This paper reviews the wide variety of approaches and issues in research relating to the education of the disadvantaged in the decade of the sixties. Relevant works are designated in two categories: (1) the study of population characteristics and, (2) the description and evaluation of programs and practices. Studies within the former area are further categorized as investigations of performance and of life conditions. In the area of programs and practices, the focus of newer research is considered as emphasizing the role of the educational experience in producing the observed dysfunctions in performance. Research in the area of population characteristics is held to be rather well-designed and detailed. In contrast, the description and evaluation of educational programs and practices for the disadvantaged are considered generally superficial. A bibliography relating to works reviewed in the paper is appended. (RJ)
SIGNIFICANT TRENDS
IN THE EDUCATION OF THE DISADVANTAGED

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In the past ten years, research related to the education of the disadvantaged has covered a wide variety of approaches and issues. However, most of the work can be classified under two broad categories: 1) the study of population characteristics, and 2) the description and evaluation of programs and practices. In the first category, investigators have focused on eliciting deficits in the conditions or behaviors of the target population—the ways the groups studied differ from alleged "normal" populations. In the second category, which is only now beginning to build a body of theoretical and descriptive material, investigators have attempted to describe what goes on in the schools and to relate such variables as school structure, teaching methods, or a myriad of special services, to student achievement. While the first type of study has been conducted largely by educational psychologists, specialists in testing and measurement, and developmental psychologists, the second has been the product of anthropologists, sociologists, social psychologists and, on a more informal level, of teachers who have worked in the school system. Studies in the former group precede those in the latter and have tended to place responsibility for failure on the children and their background. Although studies in the latter group grew out of the same philosophy and were developed with the goal of designing compensatory experiences for identified deficiencies, newer research in this group has begun to emphasize the role of the educational experience in producing the observed dysfunctions in performance.
Population Characteristics

Studies within this category can be further divided between investigations of performance and life conditions. The largest body of research concerns what is called intellectual performance. Most studies in this area have concentrated on I.Q. test results and consistently support the hypothesis that high economic, ethnic or social status is associated with average or high I.Q. scores, while the reverse—low economic, ethnic or social status—is associated with low I.Q. scores relative to the other group. ¹

A by-product of descriptions of the relationship between SES and/or ethnic group and intellectual performance has been the attempt to interpret results with speculations as to causes. On the one extreme, investigators have seen their work as supporting genetic determinants of intelligence; at the other end of the spectrum, researchers have viewed their findings as support for environmental determinants of intelligence. ² ³ However, the majority of investigators now interpret the data as reflecting a complex and continuous interaction between hereditary and environmental forces. ⁴

In contrast to the huge body of statistics and analyses concerning intellectual status as judged by standardized tests, only limited effort has been directed at differences in cognitive style. There has been some attempt to factor-analyze standardized tests, and one substantial investigation deals with differential strengths and deficits in the intellectual functioning of different ethnic groups. ⁵ ⁶

Another area of considerable research is that of the plasticity of intellectual development. This work has been conducted by both those investigators who would support the dominance of genetic determinants of intelligence and those who adhere to the
importance of environmental factors in determining the quality of intellectual functioning. Building upon Binet’s early concern with the trainability of intellectual functioning and Montessori’s efforts to modify intellectual performance in children with subnormal performance levels, investigators have worked with all but the most gifted children. There is only one major longitudinal study which attempts to relate intellectual development to differences in environmental conditions: this investigation traces the development of a sample of twins reared in dramatically different environments over a period of 25 years, and shows significant variations in their level of intellectual functioning.

Short-term studies dealing with the plasticity of the intellect have led to mixed findings. Some reports show intervention to be associated with no significant change in intellect as measured by intelligence test scores. Others have shown only modest change, and many of these results have been interpreted as reflecting a normal fluctuation in intellectual function from one test period to another. On the other hand, some studies have demonstrated significant increases when pre- and post-treatment scores are compared. Unfortunately, these improvements have not yet been tested in large populations, and no follow-up studies have been made after a long enough time period to justify the conclusion of permanent change.

