

THE RELATIONSHIP BETWEEN HEAD START

AND

NON-HEAD START STUDENTS

AND

ACADEMIC ACHIEVEMENT

by

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CHAPTER I

INTRODUCTION

The learning process of all children constituted one of the most crucial responsibilities of the elementary school. Even before kindergarten age, noticeable differences had been found between low income and middle class children in their ability to learn and relate to the world around them. While the child's life from low income groups may have been rich in many areas, his environment often lacked the stimulation necessary to prepare him for school experiences. Schools for children under five had existed for over 200 years, but they had been provided mostly for middle class children. (15)* This tended to increase differences in school readiness between economically comfortable and economically disadvantaged groups. Many problems of the jobless poor had been perpetuated from generation to generation causing an endless cycle of poverty. To combat this problem, Project Head Start was initiated in the summer of 1965, as an eight-week preschool and full-length program.

Most traditional preschools had been geared toward developing social and conceptual skills through a free play experience. The organizers of Head Start realized that a change in the child's total environment would be necessary to bring about sufficient improvement. Under the assumption that a child cannot function optimally if his health or welfare is impaired, Head Start Centers were designed to offer medical, nutritional, dental, psychological and social services

* Numbers in parentheses refer to numbered references in the bibliography; those after the colon are page numbers.

as an integral part of the nursery program. The common goal was the improvement of the child's physical health, his intellectual performance, his social attitudes and, most important, his self-concept, a sense permitting him to continue to make full use of his opportunities to learn rather than serve merely as a set of specific school-related skills.

Congreve (5) was convinced of the realization that money alone would not solve the problem of the disadvantaged child who was financially and educationally poor. If our antipoverty program were to succeed in helping economically disadvantaged children, a tremendous effort must go into improving their self-concepts and giving them a purpose in life, into assisting Head Start and public schools to become more effective in helping the disadvantaged child achieve success.

Silberstein (19) stated:

Our educational system has been developed to teach middle class children. These children appear in the classroom with good motor development and the ability to sit still in class. They have interest in academic material and an eagerness to learn. In comparison, the children from impoverished families tended to be overactive and impulsive, to have difficulties in concentration, to lack a basic reservoir of information, and have poor motivation to relate to adults.

It was the writer's intent to provide additional information showing that Project Head Start was beneficial to those attending the Head Start Centers.

STATEMENT OF THE PROBLEM

The purpose of this study was to determine if there was a relationship between the Head Start Program, as developed in Helena Public Schools and academic achievement.

The major hypothesis was that there was no significant difference between grades of Group I (Project Head Start) and Group II (those without kindergarten or Head Start). Both experimental and control groups were of the same socio-economic background.

The second hypothesis was that there was no significant difference between grades of Group I (Project Head Start) and Group II (those without kindergarten or Head Start) using their chronological ages as the covariate between the two groups.

The third hypothesis was that there was no significant difference between scores of the Gates-MacGinitie Reading Test of Group I (Project Head Start) and Group II (those without kindergarten or Head Start) using the Metropolitan Reading Readiness results as the control variable between two groups.

The fourth hypothesis was that there was no significant difference between scores of the Gates-MacGinitie Reading Test of Group I (Project Head Start) and Group II (those without kindergarten or Head Start) using an analysis of covariance statistics with chronological age as the covariate between the two groups.

PROCEDURES

The steps taken in conducting the experiment were as follows:

(1) Office of Economic Opportunity and the public schools to participate in the study were contacted for permission to conduct the study, (2) an experimental and control group were established with thirty pupils in each group, (3) the student's grades and scores of the Gates-MacGinitie Reading Tests and Metropolitan Reading Readiness were compiled, (4) statistical analyses were made to test the hypotheses.

LIMITATIONS

The study was limited to Helena Project Head Start and Helena Public Schools. The sample population was limited to children whose parents were under the poverty index scale. A limited selection of research articles were available to the author. Library research was obtained from Montana State University Library, Helena OEO, and Washington D.C. Research Division.

DEFINITIONS

ADC-Aid to Dependent Children. Families falling under the Poverty Index receive financial assistance for medical care, food stamps, casework services, and day care services to ADC families.

Child of Poverty-A child whose family is considered to fall within the index of poverty.

Full Year Head Start-Full Year Head Start programs may operate for periods of up to twelve months for either a part of a day or a full day. The minimum length of a full year program was eight months, of at least 15 hours a week. Children were encouraged to move directly from full year Head Start into school.

Gates-MacGinitie Reading Tests-A standardized reading test consisting of two parts: Vocabulary and Comprehension. The Primary A level was intended for use in the first grade, and Primary B was for use in the second grade. The Vocabulary Test sampled the child's ability to recognize or analyze isolated words. The Comprehension Test measured the child's ability to read and understand whole sentences and paragraphs.

Grade Index-The total score computed by summing the letter grades obtained in each grade. The numerical classifications for each letter grade are as follows: E = 5, S+ = 4, S = 3, S- = 2, N = 1.

Index of Poverty-A table indicating poverty with respect to the household size and levels of gross income. Families which fall within the guideline are considered to be poverty-stricken. At least 90% of the children to be enrolled in each class must be eligible under the family income standards.

OEO-Office of Economic Opportunity. OEO was established within the Executive Office of President by the Economic Opportunity Act of 1964 (78 Stat. 508; 42 U.S.C. 2701), as amended. The act provides for Youth Programs (Job Corps and others), Urban and Rural Community Action Programs, Special Programs to combat Poverty in Rural Areas, Employment and Investment Incentives, and Work Experience Programs. The Director is authorized to carry out the programs and may, with

the approval of the President, delegate any of his powers under the act.

