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A COMPARATIVE STUDY OF THE EFFECTS OF A HEAD  
START FOLLOW THROUGH PROGRAM AND A KINDERGARTEN  
PROGRAM UPON THE COGNITIVE ABILITIES AND SELF  
CONCEPTS OF CHILDREN FROM LOW SOCIO-ECONOMIC  
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A COMPARATIVE STUDY OF THE EFFECTS OF A HEAD START  
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AND SELF CONCEPTS OF CHILDREN FROM  
LOW SOCIO-ECONOMIC ENVIRONMENTS

A DISSERTATION  
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BY  
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Norman, Oklahoma  
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## CHAPTER I

### INTRODUCTION

The survey of the literature of educational research revealed that many children from environments of poverty begin elementary school at a disadvantage and fall farther behind year after year.<sup>1</sup> This study involved pupils in the Wichita School System who were enrolled in a special program designed to eliminate school failures from culturally disadvantaged backgrounds.

A program was designed to help children from environments of poverty during the summer or year prior to their entrance into a formal school program. This federally funded program was identified as Head Start. Evidence began to suggest that one summer or one year for pre-schoolers was inadequate to compensate for the educational, social, and psychological deficiencies of these children. Therefore, the federally funded program called Follow Through was initiated as a means for continuing the special attention given to Head Start participants during the first grade and kindergarten.

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<sup>1</sup>Robert L. Egbert, "So They Do Not Fail," Pamphlet, Follow Through Project, Division of Compensatory Education, February 20, 1968, p. 1.

The Head Start Follow Through program was consistent with the goal of President Lyndon B. Johnson: To give every child a chance to fulfill his promise.<sup>2</sup>

The Head Start Program for pre-school children was authorized in 1964 under the Economic Opportunity Act. The program predated by one year the major federal programs established under the Elementary and Secondary Education Act. It represented the intent of Congress to bring federal funds to bear on the root cause of poverty.<sup>3</sup>

It was during the summer of 1965, according to Osborn,<sup>4</sup> when over 550,000 children in approximately 2,500 Child Development Centers throughout the country participated in a pre-school program formally known as Project Head Start. This project represented the largest program for young children ever sponsored by the federal government. Geographically speaking, there were programs as far north as the Arctic Circle; as far south as American Samoa; as far east as the Virgin Islands; as far west as Guam. Children came from rural and urban areas, from Indian reservations and Eskimo villages, from migrant groups and "the Hallows" of West

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<sup>2</sup>Ibid., p. 1.

<sup>3</sup>Robert L. Egbert, "Individualizing Instruction for Young Disadvantaged Children," World-Wide Conference on Individualizing Instruction and Learning," (speech delivered July 8, 1969, Seattle, Washington), p. 1.

<sup>4</sup>Keith Osborn, "Project Head Start--An Assessment," Educational Leadership, Vol. 23, November, 1965, p. 98.

Virginia. In some counties one out of three children who entered kindergarten or first grade during the fall of 1965 were in Head Start programs during the summer of 1965. The program involved over 100,000 adults--parents, teachers, physicians, and volunteer workers. The rapid growth and development of Head Start was rather remarkable. The program was conceived in November, 1964, and implemented in June of 1965. Planning committee members included outstanding professional leaders such as George Bram, James L. Hymes, Jr., and Jack Neimeyer.

During the early planning stages the project was referred to as Kiddie Corps, and it was felt that perhaps fifty to one hundred thousand children would be involved in an eight-week summer program. By late February of 1965 the response of local communities was so great (approximately 65 per cent of all counties in the United States wanted programs) that the projected enrollment was estimated between five and six hundred thousand. While the basic outlines of the program were formulated between November and January, for all practical purposes the actual work of the project (community planning, funding, orientation of teachers) took place over a period of four months.<sup>5</sup>

One of the most significant aspects of the Head Start program was the general idea of a Child Development

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<sup>5</sup>Ibid., p. 99.

Center. The Child Development Center was conceived as a community facility. In concept it represented drawing together all the resources--family, community and professional--which could contribute to the development of the child. The Center drew heavily on the professional skills of persons in education, health, nutrition, and social services. It recognized that both professionals and non-professionals could make meaningful contributions. It emphasized the family as fundamental to the total development of the child and the role of the parents in developing policies and participation in the program of the Center.

As a community facility the Head Start Child Development Center was organized around the classroom and the play area. The program provided for health services, parent interviews, feeding of children, and meetings of parents and other residents of the community. This concept recognized that some children have been deprived in many areas and that the lack of intellectual stimulation is only one of several gaps for the children of the poor. While the concept of nursery school was sound, the concept of a Child Development Center seemed more appropriate for the children served by Head Start.<sup>6</sup>

By the fall of 1966, it had become clear to educators, to parents, and to the Congress that the gains of

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<sup>6</sup>Ibid., p. 99.

participants of the Head Start program were dissipated when participants of the program entered the regular school program of first grade or kindergarten. In 1967 the Congress amended the Economic Opportunity Act (EOA) to include a program similar to Head Start in the early school years for participants of Head Start and other pre-school programs. This new program was called Head Start Follow Through and operational authority was delegated by the Office of Economic Opportunity to the United States Office of Education.<sup>7</sup>

The Head Start Follow Through program was designed to continue the services of the Head Start program into the kindergarten or first grade. The services continued were instructional, medical, dental, nutritional, psychological and social. In order for participants to continue in the Head Start Follow Through program, nine months of Head Start experiences were required. It was to involve the parents and community in program activities. It also was supposed to provide inservice training for professional and non-professional staff.<sup>8</sup>

President Lyndon B. Johnson encouraged the establishment of Head Start Follow Through programs in his message to Congress of February 8, 1967. President Johnson insisted that the accomplishments of the Head Start program should

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<sup>7</sup>Ibid., p. 99.

<sup>8</sup>"Keeping Abreast in Education," Phi Delta Kappan, Vol. 49, September, 1967, p. 62.

not be allowed to fade. On the other hand, President Johnson stated that the handicaps of poverty cannot be easily erased or ignored when the door of first grade opens to the Head Start child. The benefits of Head Start must be carried to the early grades in order to fulfill the rights of America's children to equal educational opportunities.<sup>9</sup>

An Advisory Committee was established by President Johnson in February, 1967, to assist in developing the Head Start Follow Through criteria. Dr. Robert Egbert was chairman of the Advisory Committee. Planning grants were awarded to thirty school districts in July, 1967. Another ten projects were funded in December, 1967.<sup>10</sup>

The Head Start Follow Through program was designed to operate in kindergarten through third grade--starting with kindergarten the first year, then adding a grade each year. The Advisory Committee established the following criteria for the Head Start Follow Through program:<sup>11</sup>

1. Continuity of developmental activities for participants of nine months' Head Start and other pre-school programs, including transmission and maintenance of their records.

2. Fullest possible social, racial, and economic diversity. At least 50 per cent of the children must be participants of Head Start or some other quality, preschool program.

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<sup>9</sup>Egbert, op. cit., p. 2.

<sup>10</sup>Egbert, op. cit., p. 3.

<sup>11</sup>Egbert, op. cit., p. 4.

3. Comprehensive instructional, nutritional, health, psychological, and social services--all of which should be completely integrated with classroom activity.

4. An instructional program that meets the individual needs of the children.

5. Maximum use of school and neighborhood facilities . . . recreational, welfare, cultural, and social.

6. Meaningful parent participation in the school program.

7. Preservice and continuing staff development as an integral part of the regular work assignment for all staff members in the program.

8. Policy Advisory Committee composed of representatives of the Community Action Program, neighborhood residents, parents and other appropriate community leaders. At least 50 per cent of such committees must be neighborhood parents.

9. Opportunities for the employment of low-income people from the neighborhood as paraprofessional assistants.

#### Head Start and Head Start Follow Through Programs in Wichita

The Wichita, Kansas, Public School System has operated Head Start programs since 1965 and a Head Start Follow Through program since 1968. In 1969 the school system incorporated the Tucson Early Education Model into the Head Start Follow Through program. (See Table I.)

The major objectives of the Tucson Early Education Model as stated in the Annual Report of the Arizona Early Education Center to the National Laboratory, June 23, 1969, are listed below. The major emphasis in the development of the Tucson Early Education Model was on the instructional program. Four instructional goal areas were identified. These goal areas were in behavioral objectives and formed

TABLE I

COMPARISON OF WICHITA HEAD START FOLLOW THROUGH  
PROGRAM WITH WICHITA KINDERGARTEN PROGRAM<sup>12</sup>

Wichita Head Start Follow Through Program Utilizing the Tucson Model	Wichita Kindergarten Program
A. Pupils will work in small committees.	A. Most teachers work with large groups of pupils.
B. Previously taught materials are re-enforced by non- certified personnel either salaried or volunteer.	B. The teacher is the only adult in the classroom.
C. Some learning centers are left unattended frequently.	C. Most pupils receive direct instructions from the teacher.
D. The curriculum will be based on children's interests, experiences and needs.	D. Teachers frequently bring to the classroom their preconceived notions about what children should be taught and teach re- gardless of pupil's interest.
E. No standard curriculum materials are considered absolutely essential in the classroom.	E. Work sheets are used in the classroom.
F. Pupils will be permitted to move at their own speed in all areas of learning.	F. Each child is expected to read on a certain level at a particular time.
G. There will be many field trips and common ex- periences.	G. There will be very few field trips.

<sup>12</sup>Comparison submitted by the Coordinator of the  
Wichita Head Start Follow Through Program 1969, Wichita  
Public Schools, Wichita, Kansas.

the major dependent variables of much of the work of the Early Education Center.

### 1) Language Development

Language competence is one of the major technical skills of the culture to which the child must adapt. Critical information is transmitted principally in verbal form. This requires an acquaintance with a variety of linguistic labels, concepts, language and communication forms, and an awareness of the function of language. The study of language, the development of research instruments and data and the development of curriculum materials for language has been an important thrust of this year's Center activities.