However uncertain these data may be, there remains among many researchers the conviction that intelligence is largely a trainable function. A number of studies have attempted to relate trainability to age. One of the more pessimistic positions is that, due to the lack of powerful and positive environments, the processes underlying
intellectual functioning rapidly lose their plasticity after three years of age. More optimistic reports show typical I.Q. gains of ten points with adolescents; however, such gains are still only half as much as can be generated with younger subjects. Studies of such programs as Harlem Prep and Upward Bound support the hypothesis that big changes in achievement, if not in intellectual functioning, can be effected in adolescence.

In general, the data lead one to conclude that, as measured by standardized tests, significant changes in the quality of intellectual function are more likely to occur to the extent that there are powerful positive changes in environmental interactions, and that the changes occur early in the life of the individual. The fact that malleability may decrease with age, however, may not reflect a recalcitrant character of intellectual functioning. Rather, what may be operating is the tendency to rely on earlier patterns of stimulus processing in the absence of exposure to powerful and different environmental input. It has been suggested, for example, that the decreasing malleability of intellectual functioning among the urban disadvantaged may be the result of prevailing school practices, which do not provide new positive inputs and which may even reinforce previous maladaptive patterns of functioning.

As measured by grades, standardized tests, and high school attrition, there is an abundance of data showing that disadvantaged populations do not do as well academically as do more advantaged populations. Their lower achievement and higher dropout rates have been related to such environmental factors as low income (resulting from limited education and occupational level of parents), health and nutritional deficits, childrearing patterns
which do not prepare the children for school; cultural differences between disadvantaged students and their teachers; and racial isolation and discrimination as well as other school-related variables. Demographic studies have fallen into several categories. The more traditional type has concentrated simply on economic, employment and educational levels of the family as they relate to the children's school performance. A newer type attempts to go beyond a strictly economic kind of data and, centering its interest around what has become known as the "culture of poverty," examines various aspects of family disorganization such as consensual marriage, out-of-wedlock children, divorce rates, broken homes, and matriarchal or female-dominated households. One or more of these configurations are then related to children's performance in school. However, the concept of the "culture of poverty" has recently been highly criticized, and a few investigators have begun to focus on those patterns which may be adaptive within the school in a depressed environment, even if they are not totally adaptive within the school environment.

The relationship between specific childrearing practices and academic achievement has been copiously studied. Concentrating particularly on mother-child interaction, investigators have identified maternal influences which may create such characteristics as language behavior, task orientation and value commitment in the disadvantaged child. Implicit in these studies is the assumption of a middle-class norm, and most studies compare interactions in disadvantaged families with those in more privileged households. So far there has been little attempt to describe the variations in childrearing practices.
among lower-class or minority-group families, and there has been scant research on those elements in these families which lead to academic success.  

A neglected area in educational research has been the investigation of the relationship between health status and school performance. Data on the effects of poverty on health and nutrition are substantial, all showing that disadvantaged populations suffer from poorer health care, a greater proportion of premature deliveries, higher mortality rates, poorer nutrition, etc. There is also some research indicating the possible effects of the health of the pregnant mother on the intellectual functioning of the developing child. However, there is little data on the relationship between the individual's own health and nutritional condition and his cognitive development or academic performance in school. There is also little research showing the mechanisms by which poor health affects performance. Most investigators assume this to be the case, however, and conclude that poor health may result in lowered performance through impaired efficiency or reduced energy levels or, in more serious conditions, through impairment of the nervous system.

Still concentrating on demographic characteristics, racial and economic segregation of a disadvantaged population as it relates to school performance is one of the most heavily researched areas. Investigations have consistently led to the conclusion that low school achievement is associated with the concentration of low-income and minority group students in separate school situations (the one possible exception being Oriental students in segregated situations). A small group of studies have focused on separating out the effects of economic from racial or ethnic isolation, and the predominating view has been that economic segregation is even more deleterious to school
performance than is racial segregation. However, the point has often been made that it is impossible to draw strictly comparable socio-economic groups across racial or ethnic lines.