The following chapter will contain a history describing Head Start on a national basis and Helena Head Start on a local basis.

CHAPTER II

BACKGROUND OF HEAD START

We as a nation, and as a world had been faced with the problems of teaching children to participate in a society which was characterized by constant change. Technological and societal developments between 1910 and 1970 had begun to show results to such an extent that one is unable to comprehend the magnitude of social characteristics which will be present in 10 or 20 years.

Each year, almost one million children of poverty entered school for the first time. While more fortunate classmates had faced the new challenge with some assurance, poverty's children viewed school processes with a lack of confidence, a built-in mistrust of adults, and a deep fear of the whole operation. To fall behind or lose the will to progress at this stage of schooling could have resulted in hopeless feelings of despair and frustrations associated with the cycle poverty.

Schools for children under five had existed for over 200 years, but they had been provided mostly for middle-class children, thus tending to increase differences in school readiness between economically comfortable and economically disadvantaged groups. As problems of the jobless poor had been perpetuated from generation to generation, it became more and more evident that the cycle of poverty must be combatted at an early age. As a step in this direction, Project Head Start was initiated in the summer of 1965, both as an eight-week pre-school program for disadvantaged children, and as programs running the full length of a school year. (15)

Title II, Part A, of the Economic Opportunity Act of 1964 authorized the establishment of Project Head Start to provide a program for the economically disadvantaged pre-school child. It was based on the philosophy that (1) a child can benefit most from a comprehensive interdisciplinary attack on his problems at the local level, and (2) the child's entire family, as well as the community, must be involved in solving his problems. This comprehensive program would relate directly to the child's future life. The program contained five major components: (1) Health, (2) Nutrition, (3) Education, (4) Parent Involvement, and (5) Social and Psychological Services. (21)

The following were the broad goals of Head Start Child Development Programs as outlined in the Manual of Policies and Instructions, September, 1967.

- a. Improving the child's health.
- b. Helping the child's emotional and social development by encouraging self-confidence, self-expression, self-discipline and curiosity.
- c. Improving and expanding the child's ability to think, reason and speak clearly.
- d. Helping children to get wider and more varied experiences which will broaden their horizons, increase their ease of conversation and improve their understanding of the world in which they live.
- e. Giving the child frequent chances to succeed. Such chances may thus erase patterns of frustration and failure and especially the fear of failure.
- f. Developing a climate of confidence for the child which will make him want to learn.
- g. Increasing the child's ability to get along with others in his family and, at the same time, helping the family to understand him and his problems.

- h. Developing in the child and his family a responsible attitude toward society and fostering feelings of belonging to a community.
- i. Planning activities which allow groups from every social, ethnic and economic level in a community to join together with the poor in solving problems.
- j. Offering a chance for the child to meet and see teachers, policemen, health and welfare officers--all figures in authority--in situations which will bring respect and not fear.
- k. Giving the child a chance to meet with older children, teenagers, and adults who will serve as models in manners, behavior and speech.
- l. Helping both the child and his family to a greater confidence, self-respect and dignity.

Head Start programs were of two general types:

(1) Summer Head Start programs operated for the most part during school vacation. They were only for children who were eligible for kindergarten or first grade, and would attend school for the first time in the fall. Exceptions had been made to this rule for those children who had been specifically designated by their teachers in kindergarten or first grade as needing additional help from Head Start in order to be able to progress in school. The minimum length of a summer program was 120 hours.

(2) Full Year Head Start programs had operated for periods of up to twelve months for either a part of a day or a full day. The minimum length of a full year program was eight months. These programs were primarily for children of age 3 up to the age the child enters the school system, but may include some younger children.

Day Care Services in Head Start programs were those in operation for more than six hours a day, as it was then supplementing parental

care beyond the desirable duration of an educational or enrichment program. The center entered into the area of a service which was needed for some important reason, even though it would have been desirable for a child to return to his own family. (21)

OEO had established a poverty line index for determining eligibility of children for Head Start. The chart below showed, by household size and levels of gross income, those families which were considered to fall below the poverty line.

TABLE 1 OEO POVERTY GUIDELINES FOR 1968

Family Size	Non-Farm	Farm
1	\$1,600	\$1,100
2	2,000	1,400
3	2,250	1,700
4	3,200	2,200
5	3,800	2,600
6	4,200	3,000
7	4,700	3,300
8	5,300	3,700
9	5,800	4,000
10	6,300	4,400
11	6,800	4,700
12	7,300	5,100
13	7,800	5,400

Once a child was admitted to the program, he remained eligible until he entered school, unless the family income became more than \$3,000 above the poverty level.

Every Head Start program must have effective parent participation. There were at least four major kinds of parent participation in Head Start.

1. Participation in the process of making decisions about the nature and operation of the program.
2. Participation in the classroom as paid employees, volunteers, or observers.
3. Welcome Center staffs into their home for discussions of the ways in which a parent can contribute to the child's development at home.
4. Educational activities for the parents which they have helped to develop. (21)

Head Start opened its first centers in 1965 in 40% of the counties in continental United States, Alaska, Hawaii, Puerto Rico, The Virgin Islands, and Guam. The programs had varied from center to center, both in the emphasis placed on the various auxiliary services and the teaching methods employed. All had as their goal the improvement of the child's physical health, his intellectual performance, and his social attitudes. From the beginning, an evaluative and research arm had operated to observe and appraise the different efforts and to generate ideas for further experimentation. Feedback from both national and small scale studies had been slow. In 1968 reports were based on the 1966-67 full year program. Nevertheless, some preliminary statements were made about the kinds of people whom Head Start programs involve and the impact which the Project has had in their lives. (15)

