THE EFFECTS OF PHYSICAL SKILLS AND ACADEMIC SELF CONCEPTS ON GENERAL SELF CONCEPT AND ACADEMIC ACHIEVEMENT IN A SUMMER CAMP ENVIRONMENT

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ABSTRACT

THE EFFECTS OF PHYSICAL SKILLS AND ACADEMIC SELF CONCEPTS ON GENERAL SELF CONCEPT AND ACADEMIC ACHIEVEMENT IN A SUMMER CAMP ENVIRONMENT

by David T. Steel

This study investigated the effects of two educational treatments on general self concept and academic achievement, using a sample of 62 educable mentally retarded adolescents in a summer camp environment. Control and experimental groups of 31 students each were randomly selected. The Experimental Group attended a four week summer day camp during August, 1966; the Control Group did not attend camp. The Experimental Group was divided into two sub-groups (Experimental Group E_1 and Experimental Group E_2). Experimental Group E_1 received an educational treatment designed to improve academic self concept (praising successful performance on reading and arithmetic tasks), while Experimental Group E_2 received a treatment designed to improve physical skills self concept (praising successful performance in physical education and hand/eye coordination tasks). Control and Experimental Groups were evaluated just before camp, immediately after camp, and one semester after camp, to note changes in general self concept and academic achievement.

It was predicted that the Experimental Group would gain more than the Control Group in general self concept and in academic achievement, both immediately

and after one semester. It was further predicted that the experimental group E_2 which received the treatment to improve physical skills self concept would gain more in general self concept, both immediately and after one semester, than would experimental group E_1 which received the treatment to improve academic self concept. Finally, it was predicted that the experimental group E_1 that received the treatment to improve academic self concept would gain more in academic achievement, both immediately and after one semester, than would the experimental group E_2.

Results of the study suggest the following:

1. Giving educable mentally retarded adolescents an experience to improve either physical skills self concept or academic self concept results in greater immediate gain in general self concept than does giving no treatment. This gain is lost over one semester, however.

2. Improving physical skills self concept does not appear to be more effective in improving general self concept than does improving academic self concept. This is true immediately and persists over one semester.

3. Treatments to improve physical skills self concept and academic self concept are not effective in increasing academic achievement immediately or over one semester.

4. Although no greater immediate gain in academic achievement is apparent between the group that received treatment to improve academic self concept and the group that received the treatment to improve physical skills self concept, a greater long-term (one semester) gain in academic achievement is found to favor the physical skills self concept group.

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D.T.S.

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CHAPTER I

INTRODUCTION

General Nature of the Problem

It is generally accepted that there are many factors that influence learning. One child may behave in a highly motivated and enthusiastic manner when engaged in learning activities, while another child may appear unenthusiastic and disinterested. One child may produce academically in line with his intellectual abilities (as measured by standardized achievement tests), while another child does not - even though the latter child may surpass the former child in measured ability.

According to numerous educators, Combs and Snygg (20), Brookover (9), Jersild (48), Crow and Crow (23), Rogers (81), Gordon (39), and others, among the important factors responsible for learning are the attitudes or internal images the child has of himself. These attitudes or internal images have been called by many educators, self concept.

Combs and Snygg (20) are among the early personality theorists to discuss this construct, self concept. The term they use is "phenomenological self", which is defined as those parts of the person's environment which he has differentiated as definite and fairly stable characteristics of himself. Combs and Snygg point out that the culture or environment is important to the individual as

he first learns to define the world about himself in terms of the culture into which he is born.

The importance of the self concept in predicting behavior is underscored by these theorists when they write " . . . behavior may be analyzed in terms of many specific needs . . . the needs become a function of one dominant aspect - the need to protect and to enhance his own self concept."[1] How an individual behaves, they suggest, is determined by the attitudes or internal images he has of himself and his abilities.