### 2) Intellectual Base

The intellectual base is a collection of skills assumed to be necessary in the process of learning. These skills are as yet only partially recognized and defined and are usually not formally taught in traditional educational programs. Yet, the importance of these skills in every learning process is becoming increasingly recognized. We are beginning to suspect that the success of the child in the educational process is dependent upon his acquisition of several basic intellectual skills. It is hypothesized that these skills may be learned by many children largely outside the classroom. Consider, for example, the learning of learning skills. If a teacher gives a young child a list of words to take home to learn to spell, the child is put in the position of having to teach himself. If he has at home parents who are willing to read the words to him or show him how to write out the words and check them against the list or sibling who is willing to show him how to go about the task of learning, he will learn the words. If he does not have these resources outside of the classroom he may indeed fail to teach himself. It is clear that as a child progresses through the educational system, he is given greater responsibilities for teaching himself. At the same time the traditional educational system does not systematically teach children the skills of self-teaching or learning how to learn.

Some of the intellectual base skills involve the conceptual organization of stimuli in the environment. For example, ordering events along certain dimensions such as size, color, and form or sequencing events according to time. Some intellectual base skills are complex behaviors which are difficult to define; to be able to attend, to recall significant events, to be able to organize one's behavior toward specific goals to evaluate alternatives, significant and important behaviors

the acquisition of which has traditionally been left to chance.

### 3) The Motivational Base

The motivational base is a collection of attitudes and behavioral characteristics related to productive social involvement and learning. These include attitudes toward school and toward the learning process, a willingness to persist at learning tasks and to take on new problems, appreciation for learning and expectation of success and a willingness to change. In addition, there are the important attitudes toward self such as confidence, expectations of success, standards of work, and finally a consistent picture of oneself as one who can learn. It is assumed that these characteristics can be taught. It is the aim of the Tucson Early Education Model to make them formal curriculum goals and to develop the techniques of developing these characteristics in the young child.

### 4) Societal Arts and Skills

Our culture is characterized by a wide range of arts and skills which constitute social interaction, information transmission, and scientific advance. Here are classified reading, writing, arithmetic, and other mathmatic skills as well as the social skills of co-operation and democratic process. This collection of skills has been the traditional focus of Early Education Programs. It should be noted that in the Tucson Early Education Model, they constitute only one portion of the curriculum goals.<sup>13</sup>

The following were elements of the Head Start Follow Through program not included in the Wichita kindergarten program:

1. The Head Start Follow Through Program emphasized many field trips and other concrete experiences to increase concept and language development.

2. The Head Start Follow Through program provided an integrated experience curriculum. Materials were selected

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<sup>13</sup>"The Tucson Early Education Model: An Educational Program for Young Children," from Annual Report of Arizona Early Education Center to National Laboratory, June 23, 1969, pp. 2, 3, and 4.

to extend the child's interest and background with skills integrated into experience.

3. The use of teacher aides in the classroom was not provided for in kindergarten classrooms.

4. The additional support to the teaching staff of program assistants was also included in the Tucson Model.

5. The extended day with hot lunch for kindergarten children was available only for those participating in Head Start Follow Through.

6. The Head Start Follow Through pupils stayed for one and one-half hours of special instruction designed to provide concrete experiences and foster language development.

7. The additional equipment not found in regular kindergarten classrooms included typewriters and tape recorders with head sets.

#### Need for the Study

Although a Head Start Follow Through Program was in operation in Wichita for nearly three years, no attempt was made to compare the pupils in the Head Start Follow Through programs and those in the kindergarten programs in terms of the development of cognitive abilities and self concepts. Lockwood and Hunnicutt contended the cognitive abilities and the self concepts in children of poverty necessitated

the determination of effective methods for development of these characteristics in the early education of children.<sup>14</sup>

### Statement of the Problem

The study was designed to compare the development of cognitive abilities and self concepts of pupils who participated in a Head Start Follow Through program as compared to those pupils who participated in a kindergarten program.

### Hypotheses

The following hypotheses were tested in the study:

1. There was no significant difference in the mean gain scores of achievement of cognitive abilities as measured by the Cognitive Abilities Test, Primary I, Form I, between the Head Start Follow Through group and kindergarten group.

2. There was no significant difference in the mean gain scores of self concept as measured by the subtest "Personal Worth" of the California Test of Personality, Primary Form AA, between the Head Start Follow Through group and kindergarten group.

3. There was no significant difference in the mean gain scores on the Deviation Intelligence Quotient as

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<sup>14</sup>Jane D. Lockwood and C. W. Hunnicutt, "Whither Project Head Start?" Educational Horizons, Vol. 44 (Fall, 1965), p. 14.

measured by the Cognitive Abilities Test, Primary I, Form I, between the Head Start Follow Through group and kindergarten group.

#### Limitations

This study was limited to pupils enrolled in a Wichita, Kansas, kindergarten program during the 1968-1969 school term who had previously been enrolled in a pre-kindergarten Head Start program.

#### Definitions of Terms Used

The following definitions of terms are presented in order to clarify the particular meanings of words used in the context of this study:

Children of low socio-economic environments. This phrase identifies those children coming from homes as defined by Title I, Public Law 89-10, directives.<sup>15</sup>

Pockets of poverty. Wichita areas where there were a large concentration of families with annual incomes of less than two thousand dollars were considered pockets of poverty.

Program assistant. The position of program assistant was required for implementation of the Tucson Early Education Model. The program assistant was a certified teacher who assisted the classroom teacher in organizing and planning

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<sup>15</sup>See Appendix A.

the learning environment. She modeled for the teacher implementation of classroom activities and assisted the teacher in evaluation of teacher behavior and pupil behavior.

Wichita Head Start Follow Through program. The Wichita Head Start Follow Through program described a combination of services and a teaching model. The services included health, nutritional, psychological and social components. The teaching model included small group teaching, interest and experienced centered curriculum, and opportunities for choices of acceptable behavior.

Wichita Kindergarten program. This term described a program provided by the public schools of Wichita for all of its youngsters who become five (5) years old on or before September 1. The program generally provided activities that permitted children to adjust to the routine. It also provided various readiness activities ranging from games and poetry to readiness worksheets depending upon the teacher's philosophy.

## CHAPTER II

### REVIEW OF THE LITERATURE

#### Introduction

This chapter is a review of the literature related to achievement and self-concepts of children from low socio-economic environments, particularly as they affect early childhood education. The review proceeds in the following order:

1. Cultural Background and Learning in  
Young Children
2. Intellectual Differences
3. The Self Concept

A major contemporary development in education today is the widespread re-awakening interest in the young child. Such an awakening was advocated earlier by Comenius, Pestalozzi, Froebel, Basedow and Montessori who sensed the importance of the pre-school child's experiences. Other nursery and pre-school specialists, such as Rose Alsehuler, James Hymes and Laura Zirbes have made strong cases for the guidance of boys' and girls' early learning. Many of their findings and recommendations were derived through research,

but more often through reasoned conjectures based upon empirical study and personal insight.

The current upsurge of emphasis on early childhood education has resulted in making children the object of careful medical and psychological research. Arnold Gesell and Francis Ilg, for example, provided useful longitudinal child-growth data, while Willard Olsen and Robert Havighurst made "organismic age and developmental tasks" standard pedagogical phrases. Jean Piaget and associates, for a quarter of a century, have produced findings which serve as a developmental foundation, or a guide, for research and theory in early childhood education. Piaget's approach resulted in the construction of an image of cognitive development as taking place along a continuum of distinctive, yet overlapping and interdependent stages. Each stage found the child employing certain predominant and qualitatively different ways of operating upon the data of his world in order to render it comprehensible.<sup>1</sup>

#### Cultural Background and Learning in Young Children

Fort, Watts and Lesser,<sup>2</sup> in a longitudinal study, set about the task of building a test which, when administered

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<sup>1</sup>Harold Shane, "The Renaissance of Early Childhood Education," Phi Delta Kappan, Vol. 1, March, 1969, p. 369.

<sup>2</sup>Jane Fort, Jean C. Watts, and Gerald Lesser, "Cultural Background and Learning in Young Children," Phi Beta Kappan, Vol. 1, March, 1969, p. 386.

to first grade children in the public schools in the Greater New York City area, would measure ability in four areas: verbal, reasoning, numerical, and space-conceptualization. The children of the original sample (N=320) were from lower-class and middle-class homes of Chinese, Jewish, Negro and Puerto Rican origin.

The Diverse Mental Abilities Test, which consisted primarily of a number of pictures and games which the child was asked to manipulate or label, was administered to each child individually at school during the regular school season on three or four occasions over a period of one month. No reading or writing was required of the child and no assessment of the child's personality or private attitudes was included.

The results of this study indicated that middle-class children were better able to perform on all tasks than lower-class children, that children from different ethnic groups show different constellations of abilities as well as different levels of performance for various tasks, and that the middle-class children from different ethnic groups in general performed more like each other than do lower-class children from different ethnic groups.

These findings of different, ethnically related patterns of abilities raised many questions about the nature, the causes, and the consequences of such differences in school children. Since the children were first graders

when tested, it is assumed that their skills reflected experiences of the pre-school years.<sup>3</sup>

Fort, Watts and Lesser concluded:

We have reported evidence that children from different ethnic groups (Chinese, Jewish, Negro and Puerto Rican) display different patterns of mental abilities which probably begin to take form during the early years of life. Each ethnic group apparently transmits its own particular combination of intellectual strengths and weaknesses. Recognizing these differences in patterns of ability--and studying their family antecedents and their implications for school instruction--may help us to understand more fully and to capitalize upon the pluralism and diversity of our society.<sup>4</sup>

#### Intellectual Differences

Smith<sup>5</sup> made an effort to assess intellectual gains made by underprivileged children who had participated in an eleven-month pre-kindergarten program from September, 1965, to August, 1966. The children with pre-kindergarten schooling were tested as late as possible in the pre-kindergarten year (July, 1966), and their performance was compared with that of a comparable group of children with no pre-kindergarten education. Children entering a summer, 1966, Head Start program in July comprised the comparison group. Both groups were of the same age (immediately

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<sup>3</sup>Ibid., p. 387.