Head Start opened centers in neighborhoods of severe poverty. It was not always easy to reach the most needy within these deprived

pockets, and the Project had only gradually approached its primary goal of a 90% enrollment of children whose families lived at the poverty level. When household size was considered, 60% of the Head Start families contained six or more people. A considerably higher proportion of the children enrolled in the Project during 1966-67 fell within this definition of severe economic poverty. A little under one-fourth of the families received public welfare and about the same proportion lacked a father living in the home. (15)

While early projections had estimated 100,000 children and 12,000 teachers would participate in the summer 1965 program, more than 560,000 children were finally enrolled. A staff of 184,000 paid and volunteer workers were enlisted. In the following two years, the summer programs had remained at a fairly stable level involving about half a million children. Full year programs were initiated in the fall of 1965 to offer the same types of services over a longer period, and these had multiplied from a small enrollment of 20,000 to 215,000 in 1967. As of 1967, over two million children had taken part in more than 13,000 centers at an average cost of \$220 per child in the summer programs and \$1,050 per child in the full year programs. These figures were somewhat higher than cost estimates for conventional preschool programs because of the intensive daily activities program and social services. (3)

The eastern and southwestern states led other regions in the number of children enrolled in Head Start programs. The centers had been distributed evenly over rural and urban areas. These urban

centers tended to be larger and contained 60% of the Head Start children. One-third of the programs were operated by public schools, 10% by private schools, and the rest by community action and private organizations. There were slightly more boys in the program than girls; the average age for both sexes was five years and ten months. Over 40% are Negro and 30% white among which one-third are Puerto Rican. In descending order, other groups include Mexican Americans, American Indians, Orientals and Eskimos. (15)

The social and cultural disadvantages of Head Start families had been dramatically revealed. During the summer of 1965, it was revealed that 45% of the children had no toys, books, magazines, crayons, paints or paper. About half had not seen a physician for a year or more. Although only 10% of the Head Start children in two years had been diagnosed as having severe emotional disturbances, they were generally characterized as restless, anxious, and unskilled in social interaction with both peer and adult groups. Their self-esteem was strikingly low, and they tended to be distrustful of others. (4)

The extent to which medical services were needed by children in Head Start was indicated by the fact that during the 1966 summer and full year programs, over 70% of those examined needed care for one or more health problems. Head Start centers had gone far in providing medical services for their children. Nearly 90% had employed a physician, 70% a nurse, 66% a social worker, 50% a psychiatrist or psychologist, and 48% a nutritionist working at least part-time. Diagnostic services had been excellent, as nearly 90% of the children in summer programs had vision screening tests, dental, and medical

examinations. A survey of summer 1967 health services revealed that 8% failed to pass the vision test. Sixty per cent of these had been fully evaluated and cared for by the end of the summer program, and funds were provided to continue to care for the remainder of the children. More than 60% of those given dental exams needed treatment, and 55% of this group had complete dental care by the end of the summer. While only 17% of the children examined had serious medical disabilities, follow-up was particularly thorough in this area. Eighty-two percent of these children received treatment by the end of the 1967 summer. (16)

One of Head Start's main objectives was to increase the child's readiness for learning in the public school, and much evaluation had been concerned with the Project's impact on cognitive and intellectual performances. A number of widely used standardized tests were available to assess this, and it was relatively easy to measure the changes in performance on intelligence tests, school readiness tests, and tests of psychomotor performance. The early notion of intelligence, as a fixed quantity which remains constant throughout the life of the individual has been questioned by some modern psychologists. (10)

Changes of attitudes, motivation and social behavior in preschool children were not so easily measured. There was uniform evidence that Head Start produced improvement in these areas. Head Start teachers were the strongest supporters of this contention. It was difficult to validate their ratings, as different teachers had different yardsticks. Direct observation by outside investigators had been used, as well as objective checklists regarding the child's everyday behavior.

Data taken from these sources showed that the child displayed sharper interest in the world around him, improved interaction patterns with adults and other children and task-orientation. He appeared more confident, more trustful in others in his age group, and a less alienated attitude towards authority. All these factors gave the child a greater chance for success in elementary school, freeing him in many areas from the disadvantages of his environment. (3)

HELENA HEAD START

In Helena, Head Start opened its first centers in the summer of 1965. The program was first organized as a non-profit Day Care Center under the direction of Mr. Mike Murray. Miss Pat Wall was the social worker. Both personnel had been instrumental in establishing continuity in this program. Their goals corresponded with the goals of the national program. (See page 8)

There has been a total of 750 students in Head Start, 300 enrolled in the half-day program, 120 in full day care, and 330 in the summer programs only.

Helena began its full year program in the summer of 1966 with nine employed instructors. Since involving the parents of these children was a primary goal of Head Start, all of the teacher aids used had been parents of Head Start children. Seventy-two percent of all Head Start parents have participated in parent-teacher conferences. The percentages were given in Figure 1.