Related to this research on economic and racial isolation have been those investigations which focus on the effects of desegregation on school achievement. Studies in this area take two forms: those which measure achievement before and after desegregation, and those which examine the relationship between the degree of ethnic or economic mix and the level of achievement. Research in the former group has arrived at the conclusion that differential responsibility to desegregation is based on such factors as the reasons for desegregation, students' expectations of how they are going to be evaluated in the integrated setting, and the degree of organization or disorganization in the integrated as compared to the segregated setting. Studies in the latter group, which are usually based on larger populations than the former, show that desegregation is more likely to be associated with heightened achievement for the minority-group child when the receiving school population is predominately white and middle-class. However, caution is often expressed about applying these findings to smaller populations and individual cases because of the intervening variables, such as student expectations or school disorganization.

An area of research which is crucial to the interpretation of any results on population characteristics is that of testing and measurement. Most of the effort in this area has been directed toward validation of the content and construction of existing standardized tests and the predictive value of test scores. Research on testing and measurement of disadvantaged populations has been largely concerned with the relative predictability
of specific tests for minority-group versus white students, the efficacy of traditional as opposed to culture-fair and other innovative tests, and the problems inherent in testing minority-group populations. More recently, there has been an interest in factorial analyses of test data; the aim of this research is to identify specific patterns of functioning in different populations in order to understand variations in skills as well as deficits. A small group of investigators has also begun to research the effects of intelligence and achievement tests on such variables as teacher attitudes, student expectations, and school administrative policy.

Programs and Practices

In contrast to the rather well-designed and detailed research into the characteristics of disadvantaged groups, the description and evaluation of educational programs and practices for these children have generally been superficial. There has been little effort at matching treatment efforts with the nature and needs of the subject population. Programs are often designed on the basis of long-standing theoretical models or the special biases of researchers. Program evaluations stress little more than the fact or the magnitude of the intervention and a general assessment of the impact. What is lacking are detailed descriptions of the nature of the intervention, the interaction between the intervention and the learner, and the outcome of a particular treatment or intervention program when used with specific kinds of learners.

Research on programs and practices can be grouped into four types on the basis of the scope of the subject treated. Most prominent are studies which report on large-scale projects such as Head Start, Title I, More Effective Schools, Project Talent and Upward
Bound. A second group of studies reports on specific programs and services in the schools.

A third attempts to relate administrative and organizational change to student progress.

Changes in attitudes and orientations of school personnel are the subject of the fourth type.

Large-scale projects run the gamut from preschool to college. The aim of these programs has been to provide intensive compensatory education—school readiness, remediation of lagging achievement levels, or supply of the necessary skills for success in higher education—to disadvantaged students. With the exception of preschool projects, where centers have developed experimental programs, most of the large-scale programs have been more intensive versions of standard curriculum and teaching methods. The projects have been evaluated by pre- and post-treatment test scores and subjective evaluations of student progress; little research has focused on describing the exact nature of program input or on following the subjects' longitudinal development once the treatment is completed.

Project evaluations in general indicate that compensatory education has failed. In those cases where positive findings are reported, it has been difficult to identify or separate treatment effects responsible for the result from Hawthorne effects (the impact of a changed situation itself) or from Rosenthal effects (the result of changed expectations). However, recent reviews of the research criticize evaluation methods and indicate that the tests used may be insensitive instruments for tapping whatever progress might be made.

Evaluations of specific programs and services in the schools include studies of such elements as counseling programs, tutoring projects, special service personnel (bilingual teachers, reading specialists, paraprofessionals, etc.), curricular innovations, such as
bilingual or ethnically-oriented studies and teacher-student developed materials, and changes in teaching techniques (individualized instruction, teaching machines, team teaching, etc.).44 Here too, much of the intervention has been a continuation of traditional programs and services, and little effort has been given to matching the specific needs of the population with the intervention instituted. Only projects focusing on curriculum relevance and individualized instruction have been directed toward matching learner and the learning experience.45 Adequate evaluations of these programs have also been scarce. Programs tend to introduce a number of services simultaneously, and it has been difficult to identify, even in successful programs, the element or elements which are most instrumental in causing change.46