<sup>4</sup>Ibid., p. 388.

<sup>5</sup>Marshall P. Smith, "Intellectual Differences in Five-year-old Underprivileged Girls and Boys With and Without Pre-Kindergarten School Experience," The Journal of Educational Research, Vol. 61, April, 1968, p. 348.

pre-kindergarten), from the same neighborhood, and recruited for their respective programs by the same methods.

There were fifty-five children in the group with pre-kindergarten classes. These children were referred to as "preschool" (PS). The comparison group, referred to as "non-preschool" (NPS), numbered fifty-nine, of whom twelve (four girls and eight boys) were not testable. Results reported for NPS were on forty-seven children. The children were tested on the Stanford-Binet Intelligence Scale LM Abbreviated Form and on the Peabody Picture Vocabulary Test during one two-week period in July, 1966. Stanford-Binet results were reported in deviation IQ's; Peabody (PPVT) results were reported in mental ages (MA).

The results showed (1) the PS group was found to be significantly superior to the NPS group on both IQ and MA. It was stated with confidence that, at the time of testing, PS children were superior to NPS children on the skills measured by the Stanford and PPVT. (2) Virtually all the difference between the two groups was contributed by the PS girls. The IQ means for NPS boys, NPS girls, and PS boys clustered within four points and NPS girls' and PS boys' means were virtually identical. The mean for PS girls was some 16 points higher than that for PS boys. The variance for NPS boys was significantly greater than that for PS boys (P-05). Smith's concluding statement was, "It is difficult to explain the findings that the PS girls showed superiority

to NPS girls although the PS boys scored no better than the NPS boys."

Clasen, Spear and Tamaro<sup>6</sup> sought to determine whether the type of compensatory program offered to low socio-economic children would have any short and long term differential effects. In addition, the study sought to assess the short and long term effects of short-term, differential training upon thirty children from low-income families. Fifteen children were assigned at random from a group of thirty to be given concentrated training during an eight-week summer Head Start program. The other children received incidental language training, but within the context of a more conventional, socially-oriented program. The study revealed that a short-term eight-week program resulted in a significant improvement in the linguistic skills of children from low-income families, and that intensive language training resulted in better linguistic performance than a more general program, as reflected by the Stanford-Binet Intelligence Scale Form L-M, and the Illinois Test of Psycholinguistic Abilities. Secondly, the fact that the superior progress of the language group in linguistic skill development indicated, as measured by the ITPA, that the product of the pre-school was a result of that pre-school's philosophy.

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<sup>6</sup>Robert E. Clasen, Jo Ellen Spear and Michael P. Tamaro, "A Comparison of the Relative Effectiveness of Two Types of Preschool Compensatory Programming," The Journal of Educational Research, Vol. 62, May-June, 1969, p. 401.

In other words, children will, to an extent, become that which they are trained to become. Third, the net advantages resulting from the process of intensive language training appeared to persist over time, even though the net score on a test may deteriorate. Fourth, when a subjective rating by teachers was utilized as a cross-check to objective test results, it appeared that compensatory programming resulted in children being viewed as making better progress than children who needed such programming but had not received it.

This study seemed to imply that conventional, pre-school programming as compensatory training produced marked results; but that focused programming produced results which were superior to conventional programming in language development.<sup>7</sup>

During the school year 1968-69, Sontag, Sella and Thorndike<sup>8</sup> attempted to measure the effects of a Head Start program on the cognitive development of pre-school children. Forty-three pairs of Head Start children were compared with children of similar ages who had been registered for Head Start but had not as yet begun the program. The assumption made in the selection of the latter group for comparison purposes was that the family background and other variables

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<sup>7</sup>Ibid., p. 405.

<sup>8</sup>Marvin Sontag, Adina P. Sella and Robert L. Thorndike, "The Effect of Head Start Training on the Cognitive Growth of Disadvantaged Children," The Journal of Educational Research, Vol. 62, May-June, 1969, p. 387.

that make for a particular child being enrolled in this voluntary program would be controlled. The pairs were drawn from a total group of 157 children at the Teachers College Head Start Evaluation and Research Center. All children came from disadvantaged homes, and met the criteria set by the Office of Economic Opportunity for entry into the program (e.g., for a child to qualify from a family of four, the net family income could not exceed \$3,500 per annum). All children were volunteered for the program and were accepted upon application. None came from waiting lists. The pairs were formed as follows: Each child who had completed a period of Head Start training was matched with a child who had been the same age (within one month) upon entering the program. That is, basically two groups of the same age were compared. One group had completed between six and seven months of Head Start prior to testing, and the other group was chosen from the same centers, but just entering the program. The subjects were given the Stanford-Binet Intelligence Test and the Caldwell-Soule Pre-School Inventory. The results reported represented samples drawn from eight Head Start Centers. No significant differences were found on the Stanford-Binet Intelligence Test, but significant differences (approximately one-half of a standard deviation) were revealed by the Caldwell-Soule Pre-School Inventory. The results indicated that the Head Start group

was significantly ahead of their control counterparts on the Pre-School Inventory.<sup>9</sup>

Betty Miner,<sup>10</sup> in 1968, reinforced the findings of previous research in the investigation of the relationships between a number of sociological background variables (including general categories of social class, family structure, and religion) and school achievement at various periods in the child's academic career. The twelve achievement variables were organized into categories of intelligence, objective achievement, early citizenship, high school achievement, and after-school aspirations. The data were obtained from school files for 633 students in a midwestern city. Using a regression analysis, significant relationships between sociological variables and achievement were examined. The results of the investigation were positively related to socio-economic class.

Two studies were conducted concurrently by Kunz and Moyer<sup>11</sup> to determine whether there were significant differences in selected characteristics between economically disadvantaged and economically advantaged five-year-olds.

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<sup>9</sup>Ibid., p. 389.

<sup>10</sup>Betty Miner, "Sociological Background of Variables Affecting School Achievement," The Journal of Educational Research, Vol. 40, April, 1968, p. 372.

<sup>11</sup>Jean Kunz and Joan E. Moyer, "A Comparison of Economically Disadvantaged and Economically Advantaged Kindergarten Children," The Journal of Educational Research, Vol. 63, May-June, 1969, p. 392.

Kunz and Moyer studied the characteristics of intelligence, emotional disturbance, creativity in the use of materials, curiosity, attention to and interest in stories, preference for rewards, sensory discrimination ability, problem solving ability, and ability to conserve.

Kunz and Moyer<sup>12</sup> concluded from the data gathered that there was a need for further research with children from economically disadvantaged backgrounds. Authorities cited in the studies formed statements as to the characteristics of economically disadvantaged children on the basis of perceptions rather than empirical data. It may be that the authorities based their statements on observations of disadvantaged children older than kindergarten age. Further research is needed and should be directed toward determining the degree of variance in specific abilities in children from diversified backgrounds and the age at which such difference became evident.

Cloward and Jones<sup>13</sup> hypothesized that the correlation of socio-economic position and academic achievement could be explained partially by class differences in emphasis on education, although, at the same time, the writers recognized that various sub-groups performed well in spite of low

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<sup>12</sup>Ibid., pp. 392-395.

<sup>13</sup>Richard A. Cloward and James A. Jones, "Social Class: Educational Attitudes and Participation," Nurturing Individual Potential, A. Harry Passow (ed.), (Washington, D.C.: National Education Association, 1964), pp. 66-91.

socio-economic status. Aspirations and group goals and mores apparently affected motivation.

### The Self Concept

Beatty<sup>14</sup> observed that with the increasing complexity of the nervous system, and as more data are fed into it and organized in relation to satisfying behavior, it becomes necessary for us to conceptualize the process in some molar form if we are to understand the behavior of a human being. One attempt to do this is through the Self Concept Theory. The fundamental assumption underlying this theory is that experience is organized around a core of self regarding attitudes or beliefs. An individual comes to see himself in the world in rather specific ways and his behavior will be consistent with the kind of person he sees and feels himself to be.

An individual's picture of what he is like, his self concept, is built up slowly over time from experiences the child has had with his own body and directly with the environment. In the early stages, behavior is a rather direct response to the feelings that incoming stimuli evoke in the organism. The young child appears to seek pleasure, to avoid pain, and to be impulsive. He is guided directly by his feelings rather than by the sophisticated interpretations

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<sup>14</sup>Walcott H. Beatty, "The Feeling of Learning," Childhood Education, Vol. 45, March, 1969, p. 363.

of feelings that we as adults use as guides. As the child begins to use language and to use symbols to code his experience, he becomes more responsive to ways in which others are reacting to his behavior. The child begins to see his feelings and reactions in terms of words that others (mainly his parents) apply to them. This is the beginning of self concept.<sup>15</sup>

Beatty<sup>16</sup> has summarized reports from a number of studies with regard to the feelings of worth; a number of studies show that when a child is responded to as being liked or being important he learns better. (1) Feelings of worth develop from the experiences of being loved by others and included in their activities. (2) Feelings of being able to cope arise as a child is successful in learning skills and acquiring knowledge that enable him to act effectively in response to the demands of the world. This has become, unfortunately, almost the sole emphasis of most of our teaching in school. (3) Feelings of being able to express one's self develop as a child is able to verbalize and act out the good and bad feelings he experiences with art, music, body movement and his interaction with other people. A particularly important part of this, which our culture and schools make very difficult, is the expression of strong

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<sup>15</sup>Ibid., p. 364.