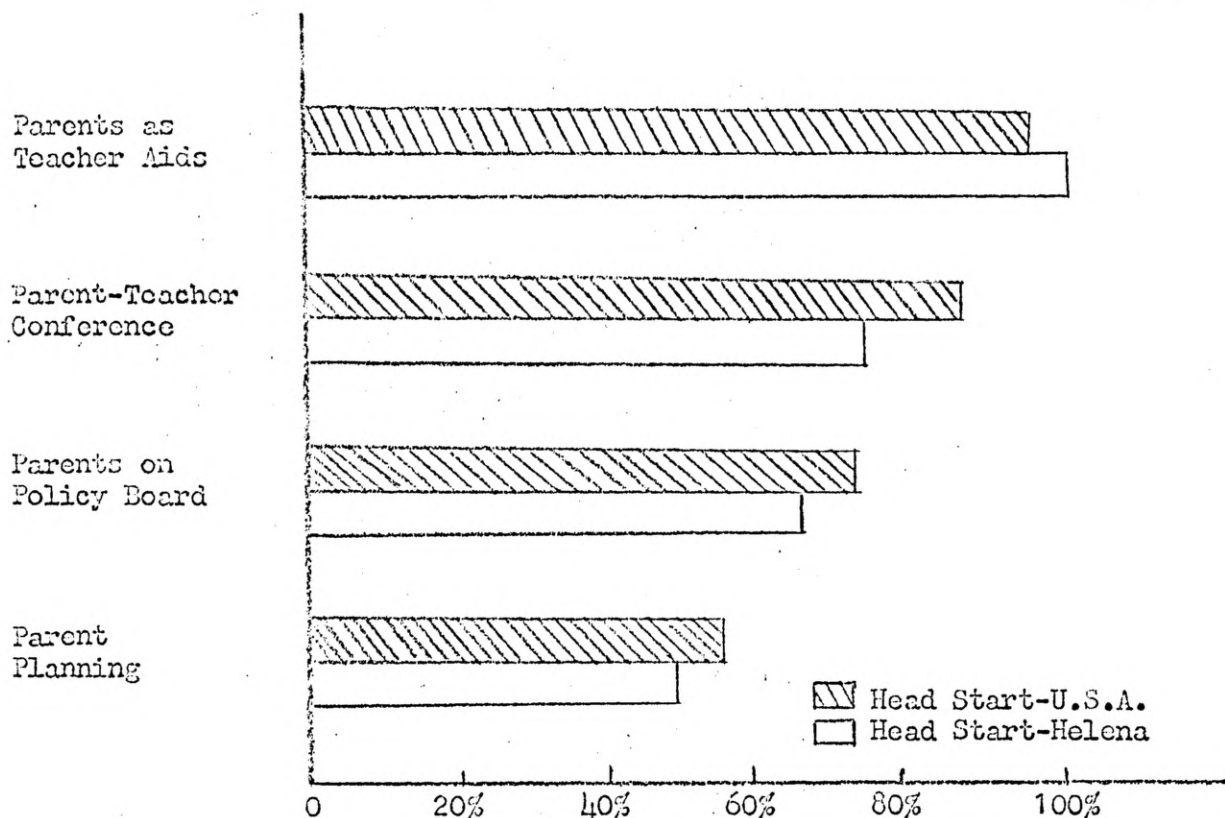


Figure 1. Percent of Systems According to Parental Participation in Head Start, 1966-67.

Helena employed a full-time nurse, a doctor as consultant, and a psychologist as consultant. There had been a total of 96% complete medical examinations, 70% dental examinations, 90% nutritional programs, and 100% home consultation services used by Head Start parents. Seldom has there been psychological, mental and aptitude testing. In fact, only one percent of the students in Helena had been tested. The percentages were given in Figure 2.

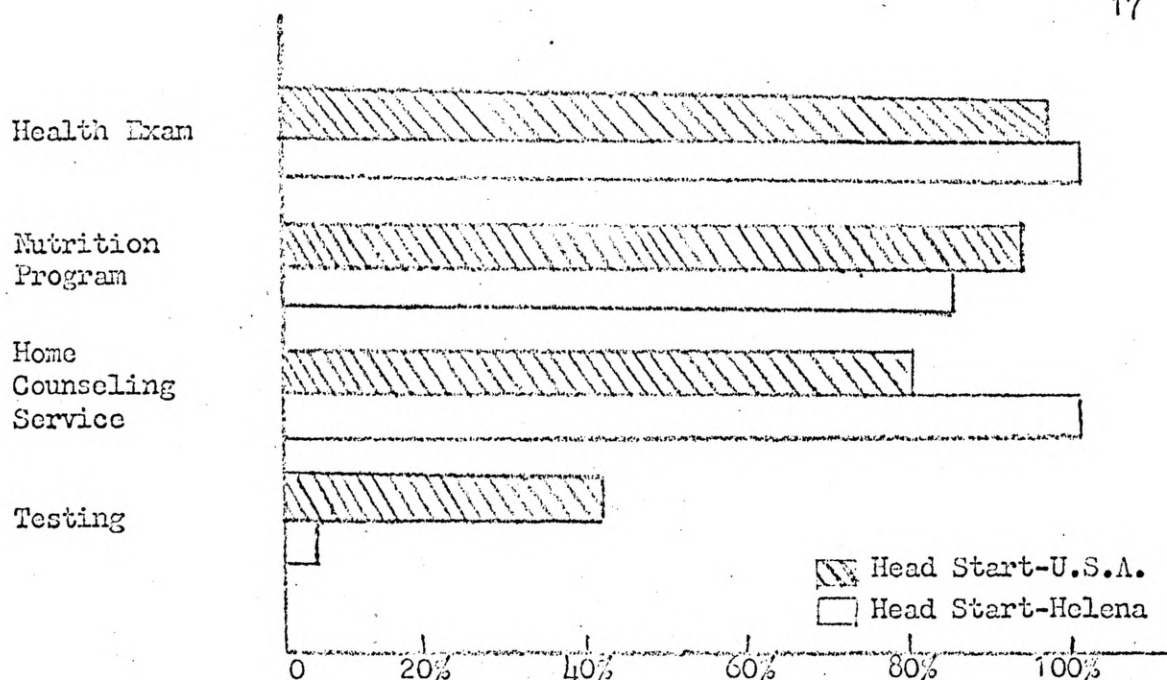


Figure 2. Percent of Systems Providing Special Services to Head Start, 1966-67.