Until recently, studies of administrative and organizational change in the schools have been directed primarily at desegregation. Research on desegregation in Southern school districts describes the politics and process of desegregation, including the implementation of federal guidelines and community resistance to change.47 Literature on Northern desegregation deals with the same issues, but also describes the development and implementation of specific desegregation plans such as bussing and transfer programs, school zoning, or the creation of the middle school and education parks.48 As reported earlier, findings on the effects of desegregation tend to show that the single most important school factor influencing academic achievement for black and other minority-group children (as well as low-income students) is that the classroom be made up predominately of white middle-class students.49

More recent organizational and administrative changes in the schools include experiments with homogeneous and heterogeneous groupings, changes in pupil-teacher
ratio, and the implementation of parent and community involvement. Major research on ability grouping shows that it has no measurable effect on student achievement. When homogeneous grouping causes de facto segregation, it may, in fact, lower the achievement of minority-group and low-income students. Changes in pupil-teacher ratio have been studied by a number of investigators with differing viewpoints and, as might be expected, the conclusions reached vary according to the point of view of the researcher. Since extensive parent and community involvement are still relatively new areas for investigation, there is no definitive work on this subject. However, a number of researchers have hypothesized that the influence of parent and community forces in the schools may provide a powerful force for instituting needed changes in both the children and the schools. Several investigators have linked the "sense of fate control," which has been found necessary for school achievement, with parental involvement in the schools. One major research project concludes that the only hope for narrowing the spatial, cultural and emotional gap between school personnel and school children is through introducing parents and other community members into the schools.

There is a rapidly growing body of research which relates teacher attitudes and expectations to student performance. Studies in this area point to the debilitating effect of low teacher expectations. A number of investigations have been aimed at identifying factors which form teacher attitudes and behavior. So far, this research is inconclusive, but indications are that it is not social class background alone, as previously thought, which creates either positive or negative attitudes and behaviors toward disadvantaged children. Without any clear indications of what causes teachers'
negative attitudes toward low-income and minority-group children, a few studies have focused on the possibilities of changing teacher attitudes. Research in this area is difficult to interpret, since positive changes are usually measured by answers to a questionnaire and thus indicate little more than the fact that teachers have learned more "acceptable" responses. It has been hypothesized that artificially changing teachers' expectations of student performance can create measurable change in student achievement; but data on this subject also remains inconclusive.

The question of "equal educational opportunity," which for a long time has been dealt with merely as a concept holding a wide range of definitions, is beginning to be the focus of research attention. Studies show differences in such factors as school expenditures, teacher training and experience, teacher salaries, school facilities, teacher-pupil ratio, and access to outside resources, between schools in depressed and advantaged neighborhoods. Such factors have, in turn, been shown to be instrumental in forming a learning climate. Finally, research indicates that even in schools with greatly expanded resources due to compensatory education programs, the learning environment in schools in depressed neighborhoods is far less conducive to achievement than in schools serving more affluent children.

The very nature of the vast amount of study of minority group populations raises serious research questions. It has recently been pointed out, for example, that the investigator's attitude and ethnic and social background may affect the research questions he poses, his methodology and data gathering techniques, and, ultimately, his access to particular populations. Although the relationship between the nature
of the investigator and the nature of his research on minority populations has not been studied as yet, the findings of such research will supply a useful context for reexamining past investigations and for undertaking future research.
Availability Statement

This list of references contains documents available from the ERIC Document Reproduction Service (EDRS), National Cash Register Company, 4936 Fairmont Avenue, Bethesda, Maryland 20014. They are indicated by ED number (e.g., ED 017 353), and are available in microfiche or hard copy. Microfiche is a 4x6 inch sheet of film containing up to 70 pages of text; special readers are required to read the microfiche. Hard copy is paper photo copy or facsimile of the document, with the size of the print 70 percent of the original. Consult monthly, semi-annual, or annual indexes of Research in Education for the specific costs of these documents. In ordering from EDRS, include sales tax where applicable and a $0.50 handling charge. Order by ED number only. Payments under $5.00 must accompany order.
References


6. IRCD Bulletin, 5(4), Fall 1969. [See especially "Behavior-Genetic Analysis and Its Biosocial Consequences" by Jerry Hirsch (pp. 3-4; 16-20). This article also appears in the February, 1970 issue of Seminars in Psychiatry, Henry M. Stratton, Inc., publisher.]