<sup>16</sup>Beatty, op. cit., p. 364.

or negative feelings. (4) Feelings of autonomy grow as an individual develops in each of the three areas listed above and finds that his own behavior and decisions enable him to gain satisfaction in the world, and in a sense to control his own destiny. A child will be motivated toward any learning that contributes to the development of these feelings.<sup>17</sup>

Pauline Sears,<sup>18</sup> in her study "Levels of Aspirations," found that children who were successful in school tended to set personal goals that were reasonable and realistic. Children who had poor records were either overcautious and set goals well below their present achievement or were extravagantly optimistic, setting goals well beyond actual accomplishments.

All of these areas of the self concept continue to develop throughout life, but we tend to be less aware of the development of autonomy until the adolescent and adult periods. However, some of the most critical learnings in this area come very early.<sup>19</sup>

The research by McClelland<sup>20</sup> on the achievement motive makes the development of self concept more

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<sup>17</sup>Beatty, op. cit., p. 365.

<sup>18</sup>P. S. Sears, "Levels of Aspiration in Academically Successful and Unsuccessful Children," Journal of Abnormal Psychology, Vol. 35, 1940, pp. 498-536.

<sup>19</sup>Beatty, op. cit., p. 366.

<sup>20</sup>D. C. McClelland and J. W. Atkinson, The Achievement Motive (New York: Appleton Century Crofts, 1953).

understanding, or adds to the knowledge. McClelland found that parental expectations and rewards for early achievement of independent behavior before school age resulted in a high need for achievement in the child. He further found that the more physical the demonstrations of affection as a reward for fulfilling parental demands for independence, the stronger was the drive for achievement.

Strom<sup>21</sup> contended that the low-income family supported a group orientation. As crises and problems arose, group cohesion was evidenced by the device of sticking together to surmount difficulty. There was little opportunity for making decisions because what one was able to do depended on what others were doing. Little was left to choice, from the hand-me-down garment to the use of a room by oneself. Conformity was valued above self-expression, listening above talking, cooperation above individual effort. A greater value was attached to duty than achievement; quitting school to help the family finances was viewed in greater favor than remaining to graduate.

Strom recognized that lower class children seldom need adult approval for their actions and therefore might well be given responsibilities in the classroom. However, since many teachers follow the practice of assigning these responsibilities to "superior" students, many low-income

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<sup>21</sup>Robert Strom, Teaching in the Slum School (Columbus, Ohio: Charles E. Merrill Books, Inc., 1965), pp. 34-35.

children were denied this type of activity. Strom further states,

. . . we must use whatever familial strengths are engendered in the low income home to help the child become an effective learner. Better that we modify our expectations that presume he can alter his needs.<sup>22</sup>

Coppersmith<sup>23</sup> contended that a teacher who lacks some measure of self-esteem--who does not like himself--should not be with children. The teacher could do immense harm in the classroom, harm that might take years to remedy, if, indeed, it could be remedied.

Such a teacher can be a destructive influence on his subjects by setting standards that are too high, subjecting a child to ridicule or sarcasm, or branding a child a failure for making a mistake. He might over-protect, dominate, neglect, or extravagantly flatter a student. Behavior such as this is extremely harmful to a child.

But a teacher can enhance a child's self-esteem by being interested in him and concerned about him as an individual. This means providing a warm, supportive climate in the classroom by genuinely accepting children--emphasizing every success, letting a child who has been absent know he has been missed, and including each child equally, if possible, in classroom activities.

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<sup>22</sup>Ibid., pp. 35-36.

<sup>23</sup>Stanley Coppersmith and Jan Silverman, "How to Enhance Pupil Self-Esteem," Today's Education, Vol. 68, April, 1969, p. 29.

The teacher must communicate that he genuinely cares about each pupil as an individual. But children can detect insincere affection or praise. Such action will repel them and create a feeling of distrust that will make them feel they are incapable of inspiring genuine affection or praise.

According to Kagan,<sup>24</sup> the girls typically outperformed the boys in all areas from kindergarten through fourth grade, and the ratio of boys to girls with reading problems ranged from three to one to six to one. He further suggested that this difference may be due in part to the average boy's perception of the school atmosphere as feminine, and reported unpublished studies at the Fels Institute that showed second grade boys more likely to label school objects feminine than masculine. Kagan attributed this tendency in part to the domination of the early grades by female teachers, a fact which automatically associated school values and school activities in the child's mind with the feminine role. To a small boy striving to achieve sex-role identification, the school, then, may offer no attractive models and those models it does offer may produce conflicts in values which work to the disadvantage of the child insofar as school is concerned.

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<sup>24</sup>Jerome Kagan, "Sex Typing and Sex Role Identity," in M. L. Hoffman and L. W. Hoffman (eds.), Review of Child Development Research, Vol. 1 (New York: Russell Sage Foundation, 1964), pp. 137-168.

Kagan did not report the socio-economic characteristics of the children he discussed. If what he suggested holds for the middle-class boy facing a middle-class teacher, it is likely that the conflicts are much greater for the underprivileged boy facing a middle-class teacher. Kagan's reports indicated that the problem deserved extended attention, especially if the results are supported by other similar findings.

Brandwein<sup>25</sup> declared that as a child grows in responsible behavior, he shows the values he holds in the actions he defends. Brandwein also discusses the idea of values. Values permeate a curriculum based on concepts, for understanding is basic to valuing. Values on the "prudence level" are given early consideration. Fundamentally, a distinction is made in behavioral, procedural, and substantive values, for the teacher's relationship to each is in itself based on values teachers hold. Furthermore, the social scientist's valuing of evidence, reason, and judgment is stressed.

A curriculum and teaching method should allow for the widest variability in abilities and personality of children--honestly recognized and acknowledged in practice. Children need to develop self-esteem.

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<sup>25</sup>Paul F. Brandwein, Notes on Teaching the Social Sciences: Concepts and Values (Harcourt, Brace and World, Inc., 1969), pp. 2-3.

Moreover, the "antecedents of self-esteem" should be examined. Can we teach children to value others in their own right if we do not value them?

Gordon<sup>26</sup> suggested that for very young children, negative self-views may be as damaging as physical illness or actual physical handicap. Society needs to create nurturing environments early in life so that children's concepts of themselves may emerge as positive. Whether the school systems as now constructed are the appropriate agencies to reach down to the younger years is open to debate. The example of Head Start programs and the present Parent and Child Center movement indicate that new social agencies consisting of and requiring the participation of those for whom the service is intended may provide effective vehicles for change. What is needed is education so designed that parents can provide children not only with an effective climate which tells them they are loved and worthy but also with a cognitive climate that allows the child to feel competent as well as loved. Adequate self-esteem requires this combination.

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<sup>26</sup>Ira J. Gordon, "The Beginnings of the Self: The Problem of the Nurturing Environment," Phi Delta Kappan, Vol. 50, March, 1969, p. 378.

## CHAPTER III

### METHODS AND PROCEDURES

#### Introduction

The purpose of this chapter is to describe the methods and procedures employed to conduct the study. Topics included are: Sample Characteristics, Instruments Used, Treatment of Data, and Research Design.

The population under study was the kindergarten pupils who had been enrolled in a nine months Head Start program in the Wichita Public Schools during the 1968-1969 school year. Permission and cooperation of the Wichita Public Schools Research Council and Wichita Board of Education was obtained in August, 1969, to conduct the research during the period of October, 1969, through April, 1970, in four elementary schools conducting Head Start Follow Through programs. Members of the control group were drawn from the same population, but were regularly enrolled in kindergarten in neighborhood schools.

The Head Start Follow Through program included the Tucson Early Education Model (TEEM). This model is a departure from the Wichita kindergarten curriculum usually provided in the schools.

### Sample Characteristics

One hundred five (105) pupils were selected by the Wichita Public Schools Research Department for the Head Start Follow Through program from two hundred twenty (220) pupils enrolled in the 1968-1969 nine months Head Start program. One hundred fifteen (115) pupils were assigned to the kindergarten program. The selection was random and stratified by race and age.<sup>1</sup> This group of pupils comprised the Head Start Follow Through group.

The experimental group, hereafter referred to as HSFT (Head Start Follow Through), consisted of children from low income families who had participated in a nine months Head Start program in 1969, and who, in the fall of 1969, were bused from low income areas to four public schools located in the outer areas of the city. The bused children were placed in classrooms with children from the local neighborhood. Classes were provided a special curriculum and special teaching staff. This project was designed to meet the instructional, psychological, nutritional, and medical needs of the children.

The control group, hereafter referred to as HSNFT (Head Start Non-Follow Through), consisted of ninety-five (95) kindergarten pupils from low income families who participated in a nine months Head Start program in 1969.

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<sup>1</sup>See Appendix B.

Twenty (20) pupils were absent at the time of the initial testing of the Cognitive Abilities Test and California Test of Personality. The participants in this group did not participate in the Head Start Follow Through program in the fall of 1969, and were not bused to the HSFT school.

The racial composition of the subjects in the experimental and control groups was fifty per cent Negroid, forty-five per cent Caucasian, and five per cent other. This distribution was based on consideration defined by the Office of Economic Opportunity for Head Start and Head Start Follow Through. (See Appendix A.) The HSFT group included ninety-five (95) pupils. There was a loss of ten pupils from the original selection because of absence at the time posttest was administered. The HSNFT group included seventy-five (75) pupils. There was a loss of twenty pupils from the original ninety-five (95) selected for pretesting because of absence at the time the posttests were administered. The range in chronological age was from five to six years of age. The loss of HSFT and HSNFT subjects was attributed to pupil transfers within the school system or out of the Wichita School System and absenteeism.

#### Instruments Used

During the period October, 1969, to April, 1970, both the HSFT group and the HSNFT group were subjected to a series of standardized tests. The tests were administered

prior to and after the pupils had participated in the experiences afforded through HSFT and HSNFT programs.

Two subtests of the Illinois Test of Psycholinguistic Abilities (ITPA) were administered in the fall, 1969-1970 school year, to the subjects of both groups. The rationale for selecting the two subtests Auditory Association and Verbal Expression was to determine the effects of cultural deprivation on language learning during the important formative preschool years. The ITPA was designed to provide a measure of abilities and disabilities in language development. The Auditory Association (AA) subtest of the ITPA was selected because it provided a measure of a child's ability to make use of orally presented concepts. Verbal analogies of increasing difficulty were presented by the testor. A sentence completion technique was used, setting forth one statement and followed by an incomplete analogous statement appropriately, i.e., A bird flies in the air; A fish swims in the \_\_\_\_\_. The importance of this subtest was substantial because of the high positive correlation with mental age (actualized mental capacity). Both the Auditory Association and the Verbal Expression subtests of the ITPA were used to establish whether the experimental and control groups were equivalent at pretest. Equivalence was determined by comparing group means, standard deviations, and t-ratios. The Verbal Expression (VE) subtest of the ITPA was selected because it

assessed the ability of the child to present meaningful ideas verbally in response to simple visual stimulus.<sup>2</sup>

The Cognitive Abilities Test (CAT), Primary I and Form I, was administered in October, 1969, and April, 1970, by teachers to members of the experimental (HSFT) and control groups (HSNFT). This group test was composed of four short subtests: Oral Vocabulary, Relational Concepts, Multimental and Quantitative Concepts. The Cognitive Abilities Test was used in this study in order to compare the HSFT group mean gain score and the HSNFT group mean gain score. In addition, the total group mean gain score for HSFT and the total group mean gain score for HSNFT were converted to Deviation Intelligence Quotient (DIQ) scores and compared to see if there was significant difference in the gains on the DIQ between the HSFT group and the HSNFT group.

The rationale for selecting the Cognitive Abilities Test was that the test has been constructed to reveal the full range of individual differences in kindergarten and grade one.<sup>3</sup> Children who come from homes that are economically limited prove even more limited in their ability to nurture intellectual development. The preschool years have included far too few of the experiences that build the

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<sup>2</sup>Robert L. Thorndike, Elizabeth Hagen, Irvin Lorge, Cognitive Abilities Test, Primary I, Form I, Test Manual, p. 28.

<sup>3</sup>Ibid., p. 5.

concepts and vocabulary taken for granted in middle-class homes. This test was standardized in 1968.

As a means of surveying the self concepts of the subjects of both groups, the subtest "Personal Worth" of the California Test of Personality (CTP), Elementary Series, 1953 Revision, was administered in October, 1969, and April, 1970. The CTP was considered by test evaluators as perhaps the best diagnostic instrument of any test of this type. Recognizing the limitations of instruments designed to measure the ego development of low income children ranging in age from three to seven, this test seemed adequate to reveal the status of certain highly important factors in personal and social adjustment usually designated as intangibles. The test was standardized and has been used extensively as a research tool since 1940.<sup>4</sup>

Each teacher of each group, HSFT (experimental group) and HSNFT (control group), also completed the Minnesota Teacher Attitude Inventory (MTAI). This instrument has been widely used in educational research, and has an impressive body of validation data.<sup>5</sup> The test was administered in order to inventory the teacher's attitudes in terms of human behavior. To be specific, the purpose for administering this

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<sup>4</sup>Oscar Krisen Buros, The 1940 Mental Measurements Yearbook (Highland Park, New Jersey, 1941), pp. 1213-14.

<sup>5</sup>J. W. Getzels and P. W. Jackson, "The Teacher's Personality and Characteristics," in N. L. Gage (ed.), Handbook of Research on Teaching (Chicago: Rand McNally, 1963), n.p.

to the teachers was to describe the teachers of the experimental and control groups in terms of their attitudes toward students. A scale was employed in this instrument to assess such attitudes as warmth versus coldness, active versus passive, etc.<sup>6</sup>

#### Treatment of Data

After pretesting both groups, the t-test was employed for pupils' subtest Auditory Association and subtest Verbal Expression of the ITPA, CAT and CTP to satisfy the assumption: There was no significant difference between the mean gains scores earned by the subjects of the two groups. The pretest and posttest data for the Cognitive Abilities and the pretest and posttest data for Self Concepts were used to analyze the significant gains. The t-test for Correlated Data was used as the test of significance for both the CAT and "Personal Worth" subtest of the CTP at the .05 level. Likewise, posttest data from the Cognitive Abilities test and Self Concept test were analyzed using the same statistic to test the null data from the Cognitive Abilities test and Self Concept test. There was no significant difference between the mean gain scores earned by the subjects of the HSFT and HSNFT groups. Teachers of the experimental and control groups were compared on the Minnesota Teacher Attitude Inventory. The t-test for

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<sup>6</sup>Ibid.

Correlated Data was used and the significance was tested at the .05 level.

### Research Design

The basic research design employed in this study was to obtain pretest and posttest data for control (HSNFT) and experimental (HSFT) groups, determine the gain in mean scores made by each group between the pretest and posttest period, and subject the mean gain scores of each group to a statistical test of significance. The statistical procedure used was the t-test for Correlated Data.

### Formula for Testing the Significance of Difference Between Mean Gains of the Control Versus the Experimental Groups

$$t = \frac{\frac{\sum D}{N}}{\sqrt{\frac{\sum D^2 - (\sum D)^2}{N - 1}}}$$

## CHAPTER IV

### FINDINGS OF THE STUDY

This chapter is divided into six parts. Part I presents the pretest data on the Auditory Association and Verbal Expression subtests of the ITPA. Part II presents results of the t-test between experimental group mean gain scores and control group mean gain scores on the Cognitive Abilities Test. Part III presents results of the t-test between experimental group mean gain scores and control group mean gain scores on the California Test of Personality. Part IV presents results of the t-test between experimental group mean gain scores and control group mean gain scores of the Cognitive Abilities Test for Deviation Intelligence Quotient (DIQ). Part V presents results of the t-test between teachers of the experimental group mean scores and teachers of the control group mean scores on the Minnesota Teachers Attitude Inventory. Part VI presents t-test between pupils of all teachers of the experimental group and pupils of Negro teachers of the experimental group on the subtest "Personal Worth" of the California Test of Personality. This was done in order to check the influence of racial characteristics

of the teachers upon the CTP scores of pupils, and was treated as a subsidiary hypothesis.

### Subsidiary Hypothesis

There was no significant difference in the mean gain scores of self concept as measured by the CTP between pupils of the experimental group attributable to the race of the teachers.

### PART I

Table II shows the mean raw scores of the Auditory Association subtest, standard deviation, t-ratio, and significance levels in the comparison of the two groups, HSFT and HSNFT. A two-tailed test was used to test the significance of the t-ratio at the .05 level.

TABLE II

ITPA--AUDITORY ASSOCIATION SUBTEST  
FALL, 1969--KINDERGARTEN

MEAN RAW SCORES, STANDARD DEVIATION, T-VALUE, AND  
SIGNIFICANCE LEVEL IN COMPARISON  
OF HSFT AND HSNFT

N	$\bar{X}$	S.D.	T-Ratio	Significance Level
HSFT 105	14.53	5.19	.78	p > .05  (not significant)
HSNFT 95	13.95	5.38		

The findings indicated no statistically significant difference in the mean raw scores on the Auditory Association subtest when comparing two groups of kindergarten children who participated in a nine months Head Start program. Similarly, a comparison of the results of the Verbal Expression subtest of the ITPA revealed that the two groups of the 1969 nine months Head Start participants were also equivalent at pretest on Verbal Expression subtest. These data suggested that the control and experimental groups are random samplings of the same population in regard to language abilities. (See Table III.)

TABLE III

ITPA VERBAL EXPRESSION SUBTEST  
FALL, 1969--KINDERGARTEN

MEAN RAW SCORES, STANDARD DEVIATIONS, T-RATIO,  
AND SIGNIFICANCE LEVELS OF THE COMPARISON OF  
HSFT AND HSNFT

	N	$\bar{X}$	S.D.	T-Ratio	Significance
HSFT	105	16.58	8.42	.54	p > .05  (not significant)
HSNFT	95	16.02	5.71		

## PART II

A comparison of the mean gain scores made by the experimental group and the control group on the CAT indicated that the mean gain score of the experimental group, although

significantly higher on the pretest, were not significantly higher on the posttest than the control group. Mean gain scores also showed no statistically significant difference between the experimental and control groups. (See Table IV.)

TABLE IV

SUMMARY OF PRETEST, POSTTEST, AND GAINS COMPARISONS  
OF THE CONTROL GROUP AND EXPERIMENTAL GROUP  
PERFORMANCE ON THE COGNITIVE  
ABILITIES TEST

	Pretest Scores		Posttest Scores		Gain Scores	
	Exper. Group	Control Group	Exper. Group	Control Group	Exper. Group	Control Group
N	95	75	95	75	95	75
$\bar{X}$	36.05	33.35	44.17	42.13	8.12	8.78
S.D.	9.64	7.70	10.96	9.03	8.12	6.16
$\bar{X}$ Diff.	2.70		2.04		.66	
t	2.01		1.33		.60	
df	168		168		168	
Signif. Level	p = <.05		N.S.		N.S.	

## PART III

In regard to scores on the CTP, there was a statistically significant difference ( $p < .05$ , two-tailed) for the

mean pretest scores between the experimental and control groups on the "Personal Worth" subtest in favor of the experimental group. A statistically significant difference was found ( $p < .05$ , two-tailed) on the mean gain posttest scores between the experimental group and the control group. Data supported the contention that there was no significant difference for the mean gain scores between the experimental group and the control group on the CTP. (See Table V.) These findings indicated that the two groups diverged in performance on the Cognitive Abilities Test over the period of this study.

TABLE V

SUMMARY OF PRETEST, POSTTEST, AND GAINS COMPARISONS  
OF THE CONTROL GROUP AND EXPERIMENTAL GROUP  
PERFORMANCE ON THE CALIFORNIA  
TEST OF PERSONALITY

	Pretest Scores		Posttest Scores		Gain Scores	
	Exper. Group	Control Group	Exper. Group	Control Group	Exper. Group	Control Group
N	95	75	95	75	95	75
$\bar{X}$	4.94	5.41	5.20	5.71	.26	.28*
S.D.	1.26	1.36	1.45	1.55	1.64	1.71
$\bar{X}$ Diff.	47		.51		.02	
t	2.17		2.05		.07	
df	168		168		168	
Signif. Level	$p < .05$ (two-tailed)		$p < .05$		N.S.	

\*Score does not equal .30 due to rounding error; each pretest score was subtracted from that subject's posttest score, and the resulting sum divided by the number of subjects in that group.

## PART IV

A summary of the data showing mean gain scores made by the experimental and control groups in regard to Deviation Intelligence Quotient of the CAT is found in Table VI. The mean pretest score for the experimental group was significantly higher than the mean gain posttest score for the control group at the .05 level. The mean posttest and mean gain scores were not significant at the .05 level.

TABLE VI

SUMMARY OF PRETEST, POSTTEST, AND GAINS COMPARISONS  
OF THE CONTROL GROUP AND EXPERIMENTAL GROUP  
PERFORMANCE ON THE DEVIATION INTELLIGENCE  
QUOTIENT OF THE COGNITIVE  
ABILITIES TEST

	Pretest Scores		Posttest Scores		Gain Scores	
	Exper. Group	Control Group	Exper. Group	Control Group	Exper. Group	Control Group
N	95	75	95	75	95	75
$\bar{X}$	89.27	84.37	94.38	90.24	5.11	5.87
S.D.	15.14	12.58	20.05	13.73	4.91	1.15
$\bar{X}$ Diff.	4.90		4.14		.76	
t-Ratio	2.30		1.59		.39	
df	168		168		168	
Signif. Level	p < .05 (two-tailed)		N.S.		N.S.	

## PART V

Table VII shows a comparison of the Minnesota Teacher Attitude Inventory (MTAI) scores made by teachers in the experimental and control groups in terms of their attitudes. The difference between the mean scores on the pretest was significant at the .05 level in favor of the experimental group. The small number of subjects in the experimental group suggests care in interpretation of the results.

TABLE VII  
SUMMARY OF PRETEST OF THE CONTROL GROUP AND  
EXPERIMENTAL GROUP PERFORMANCE ON THE  
MINNESOTA TEACHER ATTITUDE INVENTORY

	Pretest Scores	
	Exper. Group	Control Group
N	8	32
$\bar{X}$	76.26	51.84
sd	20.57	31.04
$\bar{X}$ Difference	24.41	
t-Ratio	2.07	
df	38	
Signif. Level	$p < .05$ (two-tailed)	

## PART VI

A summary of the pretest and posttest performance of pupils of Negro HSFT teachers on the CTP revealed no significant difference between the pretest and posttest mean scores for this group. However, it should be noted that the slight change in mean score was positive. (See Table VIII.)

TABLE VIII

SUMMARY OF PRETEST AND POSTTEST PERFORMANCE OF  
PUPILS OF NEGRO HEAD START FOLLOW THROUGH  
TEACHERS ON THE CALIFORNIA TEST  
OF PERSONALITY

	Experimental Group	
	Pretest	Posttest
N	22	22
$\bar{X}$	4.72	5.36
sd	1.05	1.52
$\bar{X}$ Difference	.64	
t	1.61	
df	21	
Signif. Level	N.S.	

A summary of the pretest and posttest performance of pupils of Caucasian HSFT teachers on the CTP revealed no significant difference between the pretest and posttest mean scores for this group. (See Table IX.)

TABLE IX

SUMMARY OF PRETEST AND POSTTEST PERFORMANCE OF  
PUPILS OF CAUCASIAN HEAD START FOLLOW  
THROUGH TEACHERS ON THE CALIFORNIA  
TEST OF PERSONALITY

	Experimental Group	
	Pretest	Posttest
N	73	73
$\bar{X}$	4.94	5.20
sd	1.26	1.45
$\bar{X}$ Difference	.26	
t	1.55	
df	144	
Signif. Level	N.S.	

A summary of pretest and posttest performance of pupils of Head Start Non Follow Through teachers on the CTP revealed no significant difference between the pretest and posttest mean scores for this group. (See Table X.)

The mean scores of the experimental group (HSFT) taught by Negro teachers pretest versus posttest (N=22) were not significantly different. The mean scores of the experimental group (HSFT) taught by Caucasian teachers pretest versus posttest (N=73) were not significantly different. The mean scores of the control group (HSNFT) taught by both Negro and Caucasian teachers pretest versus posttest (N=75) were also not significantly different. For a graphic

description of the results of teacher behavior on self concept among low income children in the Tucson Early Education Model used by the Wichita Follow Through program see Figures 1, 2, and 3.

TABLE X

SUMMARY OF PRETEST AND POSTTEST PERFORMANCE OF  
PUPILS OF HEAD START NON FOLLOW THROUGH  
TEACHERS ON THE CALIFORNIA TEST  
OF PERSONALITY

	Control Group	
	Pretest	Posttest
N	75	75
$\bar{X}$	5.41	5.71
sd	1.36	1.55
$\bar{X}$ Difference	.30	
t	1.26	
df	148	
Signif. Level	N.S.	

From an inspection of the lines representing pupil gains between pretest and posttest administration of the California Test of Personality, it is evident that there was no significant difference in self concept gain attributable to the race of the teachers. (See Figure 3.) However, it appears that there was less gain for Follow Through pupils taught by Caucasian teachers than for either of the other groups.

FIGURE 1

COMPARISON OF PRETEST AND POSTTEST SCORES OF PUPILS  
OF ALL NON FOLLOW THROUGH TEACHERS AND  
NEGRO FOLLOW THROUGH TEACHERS

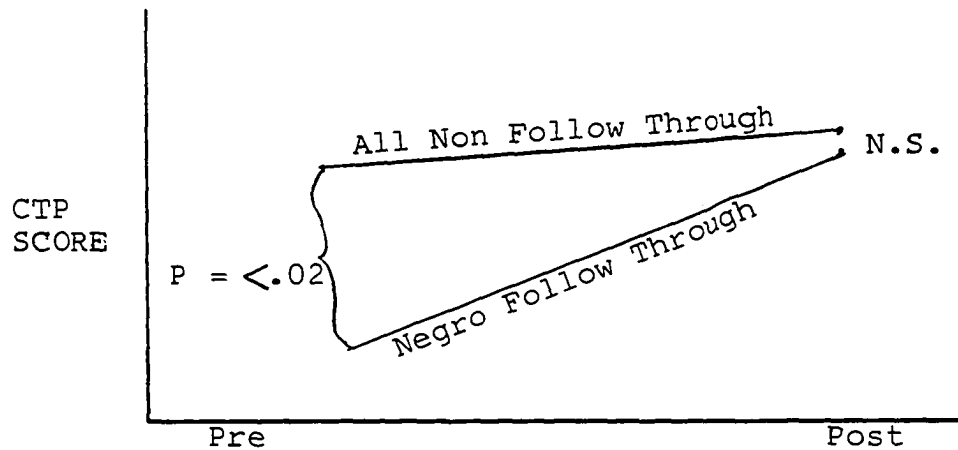


FIGURE 2

COMPARISON OF PRETEST AND POSTTEST SCORES OF PUPILS  
OF ALL NON FOLLOW THROUGH TEACHERS AND  
CAUCASIAN FOLLOW THROUGH TEACHERS

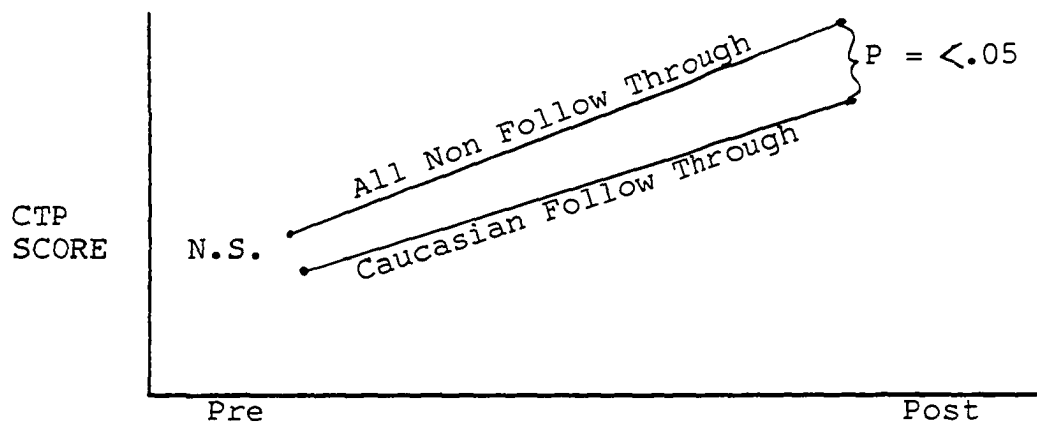
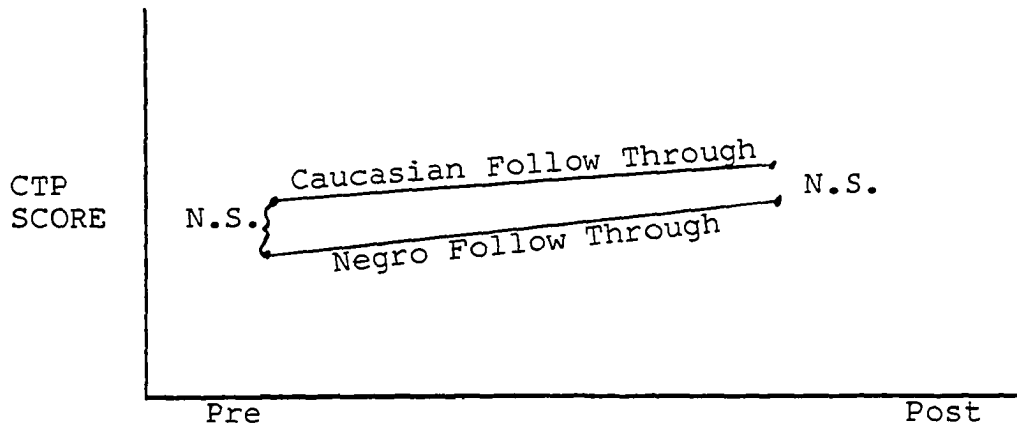


FIGURE 3

COMPARISON OF PRETEST AND POSTTEST SCORES OF PUPILS  
OF CAUCASIAN FOLLOW THROUGH TEACHERS AND  
NEGRO FOLLOW THROUGH TEACHERS  
HSFT ONLY



This impression is borne out by an examination of Figures 1 and 2. Figure 1 shows pretest and posttest scores of pupils taught by all Non Follow Through teachers combined (the upper line) as compared to pretest and posttest scores of pupils taught by Negro teachers in the Follow Through group only. It will be observed that the pupils of the latter group of teachers (Negro, Follow Through) had significantly lower CTP scores than the comparison group. Yet the two groups did not differ on posttest scores when compared to each other. This implies that the group taught by Negro Follow Through teachers converged towards the comparison group. Stated in another way, the group taught by Negro Follow Through teachers appeared to gain more than the comparison

group, even though posttest scores comparing the two groups were not significantly different from each other.

Figure 2 examines this phenomenon in another way. Figure 2 presents pretest and posttest scores of pupils taught by all Non Follow Through teachers combined (the upper line) as compared to pretest and posttest scores of pupils taught by Caucasian Teachers in the Follow Through group only. It should be noted that an effect reverse of the one discussed above is seen in Figure 2. Although the two groups of pupils start out with no significant difference between them with respect to the CTP scores, they were significantly different on posttest scores, implying that the group taught by Caucasian teachers gained significantly less than the comparison group on CTP scores.

Even though the results of Figures 1, 2, and 3 are internally consistent with each other, care should be used in concluding that pupils taught by Negro teachers gain more in self concept (as assessed by the CTP) than do pupils taught by Caucasian teachers. There are at least two reasons for cautious interpretation of these findings: (1) The study was not specifically set up to study this question, and (2) There are a rather small number of cases (both pupils and teachers) represented in segments of the data.

TABLE XI  
AN OVERVIEW OF STATISTICAL TESTS  
REPORTED IN CHAPTER IV

	Test/ Group		Test/ Group	Level of Signifi- cance	Higher Variable	
Cognitive Abilities Test	Pre <sub>e</sub>	VS	Pre <sub>c</sub>	P < .05	E	Cognitive Abilities Test
	Post <sub>e</sub>	VS	Post <sub>c</sub>	P = N.S.	-	
	Pre <sub>e</sub>	VS	Post <sub>e</sub>	P < .005	Post*	
	Pre <sub>c</sub>	VS	Post <sub>c</sub>	P < .005	Post**	
	Gain <sub>e</sub>	VS	Gain <sub>c</sub>	P = N.S.	-	
California Test of Personality	Pre <sub>e</sub>	VS	Pre <sub>c</sub>	P < .05	-	California Test of Personality
	Post <sub>e</sub>	VS	Post <sub>c</sub>	P < .05	C	
	Pre <sub>e</sub>	VS	Post <sub>e</sub>	P = N.S.	-*	
	Pre <sub>c</sub>	VS	Post <sub>c</sub>	P = N.S.	-**	
	Gain <sub>e</sub>	VS	Gain <sub>c</sub>	P = N.S.	-	
Deviation IQs of the Cognitive Abilities Test	Pre <sub>e</sub>	VS	Pre <sub>c</sub>	P < .05	E	Deviation IQs of the Cognitive Abilities Test
	Post <sub>e</sub>	VS	Post <sub>c</sub>	P = N.S.	-	
	Pre <sub>c</sub>	VS	Post <sub>c</sub>	P < .005	Post*	
	Pre <sub>e</sub>	VS	Post <sub>e</sub>	P < .005	Post**	
	Gain <sub>e</sub>	VS	Gain <sub>c</sub>	P = N.S.	-	

\*Gain score for experimental group only.

\*\*Gain score for control group only.

## CHAPTER V

### SUMMARY OF FINDINGS, CONCLUSIONS, AND SUGGESTIONS FOR FURTHER RESEARCH

The purpose of this chapter is to present a brief summary of the study. The conclusions are based on the findings included in Chapter IV. The suggestions are the results of the writer's experiences as they related to needs for additional information.

#### Summary of Findings

The study was designed to compare the development of cognitive abilities and self concepts of pupils who participated in a Head Start Follow Through program as compared to those pupils who participated in a kindergarten program. Test data for ninety-five subjects who had nine months of Head Start and six months of Follow Through experiences were compared with test data for seventy-five subjects who received nine months of Head Start experiences but had no Follow Through experiences. The Follow Through subjects were selected randomly from the population that had been enrolled in a nine month Head Start program. The hypotheses were: (1) There was no significant difference in the mean

gain scores on the Cognitive Abilities Test between the control and experimental groups after completing the model Follow Through program; (2) there was no significant difference in the mean gain scores of self concepts between the control and experimental groups after completing the model Follow Through program; (3) there was no significant difference in the mean gain scores on the Deviation Intelligence Quotient between the control and experimental groups after completing the model Follow Through program. A subsidiary hypothesis was: There were no significant differences in the self concept gains between the experimental and control groups attributable to the race of the teachers. Comparisons were made of data obtained from the Cognitive Abilities Test, the California Test of Personality, and Cognitive Test Deviation Intelligence Quotient.

The first hypothesis used data from the Cognitive Abilities Test. The results indicated no significant difference between the mean gain in scores made by the subjects who had six months of Follow Through experiences and those subjects who did not have six months of Follow Through experiences in regard to (1) Oral Vocabulary, (2) Relational Concepts, (3) Multi-mental, and (4) Quantitative Concepts.

The performance on the "Personal Worth" subtest of the California Test of Personality indicated no significant difference between the mean gain in scores made by the subjects who had six months of Follow Through experiences and

those subjects who did not have six months of Follow Through experiences.

The third hypothesis compared Deviation Intelligence Quotient data for both groups on the Cognitive Abilities Test. The results indicated there were no significant differences between the mean gain in scores made by the subjects who had six months of Follow Through experiences and those subjects who did not have six months of Follow Through experiences.

The fourth (subsidiary) hypothesis, using data from the California Test of Personality, revealed the absence of any significant difference in self concept gain attributable to the race of the teachers when only posttest performances were compared. However, it appeared that (1) there was less gain for Follow Through pupils taught by Caucasian teachers than for pupils taught by all Non-Follow Through teachers, and (2) there was a greater gain for Follow Through pupils taught by Negro teachers than those taught by all Non Follow Through teachers. Care in interpreting these results (based on the post hypothesis formation and small sample sizes) is cautioned.

### Conclusions

The Wichita Follow Through program utilizing the Tucson Early Education Model revealed no differences in cognitive abilities and self concepts in subjects involved in

the program when compared with subjects involved in the regular kindergarten program.

1. The difference in gains made by Head Start Follow Through and Head Start Non Follow Through pupils showed no statistical difference on the California Test of Personality and the Cognitive Abilities Test. It was therefore concluded from this that pupils who had Head Start experience do as well in a regular classroom program as those pupils with Head Start experience and a special Follow Through classroom program.

2. The study revealed that the regular kindergarten program was as effective as the Follow Through program. It was therefore concluded on the basis of the above findings that the regular kindergarten program should be retained as the basic program utilized by the school system.

#### Suggestions for Future Research

1. Since previous studies as reviewed in this study have suggested that enriched programs in early education may improve achievement and self concept by school environment and this study found no significant difference in the achievement and self concept of the Head Start Follow Through and Head Start Non Follow Through in Wichita, Kansas, there would be value in studies comparing other early education models of the same kind of population used in this study such as the cognitively oriented Follow Through program in

Ypsilanti, Michigan, the responsive model Follow Through program in Berkeley, California, and the cultural linguistic Follow Through approach in Chicago, Illinois.

2. Further research should be made to determine techniques, procedures, approaches and models used in classrooms that will encourage and improve achievement and self concept.

3. Comparative studies to determine whether test scores from other instruments would be more valid in predicting school achievement and self concepts of low income children would be of value.

4. Comparative studies to determine the correlation between the tests used in this study and other tests that have been produced to measure achievement and self concept.

5. There seems to be a need for future study with respect to racial characteristics of teachers in this type of program.

6. The reason for a statistical difference of mean scores on the Deviation I.Q. at the .005 level in favor of posttest groups may have been maturation, growth of cognitive abilities, the passage of time, or some combination of these factors.

The study did, however, support the notion that differing preschool and primary educational environments yield different outcomes. It appears necessary to raise the issue of the need for longitudinal study of the effect

of those educational experiences. While it is commonplace in research articles to conclude that "more research is necessary," it would seem particularly appropriate in this context, considering the dearth of empirical work in the area.

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APPENDIX A

INDEX OF POVERTY--THE POVERTY LINE

## APPENDIX A

### Index of Poverty--The Poverty Line

OEO has established a "poverty line" index for determining eligibility of children for Head Start. This same index will be used for Follow Through. The chart below shows, by household size and levels of gross income, those families which are considered to fall below the poverty line.

#### OEO Poverty Guidelines for FT 1969

<u>Family Size</u>	<u>Non-Farm</u>	<u>Farm</u>
1	\$ 1,600	\$ 1,100
2	2,100	1,500
3	2,600	1,800
4	3,300	2,300
5	3,900	2,800
6	4,400	3,100
7	4,900	3,400
8	5,400	3,800
9	5,900	4,100
10	6,400	4,500
11	6,900	4,800
12	7,400	5,200
13	7,900	5,500

The total family income to be used in determining the eligibility of low-income children in Follow Through should be based on the prior calendar year, or the twelve months previous to school opening, whichever most accurately describes the family's need.

In order to be considered low-income and, therefore, eligible for the full-range of comprehensive services in Follow Through, a child must either (1) have met the above poverty criteria at the time of entrance to Head Start or a similar quality pre-school program, or (2) meet the above poverty criteria at the time of entrance to Follow Through. Such a child remains eligible for Follow Through services unless the family income rises \$3,000 above the applicable poverty line.

Children from a family that is on welfare are considered eligible even though the family income may exceed the poverty line.

APPENDIX B

PUPIL SELECTION STRATIFIED BY RACE AND AGE

PUPIL SELECTION STRATIFIED BY RACE AND AGE

EXPERIMENTAL GROUP  
(105)

HSFT

Subject	Race*	Age
1	1	5
2	1	5
3	2	6
4	2	5
5	2	5
6	1	5
7	2	5
8	1	5
9	1	6
10	1	5
11	1	5
12	2	5
13	1	5
14	3	5
15	2	5
16	1	6
17	1	5
18	3	5
19	2	5
20	1	5
21	1	5
22	1	6
23	1	5
24	3	5
25	1	5
26	2	6
27	2	5
28	1	5
29	3	5
30	1	6
31	2	6
32	2	5
33	1	5
34	2	5
35	1	6

\*Legend:

Race 1, Caucasian

Race 2, Negroid

Race 3, Spanish or Mexican

## HSFT--(Continued)

Subject	Race	Age
36	1	5
37	2	5
38	2	5
39	1	5
40	2	5
41	1	5
42	3	5
43	2	5
44	1	5
45	2	5
46	1	5
47	3	5
48	2	5
49	2	6
50	3	5
51	1	5
52	3	6
53	2	5
54	1	5
55	1	5
56	1	6
57	2	6
58	1	5
59	1	5
60	1	6
61	1	5
62	2	5
63	1	5
64	2	5
65	2	5
66	2	5
67	2	5
68	2	5
69	2	5
70	2	5
71	2	5
72	1	5
73	1	5
74	2	5
75	1	5
76	2	5
77	2	5
78	1	5
79	2	5
80	1	5

## HSFT--(Continued)

Subject	Race	Age
81	2	5
82	1	5
83	2	5
84	2	5
85	2	5
86	2	5
87	2	5
88	2	5
89	1	5
90	2	5
91	2	5
92	2	5
93	1	5
94	2	5
95	1	6
96	2	5
97	2	5
98	1	5
99	1	6
100	1	5
101	1	5
102	2	5
103	2	5
104	2	5
105	2	5

CONTROL GROUP  
(115)

HSNFT

Subject	Race*	Age
1	2	5
2	2	5
3	1	5
4	2	5
5	2	5
6	2	5
7	1	5
8	1	5
9	2	5
10	2	5
11	2	5
12	2	5
13	2	5
14	2	5
15	2	5
16	1	5
17	2	5
18	2	5
19	1	6
20	1	5
21	2	5
22	2	6
23	2	5
24	2	5
25	2	5
26	2	5
27	2	5
28	2	5
29	1	6
30	1	5
31	1	5
32	1	5
33	1	5
34	2	6
35	1	5
36	1	5
37	2	5
38	2	5

\*Legend:

Race 1, Caucasian

Race 2, Negroid

Race 3, Spanish or Mexican

## HSNFT--(Continued)

Subject	Race	Age
39	3	5
40	2	5
41	2	5
42	2	5
43	1	6
44	1	5
45	1	5
46	2	5
47	1	5
48	1	6
49	1	5
50	2	5
51	1	5
52	1	5
53	2	5
54	1	5
55	2	5
56	1	5
57	1	6
58	1	5
59	1	5
60	1	5
61	1	5
62	2	5
63	1	5
64	2	5
65	2	5
66	2	5
67	2	5
68	3	5
69	3	5
70	2	5
71	1	5
72	1	5
73	1	5
74	1	5
75	1	5
76	1	5
77	1	5
78	3	5
79	1	5
80	1	5
81	2	5
82	2	5
83	2	5

## HSNFT--(Continued)

Subject	Race	Age
84	1	5
85	1	5
86	2	5
87	2	5
88	1	5
89	2	5
90	2	5
91	1	5
92	2	5
93	1	5
94	2	5
95	1	5
96	1	5
97	1	5
98	2	5
99	1	5
100	1	5
101	2	5
102	2	5
103	1	5
104	1	5
105	2	5
106	1	6
107	1	5
108	2	5
109	2	5
110	2	5
111	2	5
112	2	5
113	1	5
114	3	5
115	2	5

APPENDIX C

PRETEST AND POSTTEST SCORES OF SUBJECTS  
ON THE CAT AND CTP

PRETEST AND POSTTEST SCORES OF SUBJECTS  
ON THE CAT AND CTP

EXPERIMENTAL GROUP  
(95)

HSFT

Subject	CAT Scores		CTP Scores	
	Pretest	Posttest	Pretest	Posttest
1	43	45	5	5
2	58	60	4	5
3	43	44	7	2
4	33	36	3	3
5	55	55	3	5
6	69	67	5	6
7	45	46	6	7
8	51	53	5	7
9	66	66	5	5
10	68	70	3	5
11	38	40	4	6
12	56	59	6	7
13	49	51	6	3
14	47	48	6	7
15	40	41	4	6
16	51	51	6	3
17	70	70	4	3
18	57	60	5	4
19	64	63	6	7
20	36	38	6	6
21	46	48	5	5
22	67	68	8	6
23	65	68	2	7
24	63	63	5	4
25	51	45	4	5
26	57	55	5	6
27	44	46	6	6
28	37	39	5	4
29	51	55	5	5
30	44	47	5	7
31	55	53	6	3
32	53	52	5	6
33	30	33	7	5
34	51	51	4	6
35	47	49	6	7
36	44	45	7	8
37	39	37	3	5
38	39	40	5	5

## HSFT--(Continued)

Subject	CAT Scores		CTP Scores	
	Pretest	Posttest	Pretest	Posttest
39	54	55	5	5
40	38	37	6	4
41	41	43	4	2
42	65	69	6	6
43	27	29	5	6
44	59	61	4	3
45	53	53	2	4
46	38	40	5	7
47	42	41	5	6
48	33	34	4	5
49	42	40	5	5
50	36	38	5	5
51	38	38	5	5
52	40	40	6	5
53	45	40	5	5
54	29	27	4	5
55	48	51	5	6
56	32	28	3	4
57	45	43	5	6
58	37	39	7	6
59	29	29	4	5
60	48	49	6	7
61	34	31	4	3
62	37	35	5	6
63	31	31	6	7
64	23	26	5	4
65	35	36	6	6
66	33	30	4	5
67	57	59	3	6
68	48	48	3	5
69	59	58	3	5
70	40	42	4	4
71	58	56	6	7
72	49	47	5	7
73	46	49	5	7
74	37	35	5	5
75	30	33	3	7
76	33	34	4	6
77	38	36	5	4
78	52	49	6	4
79	41	39	4	6
80	31	33	6	7
81	51	53	6	6
82	38	39	5	5

## HSFT--(Continued)

Subject	CAT Scores		CTP Scores	
	Pretest	Posttest	Pretest	Posttest
83	27	29	8	6
84	35	37	2	7
85	39	39	5	4
86	49	51	2	7
87	51	50	5	6
88	46	46	6	6
89	39	38	5	4
90	40	40	5	5
91	29	33	7	5
92	40	42	7	8
93	29	31	3	5
94	46	44	7	6
95	41	40	6	7

PRETEST AND POSTTEST SCORES OF SUBJECTS  
ON THE CAT AND CTP

CONTROL GROUP  
(75)

HSNFT

Subject	CAT Scores		CTP Scores	
	Pretest	Posttest	Pretest	Posttest
1	45	46	5	2
2	49	55	6	7
3	42	44	4	8
4	35	36	7	8
5	60	63	6	7
6	54	56	5	7
7	50	51	6	3
8	40	41	5	6
9	58	60	4	6
10	61	67	4	5
11	54	56	4	5
12	32	35	4	5
13	42	41	7	5
14	49	51	6	5
15	39	42	7	5
16	50	53	6	3
17	62	67	4	8
18	45	47	5	5
19	28	24	6	3
20	33	31	7	6
21	49	55	5	7
22	53	61	3	3
23	47	49	5	7
24	28	29	5	5
25	39	43	5	6
26	29	31	7	7
27	49	51	6	6
28	46	49	5	5
29	53	59	7	6
30	36	39	8	8
31	29	27	7	4
32	31	39	8	8
33	34	36	5	8
34	45	42	5	8
35	36	39	8	6
36	40	46	8	8
37	32	37	8	8
38	53	58	5	5

## HSNFT--(Continued)

Subject	CAT Scores		CTP Scores	
	Pretest	Posttest	Pretest	Posttest
39	40	42	6	6
40	41	42	3	7
41	50	51	6	7
42	52	56	7	8
43	36	39	6	6
44	40	40	5	5
45	48	49	3	2
46	44	46	5	5
47	26	29	4	7
48	65	67	3	5
49	52	58	6	7
50	23	26	5	5
51	31	33	7	6
52	29	28	5	8
53	27	31	5	6
54	29	31	6	6
55	38	41	5	4
56	27	27	7	7
57	59	63	5	5
58	46	49	5	6
59	57	63	5	7
60	44	46	5	4
61	33	34	6	4
62	41	44	6	6
63	36	38	8	5
64	52	57	7	7
65	49	48	6	7
66	39	51	6	7
67	27	29	5	2
68	31	33	2	6
69	38	45	3	5
70	44	46	3	4
71	57	59	5	5
72	30	35	5	5
73	49	53	4	5
74	31	33	5	4
75	51	57	4	4