The city of Helena had a population of approximately 25,000 of which there are 7,000 families. Of these, more than one in ten were families with children headed by a single parent. Seventy-five percent of these parents were employed full or part time, or were in training programs. (18) Approximately 2100 children were involved; and of these, about two-thirds or 1400 were in need of child care services. Of the 1400 children involved, it was estimated that 900 were school age children (6-12) and 500 were pre-school age (infancy to 6 years).

About 10% of the city's families with children lived on incomes below the poverty level. The poverty level used in this city where living costs were higher than the national average, was; \$2500 for a family of 2, \$3,000 for a family of 3, \$3500 for a family of 4, and \$500 for each additional family member. Only 44 families received

Aid to Dependent Children. The average ADC payment was \$37 per person, which provided medical care, food stamps, casework services, and day care services to ADC families. There were only 8 Indian children enrolled in Day Care Centers. Approximately 25% of the low-income families were those whose household head was single, divorced, or widowed mother.

Virtually all of the low-income families lived in substandard housing, as one in five houses in the city fell into this category. Conditions varied from housing only slightly below code to housing conditions which were severely overcrowded and hazardous to health and safety. The City had adopted national housing standards for its housing code. (City-County Health Department Survey, 12/1965 and City housing inspections 1968-69). Prevalent environmental conditions in the low-income, poor-housing areas included a lack of paved streets, sidewalks, street-lighting, and recreational areas. Deserted houses, open drainage ditches, vacant-trash covered lots and open mine shafts detracted further from the neighborhood environment these children live in and unfortunately provided places in which to play.

To summarize, the progress young children made when they entered schools in primary grades depended to a large extent upon their readiness for learning. Children who were culturally deprived seemed to lack enthusiasm about school. While Head Start had done much to counteract these deficiencies, the writer realized that more time was needed. It was too soon to do more than speculate about the eventual contribution of the project. The implications for Head Start teachers

were clear that in their hands may be the key to helping those children like school and want to learn. (4)

The following chapter will contain a review of literature describing different aspects of Project Head Start.

CHAPTER III

REVIEW OF LITERATURE

A review of related literature pointed out some of the conflicting studies, thoughts, and opinions as to the benefit of Head Start for the child of poverty.

When Project Head Start Child Development Centers closed their eight week sessions during August, 1965, newspapers and magazines carried articles, most of which acclaimed the success of this project.

Approximately 560,000 four and five-year-old children had been enrolled in approximately 2,400 communities. Almost without exception those directly involved in Project Head Start were enthusiastic about the program and commented favorably about the progress of the children.

Butler (4) stated,

Drop-out statistics and records of school failure provide evidence that the educationally deprived child does not do well in the regular elementary school program. Frequently program goals are unrealistic for him because he does not have the needed background to profit from the experiences offered. For a long time we have said that each child is different and will learn different things at different times; hence the program must be adjusted to the child in every possible way. Of necessity the child must make many adjustments to any group situation; but such adjustments must not be complicated by rigid goals which would demand the same or nearly the same achievement from all children. Head Start children entering first grade will be well ahead of where they would have been without the experience, but some still will not be ready to read when they enter school. A few may not be ready to read for quite a long time. Unless teachers are creative in studying these children and designing situations in which they can continue to build needed background, the familiar pattern of failure may still persist.

Loewenberg (13) countered:

Fewer than one in four low-income preschools were served by Project Head Start during its first fourteen months of operation, designed to develop preschoolers' verbal, conceptual and social skills. Enrollment not only fell short in the first summer of

operation but was disappointing also in the second summer. Apathy and lack of interest, low capacity and poor motivation are reasons commonly cited by experts to explain why the poor do not become involved in efforts like Head Start.

North and Buchanan (17) assessed the favorability, disposition, and content of teachers' views of poverty children by employing Gough's Adjective Check List. They found that the proportion of poverty children in present teaching assignments was unrelated to favorability, but those with many such children showed a more frustrated view. Teachers' age and teachers' childhood economic background were unrelated to favorability or content of view of these children. Teachers rated as most successful with poverty children showed a more favorable disposition and a less frustrated attitude. Negro and Caucasian teachers did not differ in favorability, though Negro teachers seemed to think of these children as more active and resistant. The general stereotype of poverty children is quite negative.

Aline and Robert Kidd (11) described a Head Start project that set out to organize a classroom and choose a staff that would provide a secure family structure capable of meeting all the young child's needs, emotional as well as educational.

The progress made by the average children showed tremendous increases in vocabularies, social skills, and concepts appropriate to the child's chronological age. It was the opinion of the consulting psychologist that these particular children made greater progress than the Head Start youngsters in the more conventional classroom settings.

Carroll Lambert (12) found that family life had benefited as the result of Project Head Start. Head Start had provided a variety of

kinds of employment for family members. One result was increased financial income available to families in need. This in turn had enhanced feelings of self-respect, dignity and worth. Head Start also provided educational opportunities for parents. This was done through home visits as well as through group meetings. Some parents were involved as members of policy advisory committees; others became teacher aids. Some parents were reluctant to participate, but others found the opportunity offered them a new world of experience.