10. Examples of this research are:


18For a collection of this literature see:
Goldstein, Bernard. Low Income Youth in Urban Areas, A Critical Review of the Literature. New York: Holt, Rinehart and Winston 1967. (The "Annotated References for Chapter One" (Family of Orientation), are especially relevant.)


Goldstein, 1967.

A recent conference sponsored by the U.S. Office of Education addressed itself to the question "Do Teachers Make a Difference?" The papers which were presented which soon will be available as conference proceedings discuss this topic along with other teacher influences. The relevant papers are by: James Guthrie, Stephen Michelson, Eric Hanushek, Henry Levin, George Mayeske, and Alexander Mood.


Goldstein, 1967.

Several examples are:


Valentine, Charles A. Culture and Poverty: Critique and Counter-Proposals. Chicago, Ill.: University of Chicago Press, 1968. (ED 035 707) The latter, while covering the concept of the culture of poverty, is critical of its usage.

See for example:


Valentine, 1968.

The work of Robert Hess and his associates done at the Urban Child Study Center at the University of Chicago should be noted. A representative piece is:

27 An exception to this is:
Davidson, Helen H., and Greenberg, Judith W. Traits of School Achievers from a Deprived Background. New York: City University of New York, City College, 1967. (ED 013 849)

28 For a comprehensive overview of a wide variety of studies in this area, see:

29 The work of Lilienfeld and Pasamanick during the 1950's is still among the best concerning possible effects of various pregnancy experiences. Two of the best references include:


30 No investigator has been more critical of the lack of research in this area than Birch, who recently published a comprehensive and incisive volume emphasizing which specific mechanisms actually affect performance. The book's particular strength is its inclusion of references to research which substantiates what has been assumed for some time. See:


31 For the most complete review of the research in this area, see:


33 St. John, 1968.

34 Three sources offer a comprehensive discussion of these three factors.

McPartland, James. The Segregated Student in Desegregated Schools: Sources of Influence


36St. John, 1968.


(Also see articles by Meyer Weinberg in Integrated Education from Volume 4 (4), 1966 to Volume 6 (6), 1968.)

37For example:


41A notable exception to this is the work Susan Gray and her associates have done at George Peabody College.


References to pre-school projects which are exceptions to this generalization include:


Scrimpshaw and Gordon, 1967. (See especially Part VIII, pp. 464-542.)

A cross-section of studies which discuss these elements include:


Shaw, Merville C., and Rector, William. *Influencing the Learning Environment by Counseling With Teachers*. Monograph #6, July 1968. (ED 022 233)


46For example, in the Title I, E.S.E.A. project in Camden in 1966-67, a number of global variables including class size, teaching conditions, corrective reading, medical services, audio-visual programs and teachers aides were introduced simultaneously, preventing isolation and evaluation of those specific variables which actually had impact. See: Camden City Schools, New Jersey. Title I: E.S.E.A., 1966-67, Projects of the Camden City Board of Education--Evaluative Report. 1967. (ED 018 473)


The United Federation of Teachers responded with a criticism of the Center for Urban Education's report.


Hawkridge, 1968. (Hawkridge named "More Effective Schools" an exemplary compensatory program.)


54Coleman, et al., 1966.


Look for the future publication entitled: How Do Teachers Make a Difference? by the Division of Assessment and Coordination, Bureau of Educational Personnel Development, U.S. Office of Ed., Washington, D.C.

Two more references should also be helpful:


Webster, 1966.

Flaxman, 1969.


Leacock, Eddy, Weinstein and Fantini have contributed the most to this area. See:


