behavior such as mental retardation is a label created and defined by the rest of society. Moreover, the labeling process of deviancy has been viewed by some as ". . . not a quality of the act the person commits, but rather the consequence of the application by others of rules and sanctions to an offender" (Becker, 1964, p. 3)."

The purpose of this study is to examine the distribution of the educable mentally retarded as a function of race, sex, and socio-economic status in an urban public school system. Specifically, this study will focus on the empirical manifestations and conceptual definition of educable mental retardation as employed by the Special Education Division in the Detroit Public School System since the inception of special education in the Detroit Public School System.

Hypothesis

In consonance with the theoretical implication and research findings (Hollingshead and Redlich, 1958; Dexter, 1958, 1960) the basic hypotheses which will be examined in this study are that:

1. The concept of educable mental retardation based on measured I.Q., as used by the Detroit Public School System for special class placement, will vary over time as a function of race, sex, and socio-economic class.
2. The exit pattern (return to regular grades) of students classified as educable mentally retarded will vary as a function of race, sex, and socio-economic class.
3. The delay in placement of certified educable mentally retarded students will vary as a function of race, sex, and socio-economic class.
4. The initial age and grade of students at the time of psychological examination will vary as a function of race, sex, and socio-economic class.
5. Changes in measured intelligence of educable mentally retarded students will vary as a function of the length of time spent in special classes.
6. Within special classes for students classified as educable mentally retarded, Blacks and Caucasians will differ as a function of the students' (a) place of birth; (b) number of schools attended; (c) mobility; (d) semesters repeated in regular grades prior to special class placement; (e) number of siblings in the family.

Theory

Mental retardation, in general, refers to a global developmental deficit which is manifested in behavioral and intellectual maladaptation. Benton (1964) in discussing the theoretical considerations of the concept of mental retardation points out the complex relationships existing between exogenous and endogenous (Strauss and Werner, 1941) determinants when psychological evaluations

are used for classificatory purposes. Fundamental to any psychological evaluation is its theoretical basis and classification. Since most conceptual frameworks usually allow for some degree of flexibility in interpretations, it has been posited that classifications of mental retardation are of a tentative nature and are "arbitrary language systems which vary according to their intended purpose" (Heber, 1959). The concept of mental retardation (Heber, 1959) has, over time, demonstrated a broad flexibility (Farber, 1968).

Currently, mental retardation is defined by the American Association on Mental Deficiency in the following sentence:

Mental retardation refers to sub-average general intellectual functioning which originates during the development period and is associated with impairment in adaptive behavior (Heber, 1959, p. 3).

A further examination of the definitional source (Heber, 1959) discloses that:

. . . an individual may meet the criteria of mental retardation at one time and not at another. A person may change status as a result of changes in social standards or conditions or as a result of changes in efficiency of intellectual functioning, with level of efficiency always being determined in relation to the behavioral standards and norms for the individual's chronological age group (Heber, 1959, p. 4).

Thus mental retardation represents a descriptive and relative concept based on intellectual functions and behavioral expectancies, which are interpreted as

maladaptive to a particular culture or social milieu (Edgerton, 1968). Despite the divergent theoretical interpretations of mental retardation which have ranged between a quasi biological model (Goddard, 1921; Jensen, 1969) and one of social pathology (Doll, 1941), these two positions are not as extreme as they may appear. The interaction and inseparability of genetic and environmental factors has been examined and appears to be a more promising theoretical position (Heber, 1964; Kirk, 1958; Newman, Freeman and Holzinger, 1937; Skodak and Skeels, 1949). Common to both models, moreover, are the theoretical constructs of maladjustment and developmental deficit which are used to infer retarded intellectual and social development. Although a great deal of research has been conducted within the field of mental retardation, the thrust has originated primarily from a medically based model. Consequently, scant attention has been paid to the adoption and use of a psycho-social approach. In order to formulate a rigorous theoretical position, it is necessary to draw from research conducted in the area of mental illness which, broadly speaking, is the theoretical counterpart of mental retardation within its respective field. Both constructs can also be viewed as deviant or maladaptive within the intellectual and social spheres of normal expectancy. In addition, the incidence of mental illness has been

interpreted as a function of race, sex and social class (Hyde and Chisholm, 1944).

Epidemiological investigations of the incidence of psychiatric disorders within different social classes, similar to mental retardation research, have utilized either a medical or social pathology model. A number of these large-sample size studies have found a positive association between social class and incidence of psychiatric disorders (Faris and Dunham, 1939; Clark, 1949; Hollingshead and Redlich, 1958; Pasamanick et al., 1959; Clausen and Kohn, 1960; Srole et al., 1962; Leighton et al., 1963). Although these investigations vary methodologically, their findings all tend to confirm the presence of a differential distribution of psychiatric disorders within a defined scheme of social stratification.

Hollingshead and Redlich (1958) and the Meyers and Roberts (1959) investigations appear to be the most relevant studies for providing quantitative and qualitative explanations of the differential distribution of psychiatric disorders as a function of social class. The investigators formulated five hypotheses which represented a synthesis of the ecological, sociological, and psychiatric determinants of mental illness within an urban setting. Specifically the hypotheses under examination were:

1. The prevalence of treated mental illness is related significantly to an individual's position in the class structure.
2. The types of diagnosed psychiatric disorders are connected significantly to the class structure.
3. The kind of psychiatric treatment administered by psychiatrists is associated with the patient's position in the class structure.
4. Social and psychodynamic factors in the development of psychiatric disorders are correlative to an individual's position in the class structure.
5. Mobility in the class structure is associated with the development of psychiatric difficulties.

Several of the assumptions couched within the Hollingshead and Redlich hypotheses can be related specifically to the concept of mental retardation. First, mental illness and mental retardation are socially defined conditions which represent a trichotomous (sociological, psychological and medical) based diagnosis. Second, the social, psychological and educational diagnostician can be viewed as an agent whose social and professional ideology often distracts and deters from meaningfully defining problems (Davis, 1938; Allport, 1942; Mills, 1943; Haase, 1954). Third, given that "our society is characterized by a system of stratification," we can expect a disproportionate distribution of maladaptive behavior across social class and cultures which perhaps represents more diagnostic bias than incidence of deviant

or maladaptive behavior (Davis, 1938; Allport, 1942; Auld, 1952; Rose, 1949; Haase, 1964; Dexter, 1958).

Drawing from the theoretical position advanced in the field of psychiatric illness, the concept of educable mental retardation can be treated as a socially defined, adjudicative educational process which can be correlated with socio-economic class, race, sex, mobility and cultural acclimation.

Definition of Terms

The following terms are defined as they will be used in the study:

1. Educable mentally retarded--refers to any student whose school medical records do not indicate observable organic brain damage following a medical examination by the clinic physician, and who has been administered a psychological evaluation and subsequently placed in a special class for the educable mentally retarded.
2. Exit pattern--student's return to a regular grade class which the public school officials feel is commensurate with his current level of academic functioning.
3. Delay in placement--refers to the length of time lapse between the psychologist's recommendation of special class placement and the actual time of placement in a special education class for the educable mentally retarded.
4. Measured intelligence--refers to the resultant intelligence quotient attained from an individual psychological evaluation administered by a school psychologist.
5. Mobility--the number of recorded residential moves a student has made from birth to the time of psychological evaluation.

6. Number of schools attended--refers to the number of schools attended in Detroit and elsewhere that have been recorded on the student's permanent school record.
7. Semesters repeated in the regular grades--refers to the total number of listed grade failures by semester for an individual's school history.
8. Socio-economic status--refers to the equal weighting of parents' occupation and educational level (see Appendix A).

CHAPTER II

REVIEW OF LITERATURE

The effects of race, sex and socio-economic class on the incidence of mental retardation found in the urban school population are well established. However, the labeling process used by school systems has received scant attention, particularly as this process relates to the defining of deviant behavior. Kitsuse (1964), in delineating the process of deviancy, states

. . . deviancy may be conceived as a process by which the members of a group, community, or society (1) interpret behavior as deviant, (2) define persons who so behave as a certain kind of deviant, and (3) accord them the treatment considered appropriate to such deviants (Kitsuse, 1964, p. 88).

The applicability of Kitsuse's conceptual framework to the label of mental retardation appears most appropriately suited for the present study. However, a paucity of relevant studies in mental retardation exists and therefore the research to be reviewed will consist of only studies germane to Kitsuse's theoretical position. In consonance with the theoretical parallels outlined in Chapter I, the review of the literature will focus only on appropriate psychiatric and educational research which

lends itself to conceptualizing the problem of social class and mental retardation.

Review of Relevant Psychiatric Epidemiological Research

A number of large scale epidemiological studies have been conducted which have attempted to relate the distribution of psychiatric illness to population characteristics--e.g. age, sex, ethnicity, and class. Moreover, it can be safely assumed that new insights into mental illness have emanated from the findings of medical epidemiologists and social scientists who have investigated the ecological and demographical corollaries of mental illness. Interlaced with epidemiology is the role of etiology which, in a logical sense, determines epidemiology.

Perusal of the literature in psychiatric epidemiology discloses that most of the large-scale epidemiological studies conducted have been based on two methodological approaches, namely extensive interviews and/or the reviewing of hospital records.

One investigation frequently cited by psychiatric epidemiologists as a classic example of a research effort designed to examine the relationship between sociological and psychiatric variables was conducted by Faris and Dunham (1939). Utilizing the theoretical conceptualizations of Park and Burgess (1925), the investigators

examined the incidence and distribution of admissions to mental hospitals from Chicago of two main functional psychoses (i.e. schizophrenics and manic depressives) and attempted to correlate and interpret specific demographic indices with the differential distribution for these two diagnosed mental disorders within ecological and social disorganization theory. Data from a sample of 7,253 cases provided strong evidence for the investigators to conclude the following:

- (1) A comparison of the distribution of the rates of the schizophrenic and manic-depressive psychoses shows them to be unlike each other in almost every respect.
- (2) The schizophrenic rates show the typical ecological pattern and are concentrated in the disorganized areas of the city, while the manic depressive rates do not show a typical pattern nor any definite concentration in the disorganized and poverty-stricken areas of the city.
- (3) There is a tendency, although not clearly defined, for the manic depressive cases to come from a higher cultural and economic level as compared with the schizophrenic cases.
- (4) The schizophrenic rates showed a skewed frequency distribution, while the manic depressive rates showed no such skewness in their distribution (Dunham, 1939, p. 101).

Furthermore, the investigators, in teasing out and examining the distributive relationship of race, sex and national origin to the incidence of these functional psychoses, noted that the distribution of these variables

followed a pattern similar to that noted for the two broad psychiatric classifications.

Dunham (1964), in a further attempt to investigate the relationship of social class to one particular mental disorder (schizophrenia) examined first-admission patients from two Detroit sub-communities covering a two year period but separated by a twenty year span (1936-1938 and 1956-1958). Using a method developed by Hollingshead and Redlich (1958), Dunham defined social class by "combining the respective weights for occupation and education of the heads of the households." Dunham's adaptation of the Hollingshead and Redlich weight basically was derived from the following multiple regression equation:

$$X_1 \text{ (Estimated class position)} = .183X_2 \text{ (Residence)} \\ + .154X_3 \text{ (Education)} + .269X_4 \text{ (Occupation)} + .884 \\ \text{(Hollingshead and Redlich, 1958, p. 394).}$$

By omitting the constant (.884), the approximate weights of 6, 5, and 9, respectively, were used to weight the factors X_2 , X_3 , and X_4 by Hollingshead and Redlich (1958). The total sample consisted of three diagnostic groups: (1) schizophrenics, (2) non-schizophrenics and (3) all additional psychiatric cases. Although analyses of the data indicated a higher proportion of schizophrenics in the lower social class groups, when the two sub-communities were compared individually and in total across social class groupings excluding the lowest social class group, the incidence rates approached parity. The

investigators consequently theorized that the incidence of schizophrenia is not inversely related to the class structure but rather is the result of social selection factors e.g. birth, achievement, personality, education.

Hollingshead and Redlich (1958), in attempting to examine the relationship between social class and the treated prevalence of mental illness interviewed a 5 percent sample of all households in the metropolitan area of New Haven, Connecticut. A systematic random sample of 3,559 interviews served as basic data for examining the relationship between social class position and (1) prevalence of treated mental illness, (2) types of diagnosed psychiatric disorder and (3) the type of psychiatric treatment administered.

By assigning approximately equal weights to the respondent's area of residence, occupation and education, an "Index of Social Position" was derived. Weights were determined by the use of multiple regression analysis. Utilizing this process, the investigators divided the population into five social classes arranged in a hierarchical order. Social class was treated as an independent variable; the psychiatric diagnosis and treatment of a patient's illness served as the dependent variable.

The major finding of the Hollingshead and Redlich study was the presence of a systematic relationship between social class and the treated prevalence of mental

illness. A closer examination of this relationship suggests that the lower class (unskilled and semi-skilled workers of low education) had higher prevalence rates in the diagnostic categories of phobic-anxiety reactions, schizophrenia, and organic psychoses. While schizophrenia was the predominant psychotic disorder in all classes, the proportion of schizophrenics found in the two lower social classes was less than that reported in earlier studies (Clark, 1949; Faris and Dunham, 1939).

Statistically significant findings were reported by the investigators for the three hypotheses under test. In concluding, Hollingshead and Redlich emphasized the changing role and redefinition of psychiatry, particularly as it related to the lower social class.

Another large-sample size type study conducted by Parker and Kleiner (1965) attempted to investigate the effects of race and social class on the incidence of psychiatric illness as a function of goal-striving behavior. Basically, this research effort represented a replicative extension of an earlier study by Malzberg and Lee (1956) on migration and mental disorders among Negroes. The Malzberg and Lee hypothesis that: Negro migrants represented a disproportionate number of first admissions to private and public mental hospitals in New York, provided the impetus for the Parker and Kleiner study.

Two groups, both systematically drawn from the Philadelphia Negro community, served as representative samples of the non-mentally ill and mentally ill populations. Both groups were interviewed in depth (206 items-- of which 15% were open ended). In addition, each respondent between twenty-five and twenty-nine years of age was asked to respond to a projective test (Need Achievement Test) which functioned as a measure of his "achievement motive" (Atkinson, 1958).

Social class was operationally defined by the investigators on the basis of differential weights assigned to education, income and occupation. These criteria and weights were derived from the respondents ranking of eight "potentially relevant criteria for status position."

Essentially, the findings of the Parker and Kleiner investigation indicated that the total combined variables considered simultaneously only accounted for 41% (i.e. multiple correlation coefficient of .64) of the variance associated with mental disorder, despite the presence of a positive relationship between race, social mobility and social class in both the ill and community samples. Specifically, the investigative yield disclosed a consistent trend of high psychiatric symptoms associated with upwardly and downwardly mobile groups. The groups' manifestations of high stress, low self-esteem and discrepant reference group orientation was interpreted as antecedent

conditions to mental illness. The highest rate of illness was noted in the native Philadelphia Negro and thereby supported the investigators' initial "hunch," which was based upon their questioning of an earlier study by Malzberg and Lee (1956).

One of the most comprehensive large scale psychiatric epidemiological investigations performed to date has been the Midtown Manhattan Study (Srole, Langner, Michael, Opler and Rennie, 1962). Drawing from a population of 110,000 people ranging in age between 20 and 59, the investigators obtained extensive interview data from a random sample of 1,660 persons (1.5% of the population) residing within the Midtown New York City district. The project consisted essentially of three phases: "The Sociography Operation, describing the community; The Treatment Census, a collation of all records of psychiatric treatment of Midtowners; and the central operation, The Home Interview Survey" (Langner and Michael, 1963, p. 47).

Sociographic data taken from available federal, state and municipal sources--e.g. U. S. Census, was used to describe the community and its people. In addition, key informants in the community, participant observers and relevant commentaries on life in Manhattan were used as descriptors.

Psychiatric facilities were surveyed in order to determine the prevalence and incidence rates for both hospitalized and ambulatory psychiatric patients who were Midtown residents within the previous five year span.

The Home Interview Survey consisted of administering a 65 page questionnaire to 1,660 individuals. Questionnaire items represented two theoretical models: (1) stress--i.e. "noxious or potentially noxious factors," and (2) strain--i.e. "reaction to the stress." Of the 415 items, each item theoretically represented a hypothesis. Approximately half of the questionnaire items were environmentally based items which were designed to relate psychiatric impairment to specific demographic stress factors.

In addition to the Home Interview Survey, each of 1,660 questionnaires was rated independently by two psychiatrists. The rating procedure, however, was controlled so that "symptomatic" information could be evaluated independently from "social functioning" information. This procedure reduced rating difference (symptom vs. socio-cultural background) to 25%.

The investigative yield of the Midtown Manhattan Study disclosed the presence of many positive relationships between demographic factors and the incidence and degree of psychiatric impairment. For the sake of brevity, however, perhaps the most significant finding was:

"socio-economic status is more closely associated with mental disturbance than any other demographic factor" (Langner and Michael, 1963, p. 75).

Contrary to the New Haven Study (Hollingshead and Ridlich, 1958), the Midtown Manhattan Study found the highest rate of treated cases in the highest social class. This finding was interpreted, however, as an index of availability of psychiatric service as well as a favorable orientation toward psychiatric treatment.

In marked contrast to the Midtown Manhattan Study (Srole, Langner, et al., 1962) is the Stirling County Study (Leighton, et al., 1963), another large sample size psychiatric epidemiological investigation which attempted to examine the relationships between socio-cultural environment and psychiatric disorder within a rural setting. Moreover, the investigators chose to conduct a prevalence rather than an incidence study--i.e. people with a psychiatric disorder as of a given time.

The setting for the Stirling County Study was a rural county located in the northeastern section of Canada. Demographically, the county could be described as a small (population of 20,000) bay community composed primarily of French Acadians and English speaking people whose primary source of livelihood is fishing and secondary industries related to fishing.

Methodologically, this study also differed from previous investigations in that 10 indices were used to rate the sample communities on a sociocultural integration-disintegration scale. Essentially, the investigators sought to examine the relationship between sociocultural disintegration and its effect on personality. A 10% probability sample (1,015) of heads of households over 18 years of age, approximately equally divided between males and females were interviewed. All respondents had resided in the area for at least six months prior to the interview. Additional information was obtained from observations by the interviewer, independent judging protocols by two psychiatrists, impressions from at least one community source--i.e. long term residents (20 years or more) and hospital and other institutional records.

Succinctly, the Stirling County Study provided evidence to support hypotheses framed within a quasi psychiatric-social disorganization theory in which psychiatric disorder is a function of sex, age and sociocultural disintegration.

Contrary to previous studies (Srole, et al., 1962; Hollingshead and Redlich, 1958; Faris and Dunham, 1939), the investigators found that the prevalence rate of psychiatric disorders within the disintegrated community represented a significant proportion (59%) of psychiatric disorders. This higher prevalence of psychiatric

disorders has, however, raised considerable questions and criticism in terms of criterion and concurrent validity (Dohrenwend and Dohrenwend, 1969), particularly since the cross validation attempt (Leighton, et al., 1966) was further confounded by a selection factor.

Few epidemiological studies have focused specifically on ethnic differences, particularly in terms of demographic characteristics as corollaries of the incidence and prevalence of psychiatric disorders. The omission or limited number of various ethnic groups has been viewed by some as a serious sampling problem. One rather intensive review of the literature (Dohrenwend and Dohrenwend, 1969) noted that of 44 community studies conducted between 1917 and 1963, only 8 provided comparative data for Negroes and whites. Moreover, the results from these 8 studies were evenly divided--i.e. "4 showing higher rates for Negroes and 4 showing higher rates for whites" (Dohrenwend and Dohrenwend, 1969, p. 57).

The Washington Heights Studies (Dohrenwend and Dohrenwend, 1965, 1967) represented an attempt to investigate the relationship between different ethnic groups, demographic characteristics and rate of psychiatric disorder within a social causation frame of reference--i.e. psychiatric disorders thought to be the result of environmental stress.

Washington Heights, a section of Manhattan in New York City, is composed primarily of (in order of size) Jewish, Negro, Irish, and Puerto Rican residents. The history of assimilation of ethnic groups in New York City probably typifies the assimilation patterns found in most large urban communities, particularly if one ignores specific ethnic group origin and instead focuses on the assimilative patterns of ethnic groups as a function of demographic and historical trends over time. Dohrenwend and Dohrenwend describe the social history of New York City's immigration pattern and socio-economic development in the following manner:

As an example, the history of New York City has been marked by great successive waves of new immigrant groups: the Irish and Germans in the 1840's, the Jews and Italians starting in the 1880's, the Negroes after World War I, and the Puerto Ricans after World War II. With the possible exception of non-Jewish Germans, the initial conditions of these new groups in the city have been those of poverty, slums, and working-class jobs. The Jews, the Irish, and to a lesser extent, the Italians have moved up over succeeding generations into relatively affluent and largely middle-class circumstances. In this process of assimilation, the three ethnic groups have achieved a substantial share in the wealth and power of the city.

In sharp contrast to these now relatively advantaged ethnic groups are the Negroes and Puerto Ricans, who are concentrated geographically in the city's slums and occupationally in its low-paying unskilled and semi-skilled jobs (Dohrenwend and Dohrenwend, 1969, p. 57).

The initial Washington Heights study consisted of a probability sample (1,283 respondents) drawn from a

previously conducted survey which contained a probability sample of 1,713 Washington Heights residents. By selecting only respondents between 21 and 59 years of age, the investigators were able to approximate the sample size and age range of the Midtown Manhattan Study (Srole et al., 1962). Further replicating the Manhattan Study was the investigators' use of 22 symptom interview items taken from the Midtown Study interview schedule. Interview data were obtained on 90% of the sample. Education and income were treated as separate but primary indices of social class, because of varying income across ethnic groups.

The second Washington Heights Study, conducted approximately two years after the initial investigation, sought to examine the relationship of ethnicity and social class to the rate of personality disorder--i.e. "alcoholism, sociopathic traits, and the early stages of paranoid schizophrenia" (Dohrenwend and Dohrenwend, 1969, p. 66). A small probability sub-sample of subjects was drawn from the first study. However, unlike the initial study, the selection of subjects (heads of household) was based on sex and ethnicity. Control for these two variables was further utilized by assigning interviewers to respondents of the same sex and race. Interview items providing clues of these traits were selected from the Minnesota Multiphasic Personality Inventory. In contrast

to the first study, social class was not treated as a composite of education and income.

For purposes of clarity, the findings of the two Washington Heights studies will be reviewed as one, since the second study basically represents an extension of the initial study. Essentially, the investigative yield of the two studies did not provide sufficient evidence to allow rigorous conclusions to be drawn regarding the etiological basis of psychiatric disorders within the four ethnic groups. A major problem which developed out of both studies was the consistently higher rate of symptoms on all measures reported by Puerto Rican respondents relative to their class counterparts in the other ethnic groups. Scores on the Psychophysiological Symptom Index (e.g. cold sweats, headaches), the 22 Midtown items, and Social Desirability Ratings (i.e. rating symptoms as desirable or undesirable) suggest that Puerto Rican and Negro respondents tend to interpret "maladaptive" behavior differently than their Jewish and Irish social class counterparts. This amount of difference between the four ethnic groups remained despite the investigators' controlling for educational level. The investigators, as a consequence, concluded:

In other words, the differences in results obtained on the various symptom indices may be a function of cultural differences in the types of symptoms used to express distress as well as

or instead of cultural differences in willingness to admit symptoms when they are present (Dohrenwend and Dohrenwend, 1969, p. 88).

Review of Related Research and Literature

Empirical research specifically dealing with the process of labeling an individual as educable mentally retarded is at a minimum. In order to explore the implications of the labeling process, it becomes necessary to examine studies which incidently touch upon the labeling process. In addition, there is a small number of theoretical articles which discuss the educational, social and psychological implications of being labeled mentally retarded.

Towne and Joiner (1966), in examining the consequences of special class placement on the self-concept-of ability of educable mentally retarded students, noted that the students' reference group appears to be a key variable in terms of the labeling process and its impact on self concept of ability. The investigators theorized that a student's initial high score on the self concept of ability measure suggests a change in reference group which initially provided "a number of opportunities for aggrandizement of self" (Towne and Joiner, 1966, p. 117). However, as the student became acclimated to his newly expected role and continued to interact with "normal" students, a decline in his self concept of ability was

noted. This reverse--i.e. initial increase in self concept of ability followed by a decline in self concept--suggests that placement in special classes for students classified as educable mentally retarded is primarily a function of reference groups and the student's level of interaction with "regular" and "special class" students. An interesting interpretation of this process based upon an illustration by Goffman (1952) had been previously developed (Towne and Joiner, 1965).

Another investigation (Mercer, 1965) sought to examine the differences in family acceptance and career patterns of individuals labeled as mentally retarded. Two groups of institutionalized retardates matched on intelligence quotient, age, sex, ethnic status and year of admission were studied. Essentially, the groups differed only in that one group had been released to their families, while the other group remained as patients in a state hospital. The families of both groups were then interviewed. Social class was defined and weighted according to the Hollingshead and Redlich system. Basically, the results of this investigation disclosed that divergent definitions existed regarding the parental labeling of mental retardation. Moreover, this labeling process appeared to be a function of social class and age--i.e. lower status children were labeled retarded generally after school age. For the higher status

patients, the labeling process occurred at an early age and was less likely to be questioned by the primary group. An important consequence of the patient's primary group's level of acceptance of retardation as normal or deviant was noted in that the lower status patient's families (primarily Mexican American and Negro) held higher expectations for their children (46%) fulfilling the usual adult role than did the higher status group (6.9%).

The dynamics of social class labeling and institutional placement for the mentally retarded individual, particularly as it related to his life space, was described by Mercer in the following manner:

Behavior which was perfectly acceptable in his primary social system may now be judged as evidence of "mental retardation." At this point he is caught up in the web of official definitions. However, because he has primary social systems which may not agree with these official labels, he may be able to return to that segment of the social structure which does not label him as deviant after he has fulfilled the minimum requirements of the official system. That is, he can drop out of school or he can "serve his time" in the state hospital and go home (Mercer, 1965, p. 33).

A comparable parallel can be drawn between the mentally retarded patients reported in the Mercer study and the "The Six Hour Retarded Child"--i.e. children who are classified as retarded during the six hour school day on the basis of I.Q. tests, without regard to the child's ability to perform outside the classroom.

Results similar to the Mercer study were noted by Shulman (1967, 1968). In an attempt to explore and modify the vocational development of urban educable mentally retarded adolescents, the investigator conducted an experimental and longitudinally designed study within a sheltered workshop. The sample originally consisted of approximately one-third Negro. However, by the termination of the study, only 33 of the original 55 subjects were available for the follow-up interview. Of this group, 8 were Negro and 25 were white. Subjects were administered an annual five day diagnostic assessment test battery which provided data on vocational, intellectual, social and personal behaviors. In addition, a daily rating scale was used to rate work behavior of the subjects during their five day evaluation session.

Fundamentally, the results of this study raised serious question concerning the validity of diagnostic evaluation and special class placement policies. Shulman, in summarizing the findings of his study, states:

The fact that, though indistinguishable on the basis of typical measures used by the public school, the Negro and white subjects in this study turn out to be so radically different, may suggest that many of the "color blind" practices in our big city public schools are inappropriate. Apparently identical phenotypic mental retardation was seen to mask very different genotypes for Negro disadvantaged and white advantaged youngsters, respectively (Shulman, 1968, p. 240).

Enlarging further upon these findings, Shulman discusses the educational implication of these findings in the following manner:

Our findings raise serious questions about the effectiveness of present methods for identifying and subsequently re-educating children who are intellectually handicapped in our urban public schools. Moreover, the advisability of traditional modes of "special education" in these areas must be questioned. It seems clear that all education should be special or none of it. The incidence of misclassification in using current criteria appears unnecessarily high. Our most intelligent decision may well be to do away with all "special classes" in the inner city until we develop better means of identifying the etiologies of educational handicaps and thus more adequate methods of remediating them (Shulman, 1968, p. 240).

Another empirical investigation which appears appropriate for review was conducted by Rosenthal and Jacobson (1966). In a rather unique experimental study, the investigators examined the effects of teacher expectancies on the intellectual growth of elementary school children in a San Francisco school. The research hinged upon the results obtained from a newly initiated testing program designed to "predict academic blooming." In reality, however, the test administered was the Flanagan Tests of General Ability. Teachers were given the names of students whose test results suggested that they were "academic spurters"--i.e. "those, who during the academic year ahead, would show unusual intellectual gains." In addition, the investigators requested that the teachers not discuss the test findings with either

the students or the students' parents. Following the initiation of the study, students were retested at four month intervals twice. The teachers were also asked to rate all of their students on nine variables ranging from prediction of future success to the need for social approval.

Analysis of the data from this study led to the "self-fulfilling prophecy or Rosenthal effect." More specifically, the investigators' interpretation of the results were:

The results of the experiment just now described provide further evidence that one person's expectations of another's behavior may serve as a self-fulfilling prophecy. When teachers expected that certain children would show greater intellectual development, those children did show greater intellectual development (Rosenthal and Jacobson, 1966, p. 246).

Review of Non-Empirical Literature

Perhaps one of the most controversial articles to appear in recent Special Education literature was one written by Dunn (1968). In a scathing and provocative indictment of the current practices of special education, Dunn states:

In lieu of an abstract to this article, I would like to preface it by saying this is my swan song for now--as I leave special education and this country for probably the next two years. I have been honored to be a past president of the Council for Exceptional Children. I have loyally supported and promoted special classes for the educable mentally retarded for most of the last 20 years, but with growing disaffection. In my

view, much of our past and present practices are morally and educationally wrong. We have been living at the mercy of general educators who have referred their problem children to us. And we have been generally ill prepared and ineffective in educating these children. Let us stop being pressured into continuing and expanding a special education program that we know to be undesirable for many of the children we are dedicated to serve (Dunn, 1968, p. 5).

To develop this position, Dunn then proceeded to examine and discuss the mislabeling and placement practices used by school systems to classify children from non-middle class environments--i.e. Afro-Americans, American Indians, Mexican and Puerto Rican Americans, as mentally retarded. He posited that 60 to 80 percent of these students have been mislabeled and relegated to a second class educational status. Citing supportive evidence, Dunn referred to the (1) Skelly Wright decision regarding the abolishment of educational tracking in the District of Columbia, (2) Coleman Report and the educational implications for racially integrated schools, (3) inconclusive status of efficacy studies on the mentally retarded, (4) questionable validity of psychometric assessment and (5) the "Rosenthal Effect" and its applicability to labeling a child "handicapped."

As an alternative to current special education programs for the mildly retarded (50 to 75 I.Q.) student, Dunn proposed establishing a moratorium on the increasing number of self contained special classes. In lieu of special classes, he proposed establishing "Special

Education Diagnostic and Prescription Generating Centers"-- i.e. a cadre of educational specialists, in cases warranted by a large school population. A second alternative recommendation was the use of a diagnostic generalist, if establishing a center was not feasible. Third, if neither of the aforementioned alternatives were possible, a quasi prescriptive clinical teacher could provide the necessary service.

Augmenting the three alternatives outlined, Dunn further recommended that psychometric and diagnostic procedures become better standardized, particularly as they relate to individual cognitive modes and the corresponding instructional techniques. Emanating from this procedure, Dunn envisioned a chain of Special Education Curriculum Development Centers jointly sponsored and shared between colleges and universities and state and local school systems, e.g. Michigan State University Instructional Materials Center.

Theorizing that special education programs have been inadequate primarily because current educational treatment has not been based on a conceptual model, the writer then discussed the developing of an educational taxonomy. A skeletal taxonomy was outlined by Dunn consisting essentially of brief reviews of educational research in eight basic input areas.

Although the Dunn article is probably one of the most frequently cited articles today, perusal of the literature does indicate that Dunn's position is not unique. Though differing in interpretation, several writers (Dexter, 1956, 1958, 1960; Szasa, 1960, 1970; Towne and Joiner, 1965) have explored the dimensions of mental retardation and mental illness from a non-empirical but theoretically based point of view. Among the commonalities found in these articles has been the focusing of discussions on the relative nature of socially defined behaviors within a given milieu, particularly in terms of the amount of discrepant behavior, be it social or intellectual as perceived by the labeler and the labeled.

Dexter (1956, 1958, 1960), in a series of articles on mental retardation, attempted to delineate the need for developing a social theory of mental retardation based upon the premise that mental retardation is a consequence of "socially prescribed or acquired roles and statutes" (Dexter, 1958, p. 921). His writings explored the use of systematic observation and recording as a means of better understanding the behavior of the retarded. In formulating a social theory of mental retardation, the writer outlined and related five propositions which incorporated the following constructs: social problems, learning, and self concept. By

examining the interaction of these constructs, Dexter posited that a new definition of mental retardation would be established. This redefinition, the writer contended, would be the result of field studies on role development of the retarded.

Towne and Joiner's (1965) interpretation of Goffman's construct "cooling the mark out" illustrates the procedure used by the labelers to condition the labeled, is an example of redefining new roles and expectancies for the student designated as educable mentally retarded.

Summary

Drawing from the empirical research and theoretical discussions cited in the previous sections of this chapter, the conceptual definition of educable mental retardation and functional mental illness can be viewed as a socially defined phenomenon which has been sanctioned and validated with psychiatric and psychometric measures of questionable validity. Moreover, although the investigations and discussions reviewed acknowledged the important role of cultural and ethnic differences, the evidence to date appears scant and limited in terms of its generalizability and applicability to the increasing number of disadvantaged and culturally different groups found in urban areas.

In recent years, investigation attempting to further define the determinants of educability for the

culturally different have provided the impetus for re-examining frequently accepted educational policies such as tracking and psychometric evaluation. One promising method of examining the effect and impact of special class placement for the educable mentally retarded is to examine the application of this concept to a changing urban population over time.

CHAPTER III

METHOD

The presentation of research method in this chapter is divided into four sections. In the first section, a description is given of the sample used in this study. Secondly, each major variable investigated is operationally defined. Third, a brief description of the psychometric instruments used for diagnostic purposes is presented. Fourth, the procedures used for data collection and analysis are outlined.

The Sample

The population from which the sample was drawn consisted of all students referred and evaluated by the Detroit Public Schools Psychological Clinic between the years of 1911 and 1970. Based on the Psychological Clinic's filing system, approximately 190,000 student records are on file. Each individually assigned file or case number represents a specific case of a student who was referred by a school official for some form of educational evaluation due to maladaptive or potentially maladaptive behavior--i.e. poor academic progress, poor social adjustment.

In most cases involving students referred for an evaluation based on learning problems, an individual intelligence test is administered and case history data are recorded by the school psychologist. On the basis of the test results and case history data, an educational recommendation is made by the psychologist (e.g. student to continue in the regular grade, placement in a class for the educable mentally retarded, exclude from regular school attendance).

In addition to the psychological evaluation, every student is given a cursory medical examination by one of the clinic physicians. If, in the physician's judgment, additional diagnostic measures appear necessary, a recommendation is made specifying what appears to be in need of further study. The physician's report and recommendations are also included in the student's records.

Individual student records selected for this study were based on the following criteria:

1. Students who, after having been administered an individual intelligence test, were recommended for special class placement for educable mentally retarded students.
2. Students whose medical records did not indicate the presence of organic brain damage.
3. All students were enrolled in the Detroit Public Schools.
4. Students who were evaluated by a member of the Psychological Clinic staff between the period of September, 1911 to January, 1970.

The total N was 858: 585 males and 273 females; 326 Blacks and 532 Caucasians.

Major Variables

The major variables in this investigation were:

(1) the concept of educable mental retardation, (2) race, (3) sex, and (4) socio-economic status.

Operationally, these variables were defined in the following manner:

1. Educable mental retardation--Certification and placement of a student in special education class for the educable mentally retarded. Certification, as used in this definition, refers to the assessment process, whereby a student is administered an individual intelligence test (e.g. Stanford Binet, Wechsler Intelligence Scale for Children, Detroit Test of Learning Aptitude) and on the basis of I.Q. and "other factors" is recommended for special class placement. The general range of intellectual retardation considered to be educable has been an I.Q. between 50 and 75.
2. Race--Race was defined as the psychologist's judgment of the race of the student. Racial identification was generally recorded by the examining psychologist on the test protocol and case history form.
3. Sex--Sex, like race, was defined on the basis of the examining psychologist's recording on the test protocol and case history form.
4. Socio-Economic Status--Socio-economic status was determined by using a weighted scale where the student's father (or whoever supports the family) was assigned a value on the basis of his education and occupation. The value represented a composite score which consisted of the equal weighting of occupation and education (Reiss, 1961) (see Appendix A).

Data Collection Procedure

In January of 1970, the data collection process was started. A sample size of 858 (approximately 1/2 of 1%) was systematically drawn from the population. The point of entry into the file records was determined by using a table of random numbers. The point of entry served as the base number. Proceeding from the established base number, every two hundredth case was examined. If the case examined met the sample criteria, the pertinent data were recorded. In instances where the case did not meet the sample criteria, the procedure employed was to examine each consecutive case until an eligible case was located, recording the data, and subsequently returning to the base number before proceeding to the next two hundredth case.

Assisting in the data collection process were two psychologists from the Detroit Public Schools Psychological Clinic staff.

Instrumentation

Primarily three individual intelligence tests were used to evaluate students in order to determine their eligibility for special education classes for the educable mentally retarded during the time span examined. The instruments were (1) Stanford Binet Intelligence Scale, (2) Detroit Test of Learning Aptitude and (3) the

Wechsler Intelligence Scale for Children. A brief description of each instrument is given below.

1. Stanford Binet--An intelligence scale designed to cover the levels of mental development from ages 2 to 18. Levels are graduated in difficulty. Below the six year mental age level most test items are of the performance (non verbal) type, e.g. matching, reproducing figures. From ages 6 to 18, test items become more verbal and abstractly based, requiring skills in verbal reasoning power, word definitions and deductive-inductive reasoning. Standardization of the Binet has been extensive.*
2. Detroit Tests of Learning Aptitude--A local intelligence test developed but not adequately standardized (Buros, 1939, p. 1045) for use in the Detroit Public Schools for screening students suspected of mental retardation. The examiner selects and administers 9 subtests from a battery of 19 subtests. The median test score functions as the mental age. Conversion tables are then used to determine the I.Q. A graph is then plotted on the test protocol which indicates the difference between the subject's chronological age and median subtest score. Normative data, though available for the various subtests, is accepted on face value, since no statistical interpretation is provided in the test manual.
3. Wechsler Intelligence Scale for Children--A strong competitor with the Stanford Binet Scale, The WISC, like the Stanford Binet, is based on the theory that psychometric evaluation should provide a measure of general mental ability. Generally, the instrument is used to evaluate students between 8 and 15 years of age, although the tests' lower limits extend below this range. Items are not grouped by difficulty level. The WISC's eleven subtests are classified as either Verbal or Performance scale tests. Scores are provided for each major classification area in addition to a

*Intercorrelation between the Stanford Binet and Wechsler Intelligence Scale for Children = .82.

total or Full Scale I.Q. score. Similar to the Binet, the WISC has been subjected to extensive research. Standardization procedures have also been extensive.

Data Analysis Procedures

Data were coded and punched on IBM cards and processed through the CDC 3600 computer at the Michigan State University Computer Center. Since the sample included both discrete and continuous variables the analytic techniques used were (1) analysis of variance, (2) Chi-Square, and (3) the Pearson product-moment correlation. All tests of significance were carried out at the .05 levels.

Summary

A systematic randomly drawn sample of 858 test protocols and case histories were drawn from the file records of the Detroit Public Schools Psychological Clinic. All subjects had been administered an individual psychological evaluation and subsequently placed in a class for the educable mentally retarded in the Detroit Public School System during the time span of September, 1911 to January, 1970. Cases where organic brain damage was recorded were excluded from the sample.

The major variables used in testing the hypotheses were: (1) the concept of educable mental retardation, (2) race, (3) sex, and (4) socio-economic status.

The data were coded and punched on IBM cards. Subsequent analyses were performed using the CDC 3600 computer at the M.S.U. Computer Center. The specific analytic techniques used were: (1) analysis of variance, (2) Chi-square and (3) the Pearson product-moment correlation.

CHAPTER IV

ANALYSIS OF THE DATA AND RESULTS

This chapter contains the results of the statistical analysis of the data. Each hypothesis is restated and accompanied by the results of the analysis. A summary of the findings will be found at the end of the chapter.

Of the original 858 subjects in the sample population, a number of subjects were excluded from the various analyses because of incomplete information. However, due to the large sample size and random distribution of dropped cases through the sample, it was felt that a reduction in the N did not bias the results of the study.

Hypotheses and Results

A descriptive summary of the sample group for this particular analysis is given in Tables 4.0, 4.1 and 4.2.

Hypothesis 1

The concept of educable mental retardation based on measured I.Q., as used by the Detroit Public School System for special class placement, will vary over time as a function of race, sex and socio-economic class.

TABLE 4.0.--Composition of sample population by race, sex and socio-economic status.

Race	Sex		Socio-economic Status	
	Male	Female	High	Low
<u>Black</u>				
N = 245	160	85	37	208
Percent of Total Sample 34.80	22.7	12.07	23.44	76.56
<u>Caucasian</u>				
N = 459	327	132	128	331
Percent of Total Sample 65.19	67.14	18.75	18.18	47.01
Total N = 704	487	217	165	539
Percent of Total Sample 100	69.17	30.82	23.44	76.56

TABLE 4.1.--Composition of the Detroit Public School System by race and age during the U.S. census years 1910-1960.¹

Census Year	Blacks	Percent of Total	White	Percent of Total	Total
1910	685	.8	76,973	99.2	77,658
1920	4,094	2.5	152,853	97.5	156,947
1930	17,929	6.7	263,524	94	281,453
1940	24,208	9.7	224,192	90.3	248,400
1950	44,604	17.4	211,214	83	255,818
1960	109,128	48.2	133,677	51.8	242,805
Grand Total	200,648				1,062,433

¹Based on ages 5 to 14 years.

TABLE 4.2.--Socio-economic status distribution by race, sex and time block.

High			Low		
<u>Black</u>			<u>Black</u>		
Time Block	Male	Female	Time Block	Male	Female
1 (1911-1936)	3	2	1	27	15
2 (1937-1953)	9	4	2	45	21
3 (1954-1970)	9	10	3	67	33
Total	21	16		139	69
Percent of Grand Total	2.98	2.27		19.74	9.8
<u>Caucasian</u>			<u>Caucasian</u>		
Time Block	Male	Female	Time Block	Male	Female
1	34	17	1	126	56
2	53	6	2	59	35
3	13	5	3	42	11
Total	100	28		227	104
Percent of Grand Total	14.20	3.94		32.24	14.77
Grand Total (N=704)	121	44		366	173

Results.--To test Hypothesis 1, a multi-variate analysis of variance (Manova) for unequal cell sizes was used.*

As indicated in Table 4.0, there is a disproportionate number of low SES male students in E.M.R. classes.

*All subsequent references to the multivariate analysis of variance technique are based on the use of Finn program.

A ratio in excess of 2 to 1 is noted between the male and female subjects placed in special classes for E.M.R. students. Further inspection of Table 4.0 indicates that on the socio-economic class measure, a ratio in excess of 4 to 1 between the low and high class groups was noted, thereby suggesting a differential distribution between the two socio-economic classes. These findings were consistent for both Black and White E.M.R.'s. Specifically, an inverse distribution was noted between the Black and Caucasian E.M.R. subsamples. More specifically, Blacks represented 34 per cent of the total sample despite a variation in the racial composition of the school system over time. The implications of this disproportionately large number of Black students suggests the presence of a differential distribution along racial lines.

Table 4.3 lists the mean I.Q. values by race, sex, socio-economic class and time blocks. Inspection of these data discloses that, irrespective of race, males ($\bar{X}=69$) had higher scores than females ($\bar{X}=67$) on the initial intelligence test used for special class placement. Across social economic class, I.Q. was found to be higher for the high socio-economic groups ($\bar{X}=71.19$) than the lower groups ($\bar{X}=67.51$). A similar pattern of differences in means was indicated across race and sex--i.e. the Caucasian mean I.Q. values for both males ($\bar{X}=69$) and females ($\bar{X}=67$) were higher than the corresponding mean

values for Black males ($\bar{X}=68$) and females ($\bar{X}=66$). Comparing the time blocks discloses mean I.Q. value differences between the three time periods specified. Thus, the initial mean I.Q. score of E.M.R. students, over time, has fluctuated over the 49 year period examined.

TABLE 4.3.--Mean I.Q. scores by race, sex, socio-economic class and time block.

Variable	Mean I.Q.	
Black - Both sexes	67.42	
Male	68.00	
Female	66.31	
Caucasian - Both sexes	68.88	
Male	69.535	
Female	67.272	
Males - Both races	69.032	
Females - Both races	66.898	
Socio-economic class		
High	71.19	
Low	67.51	
Time Block		
Period 1 (1911-1936)	66.47	Grand Mean
Period 2 (1937-1953)	70.69	
Period 3 (1954-1970)		
Total N = 704		

The analysis of variance findings summarized in Table 4.4 indicate that significant main effects were found at the .05 level for sex, socio-economic class and time blocks. These findings support the inferences drawn

TABLE 4.4.--Analysis of variance of I.Q. scores on the basis of race, sex and socio-economic class.

Variable	Between Mean Square	F-Statistics	Degrees of Freedom	Level of Significance
Sex	668.0587	3.9602	1,680	.0470*
Race	308.8471	1.8308	1,680	.1765 NS
Socio-economic Class	1466.7782	8.6950	1,680	.0034*
Time Blocks	1096.6591	6.4950	2,680	.0017*

*P beyond the .05 level

from the descriptive data previously presented, namely: the sex of the E.M.R. student, his social class status and the time period during which the initial certifying psychological examination was administered account for a significant portion of the variance associated with intelligence test scores.

Based on the findings listed in Table 4.4, Hypothesis 1 was rejected at .05 level for three of the four independent variables noted. These results support hypothesis that the initial intelligence measure used to certify E.M.R. students will systematically vary as a function of sex, socio-economic class and time period but not as a function of race.

Hypothesis 2

The exit pattern (e.g. return to regular grades) of students classified as educable mentally retarded will vary as a function of race, sex and socio-economic class.

Results.--Table 4.5 summarizes the chi square values calculated when comparing the type of exit pattern of E.M.R. students as a function of race, sex and socio-economic class. As is readily apparent, the only significant chi square value obtained was that of race. The absence of significance on the other variables suggest that the type of exit pattern taken by E.M.R. students does not show any systematic variation between the observed and expected frequencies found for sex or socio-economic class across action taken. Due to the extremely large chi square table (21 x 3), a complete table of observed frequencies was not included. However, those categories containing extreme values which appeared applicable to the hypothesis are contained in Table 4.6.

TABLE 4.5.--Chi square values for exit pattern of E.M.R. students as a function of sex, race, and socio-economic class.

Variable	Obtained chi square value	Value required for significance at the .05 level	
Sex	30.416	31.4104	N.S.
Race	37.766	31.4104	*
Socio-economic class	43.994	55.7585	N.S.

*P beyond the .05 and .01 level

TABLE 4.6.--Selected categories of type of action taken by race.

Action Categories		Race							
		Black				Caucasian			
		A*	B*	C*	D*	A*	B*	C*	D*
Cat. 1	Left school overage (dropout)	26	27	22.6	7.6	54	53	23.9	15.8
Cat. 2	Moved from school district	9	12.1	7.8	2.6	27	23.9	11.9	7.9
Cat. 3	Committed to Wayne County Training School	7	6.9	6.1	2.1	13	13.3	5.8	3.8
Cat. 4	Excluded from public school attendance	11	9.1	9.6	3.2	16	17.9	7.1	4.7
Cat. 5	No record of placement in E.M.R. classes	8	9.4	7.0	2.3	20	18.6	8.8	5.9
Cat. 6	Transferred to parochial school	0	0	0	0	13	8.6	5.8	3.8
Cat. 7	Recommended to continue in E.M.R. classes	20	12.1	17.4	5.9	16	23.9	7.1	4.7
Cat. 8	Trial placement in regular grade	4	1.7	7.8	1.2	1	3.3	.4	.3
Cat. 9	Contact with legal authorities	2	2.4	1.7	.6	5	4.6	2.2	1.5
Cat. 10	Recommended for work at age 16	3	6.7	2.6	.9	14	10.3	6.2	4.1
Cat. 11	Retested for E.M.R. class placement because first intelligence test score was in normal range of intelligence	3	6.4	2.6	.9	16	12.6	7.1	4.7
Cat. 12	Referred to the Michigan Division of Vocational Rehabilitation	6	1.7	5.2	1.8	3	6	1.3	.9
Total N = 341 Blacks, 115; Caucasians, 226		99		90.4	27.3	193		87.6	58.1

*A = Observed frequency
 B = Theoretical frequency
 C = Percent of subgroup (i.e. racial group) total
 D = Percent of total group (i.e. both races)

Inspection of Table 4.6 indicates the following according to race and action taken:

Certified E.M.R. Caucasian Students

- a. tend to be more prone to moving from school district than Blacks.
- b. transferred to parochial schools in greater numbers than Blacks.
- c. represented a smaller portion of the number of students recommended to continue in E.M.R. classes after some form of subsequent re-evaluation.
- d. represented a larger proportion of E.M.R. students who, after certification as E.M.R., were not subsequently placed in E.M.R. classes.
- e. constituted a smaller proportion of the number of E.M.R. students placed back in a regular grade situation on a trial basis.
- f. were more frequently recommended to be released from school at age 16 in order to work.
- g. once suspected of retardation, were frequently retested until the test results fell within the range necessary for special E.M.R. class placement.
- h. were less frequently referred to the Michigan Department of Vocational Rehabilitation Services.

In contrast to the above inferences, Black students certified as E.M.R. were:

- a. less likely to move from the school district.
- b. not found to transfer to parochial school.
- c. more likely to be placed in E.M.R. class after initial evaluation and certification.
- d. represented a greater proportion of the E.M.R. student population recommended to continue in special E.M.R. classes.

- e. less frequently recommended to be released from school at age 16 in order to work.
- f. seldom retested after the first evaluation because their first test score was in the normal range of intelligence.
- g. referred to the Michigan Department of Vocational Rehabilitation in greater proportion than their Caucasian counterparts.

Although Hypothesis 2 cannot be rejected in total, the finding of a significant relationship between race and type of action taken supports a portion of the hypothesis. Clearly the race of an E.M.R. student does affect the route and type of subsequent action taken by the school and/or family following the initial evaluation and certification of a student as E.M.R.

Hypothesis 3

The delay in placement of certified educable mentally retarded students will vary as a function of race, sex and socio-economic class.

Results.--The delay in placement data are presented in Table 4.7. The mean value for each factor is presented by sex, race, socio-economic class and time period. An analysis of variance of the delay in placement data is presented in Table 4.8.

There were no significant differences noted between the mean values at the .05 level.

The results indicate that over time, sex, race and socio-economic class have not contributed significantly to

TABLE 4.7.--Mean values and variances for delay in placement as a function of race, sex, socio-economic class and time blocks.

Variable	Mean delay in placement ¹	Variance
Black - Both sexes	6.04	877.01
Male	6.85	658.02
Female	4.46	218.99
Caucasian - Both sexes	6.21	1809.30
Male	6.49	1343.44
Female	5.54	465.85
Males - Both races	6.60	2001.46
Females - Both races	5.14	684.85
Socio-economic class		
High	5.80	620.93
Low	6.28	2065.38
Time Block		
Period 1 (1911-1936)	5.85	994.57
Period 2 (1937-1953)	6.02	1096.84
Period 3 (1954-1970)	7.08	594.90
Total N = 436		

¹All values are presented in months

TABLE 4.8.--Analysis of variance for delay in placement as a function of sex, race, socio-economic class and time.

	Between Group Mean Square	F- Statistic	Degrees of Freedom	Level of Signifi- cance
Sex	196.18	3.2052	1 and 413	.0742 N.S.
Race	.9678	.0158	1 and 413	.9000 N.S.
Socio-economic class	29.0714	.4750	1 and 413	.4911 N.S.
Time Blocks	53.0507	.8667	2 and 413	.4211 N.S.

variance associated with delay in placement of students in E.M.R. class in the Detroit Public Schools. Only modest differences were noted between the race, sex and socio-economic mean values. Though not statistically significant, an unanticipated trend toward an increase in the length of time prior to placement was noted. Examination of the cell frequencies and the wide range in the within cell variances provided a tentative explanation for the lack of more definitive results. Additionally, the broad range of the within cell variance values and cell sizes may have accounted for the lack of significant findings.

Hypothesis 4

The initial age and grade of students at the time of psychological examination will vary as a function of race, sex and socio-economic class.

Results.--In Table 4.9, the mean values for age and grade of the students at the time of psychological evaluation are presented. These data, as presented, allow for a comparative inspection between the age and grade across the factors of sex, race, socio-economic class and time block. The grade values are based on a ten month school year. Thus, a value of 3.2 represents a value of third grade - second month.

Inspection of Table 4.9 indicates that students are generally referred for an evaluation during the latter

TABLE 4.9.--Mean values for students at the time of evaluation by age and grade.

Variable	Mean	
	Age	Grade
Black - Both sexes	10.61	3.76
Male	10.62	3.65
Female	10.61	3.97
Caucasian - Both sexes	10.442	3.10
Male	10.34	3.09
Female	10.69	3.14
Males - Both races	10.43	3.27
Females - Both races	10.66	3.46
Socio-economic class		
High	9.83	3.09
Low	10.71	3.40
Time Block		
Period 1	11.05	3.13
Period 2	10.09	3.20
Period 3	10.20	3.80
Total N	688	660

portion of the third grade. Approximately six months difference was noted between the grade at time of referral between Black and Caucasian students. Male Blacks were, however, referred earlier than female Blacks, while male Caucasians were referred later (8 grade months) than female Caucasians. In contrast to these findings was the early referral of high socio-economic students for evaluation compared to the lower socio-economic student group. Over time, the mean age for referral has dropped while the grade at time of referral has increased. Thus, students are now referred for an evaluation at an earlier age but this generally occurs at a higher grade.

The analysis of variance summary listed in Table 4.10 indicates that significant main effects were found to exist between age at the time of evaluation and socio-economic status and time blocks. Grade at the time of evaluation (Table 4.11) was found to vary with race and time blocks. These findings support the observations made above regarding the reported mean values and posited inferences. Specifically, low socio-economic class Black students were referred for a psychological examination when in a higher grade than Caucasians. Moreover, the data strongly suggest that this referral pattern which systematically varies as a function of time and socio-economic class represents a changing school policy which may be attributed to a social promotion type policy--i.e.

TABLE 4.10.--Analysis of variance for age at time of evaluation.

	Between Mean Square	F-statistic	Degrees of Freedom	Level of Significance
Sex	1078.3941	1.0918	1 and 664	.4348 N.S.
Race	603.4575	.6109	1 and 664	.4348 N.S.
Socio-economic class	13034.3004	13.1959	1 and 664	.0004
Time Blocks	10177.9395	10.3041	2 and 664	.0001

TABLE 4.11.--Analysis of variance for grade at time of evaluation.

	Between Mean Square	F-statistic	Degrees of Freedom	Level of Significance
Sex	618.6390	1.6128	1 and 636	.2046 N.S.
Race	5563.8189	14.5053	1 and 636	.0002
Socio-economic class	642.0700	1.7000	1 and 636	.1928 N.S.
Time Blocks	1166.8803	3.0421	2 and 636	.0485

Black students were promoted on to the next grade rather than retained when in academic difficulty. The disproportionate number of Blacks reported in Table 4.0 constituting the low socio-economic group and the changing racial composition of the E.M.R. student population (Table 4.2) over time lends additional support to the hypothesis regarding social promotion, i.e. promoted regardless of achievement level, and ethnicity.

As is indicated in Tables 4.10 and 4.11, Hypothesis 4 can only partially be rejected by the data. More specifically, the amount of variance found for age at the time of evaluation can partially be accounted for by the variances associated with socio-economic class and time blocks. Grade at the time of evaluation, however, was found to partially vary as a function of race and time blocks.

Hypothesis 5

Changes in measured intelligence of educable mentally retarded students will vary as a function of the length of time spent in special classes.

Results.--To test Hypothesis 5, Pearson product-moment correlation coefficients were computed for the following variables:

1. First I.Q. score
2. Age at the time of placement

3. Age at the time of first retest
4. Second I.Q. score
5. Age at second retest
6. Third I.Q. score
7. First I.Q. difference
8. First time period spent in E.M.R. classes
9. Second I.Q. score difference
10. Second time period spent in E.M.R. classes

Operationally, variables seven through ten were defined in the following way:

First I.Q. difference (Var. 7) = (Var. 1) First I.Q. score minus (Var. 4) Second I.Q. score

First time period spent in E.M.R. classes (Var. 8) = (Var. 3) age at first retest - (Var. 2) age at time of placement

Second I.Q. score difference (Var. 9) = (Var. 1) First I.Q. score - (Var. 6) Third I.Q. score

Second time period spent in E.M.R. classes (Var. 10) = (Var. 5) Age at second retest - (Var. 2) age at time of placement

In Table 4.12 are listed the Pearson product-moment correlation coefficients found to be significant at the .05 level (values obtained > .250, with 62 degrees of freedom).

It was found (Table 4.12) that the correlation between the length of time spent by E.M.R. students in special education classes and the differences in I.Q. over time vary negatively ($r = -.68$). Moreover, despite

TABLE 4.12.--Pearson product-moment correlations between variables 1-1-, N = 64 - 861.

Variable*	1	2	3	4	5	6	7	8	9	10
1						.35			.69	
2			.429		.40					-.43
3				.56	.77		-.58	.82		
4						.54	-.97	.67		
5										.56
6								-.42		
7								-.68	.69	
8										.54
9	Partial correlations on selected variables									
10	$r_{1,2.3} = .67$; $r_{2,4.8} = .48$; $r_{4,10.6} = .18$; $r_{4,5.10} = .07$									

*Variables 1 = first I.Q. score; 2 = age at time of placement; 3 = age at time of first retest; 4 = second I.Q. score; 5 = age at time of second retest; 6 = third I.Q. score; 7 = first I.Q. difference; 8 = first time period spent in E.M.R. classes; 9 = second I.Q. score difference; 10 = second time period spent in E.M.R. classes.

the limited number of E.M.R. students with retest data, the trend indicates that the longer an E.M.R. student remained in special classes, the less likely were his intelligence test scores to vary from the original test score. The mean I.Q. values for the three testing indicated a modest increase between the initial and second I.Q. scores (2.13 points) followed by a decrease (6.5 points) on the third measure of intelligence. Supporting these findings was an r value of $-.68$ found between the first I.Q. difference (defined as first I.Q. score minus the second I.Q. score) and the first time period spent in special education class for E.M.R. students. The lack of additional data supporting this finding was attributed to the greatly reduced number of students who had not been administered first and second retests. Of the original 851 subjects receiving an initial intelligence test, only 327 received a second evaluation. Third evaluations were reduced to 77, thereby indicating that the probability of an E.M.R. student receiving two additional psychometric evaluations following his initial certification and placement in an E.M.R. class is approximately 11 to 1 against his receiving such service.

Hypothesis 5 was found to be significant at .05 level as based on the above results.

Hypothesis 6

Within special classes for students classified as educable mentally retarded, Blacks and Caucasians will differ as a function of the students' (a) place of birth; (b) number of schools attended; (c) mobility; (d) semesters repeated in regular grades prior to special class placement; (e) number of siblings in the family.

Results.--Table 4.13 contains the chi square values obtained for each of the components of Hypothesis 6.

TABLE 4.13.--Chi square values comparing Black and Caucasian E.M.R. students on birth place, mobility of school and residence, grade repeats and number of siblings in family.

Variable	Obtained chi square value	Degrees of Freedom	Value required for significance at .05 level	
Place of birth	209.026	45	67.5048	*
Number of schools attended	11.046	11	19.675	N.S.
Mobility	14.210	15	24.995	N.S.
Semesters repeated in regular grades prior to special class placement	14.171	8	15.5073	N.S.
Number of siblings in the family	22.495	14	23.684	N.S.

*P beyond .001 level

As is indicated in Table 4.13, the only factor which clearly differentiates between the two racial groups of E.M.R. students is place of birth. The majority of both groups were born in Detroit. Of the Black subsample, 55 percent were born in Detroit. Caucasians native to Detroit represented 64.5 percent of their subsample population. Inspection of the individual cells disclosed that the majority of Blacks not born in Detroit were born in the South. The states contributing highest by order to the E.M.R. Black population were found to be Mississippi, Georgia and Alabama. Caucasian E.M.R. students by contrast, migrated to Detroit from Illinois, Tennessee, Kentucky and West Virginia.

Mobility of residence and the number of schools attended by E.M.R. students did not indicate a significant difference along racial lines. Both groups varied only slightly from the total group mean values. These data are reported in Table 4.14.

TABLE 4.14.--Means and standard deviations for Black and Caucasian E.M.R. students for mobility of residence and schools attended.

	Mobility of Residence		School Mobility	
	Mean	SD	Mean	SD
Blacks	2.6	1.9	2.6	1.8
Caucasians	2.5	2.1	2.4	1.6
Both races	2.5	2.0	2.5	1.7

A lack of significant difference was also found between the number of semesters repeated in the regular grades prior to placement. This finding does, however, raise questions which can be interpreted as support of the presence of a social promotion policy for Black students. The respective mean values for Black and Caucasian E.M.R. students indicated that Black E.M.R. students repeated slightly less regular grade semesters than their Caucasian counterparts. The observed values (Blacks, $\bar{X}=2.8$, $sd=1.6$; Caucasians, $\bar{X}=3.2$, $sd=1.8$) found suggest that perhaps differential promotional policies account for the differences in mean and standard deviation values.

Similar to the above, no significant differences were noted between race and family size. Regrouping of the data also failed to produce significant results.

Summary

In this chapter, the research findings concerning the relationship between the concept of educable mental retardation and sex, race, socio-economic class and time have been presented. In addition, the results from a number of component or sub-hypotheses have also been presented. The groups of students studied varied in size according to the dependent variable under test because of incomplete data on some variables. However, the Ns were sufficiently large to insure that statistical power was

not lost as a consequence of reduced Ns. A summary of the hypotheses found to be significant is presented in Table 4.15.

TABLE 4.15.--Summary of hypotheses and sub-hypotheses
found to be significant at the .05 level.

Hypothesis 1:	The concept of educable mental retardation, as used by the Detroit Public School System for special class placement, will vary as a function of race, sex and socio-economic class.
Results:	Significant results were found for: sex (.0470), socio-economic class (.0034), and time blocks (.0017).
Hypothesis 2:	The exit pattern (e.g. return to regular grades) of students classified as educable mentally retarded will vary as a function of race, sex and socio-economic class.
Results:	Significant results found only for race (.01).
Hypothesis 4:	The initial age and grade of students at the time of psychological examination will vary as a function of race, sex and socio-economic class.
Results:	Age at the time of evaluation: significant results found for socio-economic class (.0004), time blocks (.0001). Grade at the time of evaluation: significant results found for race (.0002), time blocks (.0485).
Hypothesis 5:	Measured intelligence of educable mentally retarded students, over time, will vary as a function of the length of time spent in special classes.
Results:	$r = -.68$ between the first I.Q. difference and the first time period in E.M.R. classes. $r = .69$ between the second I.Q. score difference and the first I.Q. score.
Hypothesis 6:	Within special classes for students classified as educable mentally retarded, Blacks and Caucasians will differ as a function of the student's place of birth.
Results:	Place of birth was significant at .001 level.

CHAPTER V

SUMMARY AND CONCLUSIONS

Special classes for students certified as educable mentally retarded have increased approximately 400 percent (Mackie, 1969) across the United States during the past 20 years. In the state of Michigan during the fiscal year 1969-70, 55 million dollars was expended for the operation of special education classes. Of this sum, classes for the educable mentally retarded accounted for over 50 percent (\$34 million) of the total amount paid to local school districts. A significant portion of these funds were paid to large urban school districts, all of whom operate extensive Special Education Departments. Despite the question raised by some (Dunn, 1968; Dexter, 1958, 1960; Shulman, 1968) regarding the frequent misdiagnosis of culturally different students and the efficacy of existing programs, classes for the educable mentally retarded continue to expand.

The purpose of this study was to examine the concept of educable mental retardation as a function of race, sex and socio-economic class over time in an urban school system.

Summary of Research Hypotheses

The research hypotheses investigated were:

1. The concept of educable mental retardation based on measured intelligence, as used by the Detroit Public School System for special class placement, will vary over time as a function of race, sex and socio-economic class.
2. The exit pattern (e.g. return to regular grades) of students classified as educable mentally retarded will vary as a function of race, sex and socio-economic class.
3. The delay in placement of certified educable mentally retarded students will vary as a function of race, sex and socio-economic class.
4. The initial age and grade of students at the time of psychological examination will vary as a function of race, sex and socio-economic class.
5. Measured intelligence of educable mentally retarded students, over time, will vary as a function of the length of time spent in special classes.
6. Within special classes for students classified as educable mentally retarded, Blacks and Caucasians will differ as a function of the students' (a) place of birth; (b) number of schools attended; (c) mobility; (d) semesters repeated in regular grades prior to special class placement; (e) number of siblings in the family.

Summary of Method

A systematic randomly drawn sample of 858 test protocols and case histories were drawn from the file records of the Detroit Public School Psychological Clinic. The total sample consisted of 326 Blacks, 276 Caucasians, 585 males and 273 females. All subjects had been administered

an individual psychological evaluation and subsequently recommended for placement in classes for the educable mentally retarded in the Detroit Public School System during the time span of September, 1911 to January, 1970. Cases where organic brain damage was recorded by the clinic physician were excluded from the sample.

Major variables were operationally defined as follows:

1. Educable mental retardation--certification and placement of a student in special education classes for the educable mentally retarded. Certification, as used in this definition, refers to the assessment process, whereby a student is administered an individual intelligence test--(e.g. Stanford-Binet, Wechsler Intelligence Scale for Children, Detroit Test of Learning Aptitude) and on the basis of I.Q. and "other factors" is recommended for special class placement. The general range of intellectual retardation considered to be educable has been an I.Q. between 50 and 75.

2. Race--Race was defined as the psychologist's judgment of the race of the student. Racial identification was generally recorded by the examining psychologist on the test protocol and case history form.

3. Sex--Sex, like race, defined on the basis of the examining psychologist's recording on the test protocol and case history form.

4. Socio-economic status--Socio-economic status was determined by using a weighted scale of the head of the student's household (usually father) a value was assigned on the basis of his education and occupation. The value represented a composite score which consisted of the equal weighting of occupation and education (see Appendix A).

The data were coded and punched on IBM cards. Subsequent analyses were performed by using the CDC 3600 computer at the M.S.U. Computer Center. The specific analytic techniques used were: (1) analysis of variance; (2) chi square; (3) the Pearson product-moment correlation. All decisions pertaining to tests of significance were made at the .05 level.

Summary of Research Findings

1. The concept of educable mental retardation, as used by the Detroit Public School System for special class placement was found to vary as a function of sex, socio-economic class and time blocks. Race was not found to be a significant variable.

2. The exit pattern (e.g. return to regular grades) of students classified as educable mentally retarded was found to vary as a function of race.

Sex and socio-economic class did not contribute significantly to the variance noted in E.M.R. students' exit patterns.

3. The delay in placement of certified educable mentally retarded students did not vary as a function of race, sex and socio-economic class.

4. The initial age and grade of students at the time of psychological examination varied only partially as a function of race, sex and socio-economic class.

More specifically, age at the time of evaluation varied significantly with socio-economic class and time, but not with sex or race.

Grade at the time of evaluation varied significantly with race and time, however, no significant main effects were found in its relationship with sex or socio-economic class.

5. Measured intelligence of educable mentally retarded students, over time, varies negatively with the length of time spent in special classes despite an initial increase in first retest scores.

6. Within special classes for students classified as educable mentally retarded, Blacks and Caucasians differed significantly only as a function of the student's place of birth.

The factors of number of schools attended, mobility, semesters repeated in regular grades prior to special class placement, and the number of siblings in the family were not found to be statistically significant.

Conclusions

Based on the findings of this study, the following conclusions have been made:

1. The concept of educable mental retardation, as used by the Detroit Public School System for the placement of students in special classes, has fluctuated significantly over the forty-nine year time period examined. Moreover, the findings of significant main effects for sex and socio-economic class indicate that males from low socio-economic status homes are more likely to be diagnosed and placed in classes for the educable mentally retarded than females from comparable socio-economic backgrounds. Although race was not found to be a significant factor in special class placement, the disproportionate increase of Blacks found in special classes over time suggest a differential placement practice along racial lines, particularly as the trend relates to Black males.

2. The exit pattern for E.M.R. students placed in special classes was found to vary as a function of race. This finding is indicative of a school policy which basically retains Black students in special classes once they are diagnosed and placed. Caucasian students, on the other hand, were found to have access to exits such as transferring to parochial schools, moving from the school district, or entering the job market.

3. Students from high socio-economic homes are more likely to be referred at an earlier age for psychological evaluation if retardation is suspected.

4. Social promotion appears to have become a more prevalent practice as the racial composition of the school system changed from Caucasian to Black.

5. Measured intelligence, over time, for the E.M.R. student appears to follow the same fluctuative pattern as the Self Concept of Academic Ability of E.M.R. students

6. A significant proportion of Black students found in classes for the E.M.R. have migrated to Detroit from southern states, while their Caucasian counterparts have migrated primarily from the Appalachian region.

Discussion

The purpose of this study was to examine the concept of educable mental retardation as a function of race, sex and socio-economic class in an urban public school system. Although the results appeared, at various points, to be obscured to a degree by yielding only partially significant findings, they do suggest that of the three independent variables (race, sex and socio-economic class) all were found to significantly account for part of the variance associated with conceptual definition of retardation on either a placement or treatment level.

The impact of special class placement on the E.M.R. student's self concept of academic ability has been interpreted (Towne and Joiner, 1965) as a function of change in reference groups. Similarly, it appears that the fluctuations in the E.M.R. student's I.Q. score can also be interpreted as a function of changing reference groups and lowered self concept of academic ability. Moreover, the change appears to vary as a function of the length of time spent in the regular grades prior to placement in special class. That is, if a given student did not enter an E.M.R. special class until late in his academic history, the likelihood of his testing higher on the retest is increased. Conversely, students entering special classes at an earlier grade and age test lower on the retest.

Combined with the age factor and early placement is, perhaps, the socio-economic class factor noted by Mercer (1965), namely that higher socio-economic status groups are more accepting of retardation as an irreversible condition and consequently develop a set of expectancies which are not in conflict with the normative model used in special education classes. The finding that the higher socio-economic groups were placed earlier in special classes and retained longer supports Mercer's position. However, this appears generalizable primarily for Caucasian E.M.R. students. Blacks, contrary to Caucasians, appear to be diagnosed and placed on the basis of a lack

of acculturation which is interacting with a deficit of academic and intellectual skills. The action taken toward Black students, once placed, however, suggest a redefining of these factors into medically based handicaps; thus, the greater referral to the Division of Vocational Rehabilitation in contrast to recommending entrance into the job market at age sixteen.

The question of predicting what will be the composition of an urban school district E.M.R. class can be interpreted in the following manner. Students placed in urban special education class for the E.M.R. will generally represent an ethnic or cultural group which has little power in determining the type of label or process of labeling imposed upon them. Although a small portion of the urban E.M.R. students will come from high socioeconomic status homes, the majority of the E.M.R. students will be from groups who are not acculturated to the degree that their voices are heard at the decision-making level. However, as these groups gain in economic and political power, they are generally replaced with a newly arrived low socio-economic group who then assume the label of being ethnically or culturally different. The incidence and proportion of retardation found in the new group generally will increase disproportionately until the hierarchical structure is changed.

Implications for Future Research

In view of the findings of this study and of the relationship of these findings to other studies in mental retardation and mental health, a number of research questions to further examine this relationship are presented.

1. What is the incidence of organic brain injury across social class?
2. What specific social and academic behaviors were used as a basis for referral for initial psychological evaluation of E.M.R. students?
3. Are there specific sub-test variational patterns between ethnic groups and socio-economic classes within an E.M.R. population?
4. Is there a correlation between the school psychologist's socio-economic status and the type of educational recommendation made?
5. Can reference group manipulation vary the I.Q. scores of E.M.R. students?
6. Is there a relationship between the length of time spent residing in an urban area and the number of migrant students placed in E.M.R. classes?
7. Would a follow-up study of former urban E.M.R. students indicate stability of intelligence and socio-economic status?

Implications for Future Special
Education Programs

One implication of this study for future special education programs appears to be that the concept of E.M.R. as presently used minimizes the socio-cultural variables which are quantitatively interpreted as forms of deviancy within a normative model. Limited attention appears to have been given to the qualitative variations found within and between diverse socio-economic and racial groups; particularly in terms of how these differences affect diagnostic and pedagogic interpretation. These limitations underscore the need for differential diagnosis and development of educational programs which acknowledge the psychosocial undergirds of mental retardation. Moreover, the need for viewing the E.M.R. population as a heterogeneous rather than homogenous group is vital to the implementing of appropriate educational programs.

Second, a refocusing and redefining of the present definition of E.M.R. appears in order; particularly along the dimension of adaptive behavior. The developing of quantitative and qualitative instruments which are sensitive to adaptability are needed before we can really focus on what retardation represents.

Thirdly, the imposed label and resultant shift in expectancies needs to be re-examined within a "normal classroom setting." If the data as reported in this study

are indicative of the efficacy of segregated E.M.R. classes perhaps the need for additional classes can be reduced by revising the behavioral criteria used in certifying and placing students in E.M.R. classes. In conjunction with this approach, there could be a reverse reimbursement pattern, i.e., students experiencing learning problems would be retained in the regular grades but provided with additional remedial services. Such services could be reimbursable and transferable across school districts if operated on a county or regional level.

Finally, special education E.M.R. classes have frequently represented a terminal placement for students. The data from this study provide strong evidence that in some urban E.M.R. classes once a student is placed in special classes the probability that he will be re-evaluated for future educational planning is remote. A recommendation for legislation making periodic re-evaluation mandatory would no doubt greatly reduce this lack of service to the E.M.R. student.

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APPENDIX

APPENDIX A

SOCIO-ECONOMIC STATUS SCALE

<u>Education</u>	<u>Weight</u>
Eighth grade or less	1
Some high school	2
High school graduate	3
Some college	4
College graduate	5
Post-graduate education	6

<u>Occupation</u>	<u>Weight</u>
Labor (unskilled labor)	1
Service workers (waiter, maid)	2
Operative (semi-skilled, e.g. machinist)	3
Technical, craftsman (foreman, mechanic, bricklayer)	4
Manager, official, proprietor, minister	5
Professional	6
Unemployed	0
Prison	0

Combined Weights (Education and Occupation)

12	
11	equal 1
10	
9	
8	equal 2
7	
6	
5	
4	equal 3
3	
2	

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