Brazziel (3) serving on the National Advisory Council for Head Start Research and Evaluation, stated, "Readiness for formal schools was the prime wish of Head Start planners. A minimum academic gain from Head Start experiences was coming to be regarded as an increase of five to 10 points in I.Q. and 20-25 points on school readiness tests." The readiness test gains were perhaps more important, as readiness tests have a very high correlation with children's success in learning to read and write. Some follow-up testing had been done to ascertain the degree of persistence of I.Q. gains as the children moved through the grades in the schools. The results varied but generally speaking, the I.Q. gains persisted where school systems had strong Title I ESEA programs in the lower grades and tail off where this was not the case.

It was pointed out that I.Q. gains and persistence of I.Q. gains might very well be a faulty premise from which to judge. I.Q. gains were eye-catching and emotion generating but the true test of preschool experiences was the performance of the children learning to read, write and their understanding and appreciation of school routines. This performance was measured by achievement tests, analyses of age-grade

records, school persistence and attrition, and teacher opinion. I.Q. tests were not the correct instruments here.

Smith (20) conducted a study on the "Intellectual Differences in Five-Year-Old Underprivileged Girls and Boys With and Without Pre-kindergarten School Experience." Fifty-five poverty area children, at the completion of a full-year pre-kindergarten program, were compared with forty-seven same-aged children from a similar socio-economic area who had no pre-kindergarten experience. The children with pre-schooling scored significantly higher on the Stanford-Binet and on the Peabody Picture Vocabulary Test. Virtually all of this difference, however, was accounted for by the girls with pre-kindergarten schooling who scored significantly higher than boys with the same schooling. These boys scored only slightly higher than those with no schooling and at about the same level as girls with no school experience.

Lourenso (14) found that personality characteristics, revealed in drawings of deprived children who differ in school achievement, were not appreciably different. It was only when achievement level and sex were considered together that clearcut differences emerged. The most striking finding was the extent to which the poor-achieving boys diverged from the five sub-groups in showing low self-esteem as inferred from items measured in the self-drawing. The data from the drawings of the parent figures suggested that among the girls there may be a more direct relationship between achievement and positive attitude toward parents than among the boys.

Several expected differences between the sexes emerged. At each achievement level, a larger proportion of girls than boys showed

elements of positive self-image in their self drawings. They also showed more positive attitudes toward school learning as evidenced in the content of their drawings of a child in school.

Coolaby (8) explored the techniques of oral presentation of reading passages and oral questioning to train non-reading preschool children to answer questions similar to those found in reading skills tests designed for readers. All children were participants of Project Head Start.

It was hypothesized that groups receiving questions would show higher achievement than a non-questioned group. It was further hypothesized that of groups receiving questions, a group having knowledge of its performance would learn faster and that this group would show highest achievement.

He found the group given questions and knowledge of their performance after listening to a story ranked significantly higher than those receiving questions and no knowledge of their performance.

The tentative outcomes of this experiment suggest techniques for dealing with Head Start children with respect to reading and readiness in general. The trends were in the right direction for outcomes of instruction in critical listening.

Brademas (2), U. S. Representative, projected the future of Project Head Start by summarizing, "In the fiscal year ending June, 1968, economy measures had trimmed Head Start outlays by \$15 million. The result: an estimated 13,000 preschoolers must be dropped from full-year Head Start programs. Summer projects, however, will not be cut."

For fiscal year 1969, the President had requested \$330 million which was less than a 1% increase over the 1968 year. And even this amount was not likely to be approved in full by the Congressional appropriations committees.

The President last year (1967) called for enlarging the present 40 pilot projects to a \$120 million program to reach 190,000 Head Start children. Instead, as a result of Congressional action on appropriations as well as budget reallocations within the Administration, only \$13 million was available for fiscal year 1968, and Office of Economic Opportunity officials estimated that these funds would be sufficient to teach a mere 6,000 children. The President's budget for fiscal year 1969 sought \$50 million for Head Start, an amount still far less than initially requested.

In order to appreciate fully the seriousness of decisions to postpone the promise of these programs, the impact of Head Start was assessed during its first two and one-half years.

The following chapter will contain procedures and methods of the study.

CHAPTER IV

THE EXPERIMENTAL DESIGN

The purpose of this study was to determine if there was a relationship between the Head Start program as developed in Helena Public Schools and academic achievement.

It was the writer's intent to provide additional information of differences between:

1. Grades of children in Group I (Head Start) and Group II (children without Head Start or kindergarten).
2. Grades of children in Group I and Group II with chronological age as a co-variate.
3. Scores of the Gates-MacGinitie Reading Test of Group I and Group II with the Metropolitan Reading Readiness Test used as a control variable.
4. Scores of the Gates-MacGinitie Reading Test of Group I and Group II using chronological age as a co-variate between the two groups.

This chapter included discussions of the procedures, population, methods of testing and collecting data, and methods of data analysis used in conducting the investigation.

At the outset of the study, the OEO director and social worker were contacted and the writer's plan of forming two groups was explained. All materials concerning Project Head Start were made available to the writer. Further contact was made with school officials gaining permission to obtain the necessary information to establish groups. Data were collected from the office files of Helena Public Schools and Head Start concerning: (1) names, (2) chronological ages of September 1, 1967 (the entrance year of subjects into the first grade), (3) grade

scores with assigned numerical values of the 1st and 2nd grades, (4) raw scores of the Metropolitan Reading Readiness Tests, (5) raw scores of the Gates-MacGinitie Reading Test.

POPULATION

Two groups of 30 students each were formed in 1966. Group I was enrolled in Head Start and for the purpose of this paper was called the experimental group. A second criteria for their selection was their socio-economic status (see Table 1, page 7). The control group was Group II, those subjects who did not attend kindergarten or Head Start and was selected from the same socio-economic background (see Table 1, page 7). No student was used in the study that had moved, had been retained, or had major health problems such as heart surgery, etc..

METHODS OF TESTING

The following data were obtained for each student in both groups.

The Metropolitan Reading Readiness Test was administered at the beginning of the school year 1966. This test was selected by Helena Public Schools as an indicator of the child's ability to undertake first grade experiences. This test was devised to measure the extent to which school beginners had developed in several skills and abilities that contributed to their readiness for first-grade instruction. This test provided a quick, convenient, and dependable basis for early classification of pupils, thus helping teachers manage the instructional

effort more efficiently. Raw scores were taken from the tests for statistical analysis. The results were treated as the control variable to the Gates-MacGinitie Reading Test.

The Gates-MacGinitie Reading Test was administered in May, 1967 and May, 1968. This test was selected by Helena Public Schools as it corresponded with concepts stressed in the basal reading text.

The Primary A and B levels of the Gates-MacGinitie Reading Test were part of a new series of tests designed to cover grades 1-12. The Primary A level was intended for use in the first grade and the Primary B level was used in the second grade. Two forms of Primary A and B were available. (Forms 1 and 2). Each consisted of two parts: Vocabulary and Comprehension.

Grade scores used by the writer were taken at the end of grades one and two from the permanent school records. They were the average of the child's efforts for the entire school year. A grade index was established as follows: E = 5, S+ = 4, S = 3, S- = 2, N = 1, and a total score was computed by summing the letter grade scores obtained at the end of the first two years.

ANALYSIS OF DATA

The data for this study took the form of: (1) Item Description of which there were 60, (2) raw scores of the Metropolitan Reading Readiness Test, (3) raw scores of the Gates-MacGinitie Reading Test, and (4) grade scores with assigned numerical values for the first and second years of both groups.

Tests of hypothesis of small samples have been suitably computed by the t-test statistic. The t distribution was based on the assumption that the sample values were drawn from a normal population. The t-test statistic was employed to test hypotheses I and II. The .05 level of significance was used to consider either the rejection or acceptance of the null hypotheses.

An analysis of covariance statistic was used to test hypotheses III and IV with the Metropolitan Reading Readiness as the covariate. The analysis was made by the employment of the F distribution. It was also based on the assumption that the sample values were drawn from a normal population. The .05 level of significance was used to consider either the rejection or acceptance of the null hypotheses.

Since the two groups were not randomly selected, control variables of the Metropolitan Reading Readiness and chronological age were considered in attempting to equate the two groups.

The following chapter will contain the results of the study.

CHAPTER V

RESULTS

Table 2, summarized the statistical analysis of the grade scores received by students in each of the groups. With respect to the first grade students, there was a significant difference between the grade scores received by Group I and Group II students.

The t-statistic was used to test the hypothesis H_0 : no significant difference in grade scores. For Grade I, the value of the t-statistic was 2.4415, and was significant at the 99% level of significance. The value of the t-statistic for Grade II was 3.5851, and was statistically significant at the 99.95% level of significance.

On the basis of the statistical analysis, the null hypothesis of no difference in achievement was rejected in favor of the alternative hypothesis that the Head Start program did aid in academic achievement.

Table 3 showed the analysis of variance between Groups I and II of Grade II with chronological age and grades of the subjects as the covariates. The F-statistic was used to test the null hypothesis H_0 : no significant difference between grades of students of the same ages of Groups I and II. The value of the F-statistic was 11.179 which was statistically significant at the 99.5% level of significance.

On the basis of the statistical analysis, the null hypothesis was rejected in favor of the alternative hypothesis that the Head Start program aided student achievement regardless of age.

TABLE 2. MEANS, STANDARD DEVIATION, AND T-TEST BETWEEN GRADES I AND II
FOR GROUPS I AND II

Groups	Number	Means	S.D. [*]	t-test
Group I, Grade I	30	8.4000	2.3607	2.4415 [*]
Group II, Grade I	30	6.9660	2.1830	
Group I, Grade II	30	9.2000	2.7006	3.5851 [*]
Group II, Grade II	30	7.0666	1.8245	

^{*} Standard Deviation

^{*} Significant beyond .05 level of significance 2.008

The null hypothesis that there was no significant difference between grades of Group I and Group II was rejected.

TABLE 3. ANALYSIS OF COVARIANCE BETWEEN GROUP I AND II FOR GRADES
WITH CHRONOLOGICAL AGE AS THE COVARIATE

	Degrees of Freedom	Sums of Squares and Products	Deviation about Regression	Mean Squares
Among				
Treatments	1	5384.	617.	5384.
Experimental	58	127824.	337.	2186.43
Error			300.	
Treatment	59	13340.8	386.	226.11
Error				
F equals	11.179		62.	

The null hypothesis that there was no significant difference between grade scores of Group I and Group II was rejected.

Table 4 showed the analysis of covariance between the raw scores of the Gates-MacGinitie Reading Test and the Metropolitan Reading Readiness Test. The F-statistic was used to test the null hypothesis H_0 : no difference in scores of the two tests. The value of the F-statistic was 1.004, which was not significant at the .95 level. Therefore, the null hypothesis was accepted.

Table 5 related the analysis of variance between Groups I and II of Grade II for the Gates-MacGinitie Reading Test with chronological age as the covariates. The F-statistic was used to test the null hypothesis H_0 : no difference between the Gates-MacGinitie Reading Test and chronological age. The value of the F-statistic was 4.588 which was statistically significant at the 95% level of significance.

On the basis of the statistical analysis, the null hypothesis was rejected in favor of the alternative hypothesis that the Head Start program aided student achievement regardless of age.

TABLE 4. ANALYSIS OF COVARIANCE BETWEEN GROUP I AND GROUP II OF THE GATES READING TEST WHEN THE METROPOLITAN READING READINESS RESULTS WERE USED AS THE CONTROL VARIABLE

	Degrees of Freedom	Sums of Squares and Products	Deviation about Regression	Mean Squares
Among				
Treatments	1	1728.	2593.	45.502*
Experimental	58	665.	2639.	
Error		2063.		
		3024.		
Treatment	59	11606.	45.	45.683*
Error		2728.		
F Equals	1.004	3280.		

* Significant beyond .05 level of significance 4.02

There is no significant difference between the score of the Gates-MacGinitie Reading Test of Group I and II using the Metropolitan Reading Readiness results as the control variable between the two groups. The null hypothesis was accepted.

TABLE 5. ANALYSIS OF COVARIANCE BETWEEN GROUP I AND II FOR THE GATES-MAC GINITTIE READING TEST WITH CHRONOLOGICAL AGE AS A COVARIATE

	Degrees of Freedom	Sums of Squares and Products	Deviation about Regression	Mean Squares
Among				
Treatments	1	5584.	5024.	53.059*
Experimental	58	-1198.	256.	
Error		127824.	3024.	
Treatment				
Error	59	-1322.	3280.	243.270*
F Equals	4.584	133408.	3267. 243.	

* Significant beyond .05 level of significance 4.02

The null hypothesis that there was no significant difference between the Gates-MacGinitie Reading Test with chronological age as a covariate was rejected.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

The purpose of this study was to determine if there was a relationship between the Head Start Program as developed in Helena Public Schools and academic achievement.

Sixty students were separated into two groups, the criteria being Head Start experience (Group I) versus no kindergarten or Head Start experience (Group II). Both groups were from the same socio-economic background.

Data were gathered concerning raw scores from the Metropolitan Reading Readiness Test, the Gates-MacGinitie Reading Test, chronological ages and grades for both groups.

The null hypotheses were used to test the differences between:

1. Grades of children in Group I (Head Start) and Group II (children without Head Start or kindergarten).
2. Grades of children in Group I and Group II with chronological age as a covariate.
3. Scores of the Gates-MacGinitie Reading Test of Group I and Group II with the Metropolitan Reading Readiness Test used as a control variable.
4. Scores of the Gates-MacGinitie Reading Test of Group I and Group II using chronological age as a covariate between the two groups.

The results of the study indicated there was a significant difference between grade scores of children in Group I and Group II. The control of chronological age as a covariate in addition to grade scores indicated Group I was significantly higher than Group II. This could be meaningful due to the fact that Group II was also older than Group I.

The scores of the Gates-MacGinitie Reading Test of Group I and Group II with the Metropolitan Reading Readiness Test indicated that there was no significant difference between the two scores. Since both tests indicated readiness acceptance of the hypothesis seemed reasonable. Those who scored high on the Metropolitan Reading Readiness Test also tended to score high on the Gates Reading Test. The scores of the Gates-MacGinitie Reading Test of Group I and Group II using chronological age as a covariate indicated a significant difference between the two.

A major weakness of this study was the lack of I.Q. scores for subjects in both groups. It was stated in the review of literature that the true test of preschool experience was the performance of the children learning to read, write, and their understanding and appreciation of school routines. This performance can be measured by achievement tests and analyses of age-grade records. Also the Metropolitan Reading Test did as well in predicting first grade reading performance as test groups taking the Metropolitan Reading Readiness Test and the Lorge-Thorndike Intelligence Test. (10, 3)

CONCLUSIONS

Conclusions drawn from a review of literature were as follows:

1. The review of literature indicated by the time a person reaches age 5, if he or she was subjected to the problems of poverty and deprivation, their lives were somewhat separated from the middle class.

2. Participation in Head Start was related to improvement in conceptual maturity, not to the degree that the effects of poverty were overcome.

3. Certain handicaps did exist among culturally disadvantaged children prior to school experience.

4. There was a need to involve persons in the extreme low areas of poverty in the Head Start program.

5. It was too soon to do more than speculate about the eventual contributions of the project. More time was needed for an accurate evaluation of the effects of the Head Start program.

The results of this study led to these conclusions:

1. The study seemed to offer evidence, although not conclusive, that students having Head Start experience performed significantly better concerning grades than their counterparts with no Head Start experience.

2. Durable gains from Head Start were measured less by test findings.

3. The evidence was insufficient to support the hypotheses that Head Start had no value in the academic achievement of their subjects.

4. It was difficult, if not impossible to measure the attitudes of teacher interest between the students from Head Start and non-Head Start groups. To say there was not difference in attitude would not be accurate. However, it should be kept in mind that there were as many variables among students as among teachers.

RECOMMENDATIONS

Recommendations for further study of the Head Start Program were suggested.

1. There was a need for a more sophisticated method of reporting and research.
2. There was a need for realistic evaluation to be made of current problems, such as pupil strengths and weaknesses.
3. Additional preparation should be made available for key personnel, as teacher awareness of poverty was essential to the program.
4. New testing instruments which allow for ethnic differences should be developed for future study.
5. Interaction needed to be studied more thoroughly.
6. A study should be conducted using a measure of intelligence, i.e. The Stanford-Binet.
7. There was a need for defining specific goals and objectives for Head Start programs.
8. A better system of recruitment was necessary so that the lower income families could become aware of available education.
9. Follow-up studies should be conducted of differences affecting the learning processes of deprived children.

This has been a brief study of Head Start in its first stages of development. Further studies of children in Head Start should continue, keeping in mind that these studies would be necessary to gain an accurate description of Project Head Start.

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