The vital importance of experiences of success are summarized by Combs and Snygg in the following way:

> "Thus, man seeks not merely the maintenance of a self, but the development of an adequate self - a self capable of dealing effectively and efficiently with the exigencies of life, both now and in the future. To achieve this self-adequacy requires of man that he seek, not only to maintain his existing organization, but also that he build up and make more adequate the self of which he is aware. Man seeks both to maintain and enhance his perceived self."[2]

Jersild (48) holds a similar position when he maintains that the "self" is not innate, but is of genetic formation. Many attitudes are generated from experiences in infancy which form the sense of "I", "me", and "mine". There is little doubt that the child's concept of self develops in an interpersonal setting - an interpersonal setting which is composed of family first, but later the peer

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[1]Combs, Arthur W., and Snygg, Donald, Individual Behavior - Revised Edition. New York: Harper and Bros., 1959.

[2]Ibid., p. 112.

group. These basic feelings, then, that are developed about one's self are largely the result of the opinions held by significant others. Jersild spells this out as follows:

> "Another important phase in the development of a child's view of himself occurs when he is able to compare himself with his peers and to test his powers in competition with them. When a child knowingly competes he is using others as a standard against which to measure himself."[1]

And later Jersild adds:

> "Among the earliest experiences which influence the development of the child's view of himself are those with other people. The position that the child's attitudes pertaining to himself are influenced by "significant" people, notably at first by his mother or mother substitute, has been expressed most strongly by Sullivan."
>
> "According to Sullivan the self-system has its origin in interpersonal relationships and is influenced by "reflected appraisals." If a child is accepted, approved, respected, and liked for what he is he will be helped to acquire an attitude of self-acceptance and respect for himself. But if the significant people in his life - at first his parents and later his teachers, peers, and other persons who wield an influence - belittle him, blame him and reject him, the growing child's attitudes toward himself are likely to become unfavorable. As he is judged by others, he will tend to judge himself. Further, according to this position, the attitudes concerning himself which he has thus acquired will, in turn, color the attitudes he has toward other persons. He judges himself as he has been judged and then, in turn, judges others as he judges himself."[2]

It is generally held, then, that attitudes about oneself develop very early in life and are the result of failure or success that the child has with certain specific kinds of activities. It would appear, also, that self concept

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[1]Jersild, A. T., Child Psychology. Fifth Edition, Englewood-Cliffs, New Jersey, Prentice-Hall, 1960.

[2]Ibid., p. 90.

develops as a result of attitudes about the child held by those upon whom the child is dependent. As a parent regards the child as incompetent or as a failure, so the child comes, in time, to see himself as such.

This relationship between self concept and academic achievement has been discussed by Brookover (9), Gordon (38), and Phillips (75). All of these writers contend that academic achievement appears to be influenced by a student's perception of himself as a learner and his perception as a learner is partially determined by his success or failure with learning activities.

Gordon (38) writes that educational experiences which do not strengthen the child's attitudes about himself as a learner in school may have no positive impact, no matter how carefully they have been planned or how logical these experiences seem to teachers or administrators. Evidence suggests that failure and humiliation at school are stupifying, while success has the effect of building internal strength and confidence.

Brookover (9) has noted the influence of the opinions and values of significant others* in the school setting and the implications these opinions and values have for the achievement of the individual:

> " . . . a student tends to learn what he perceives he is able to learn. . . significant others, particularly teachers, have important influences on the development of student's self concept. The most important of these influences, he feels, are the expectancies that are placed upon him in an academic

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*Significant Others: A term used to describe those individuals whose opinions and impressions are of great importance in shaping behavior. For the child they are chiefly parents, and secondarily siblings, teachers and peers.

setting. Like parental attitudes, attitudes of teachers and peers do in part determine academic self concept."[1]

Brookover concludes:

A. "A person learns to behave in ways which he considers appropriate to himself.

B. Appropriateness of behavior is defined by each person through the internalization of the expectations of significant others.

C. The functional limits of one's ability to learn are determined by his conception or self image, as acquired in social interaction.

D. The individual learns what he perceives significant others expect him to learn in the classroom and in other situations."[2]

Phillips (75) parallels these thoughts when he writes:

" . . . in school the tendencies begun by social contacts, group play, and similar experiences are continued and augmented - when one is singled out for praise or blame, this gives the self the role of a good or bad entity for this is determined by one's good or bad act . . .

" . . . the importance of specific factors in the environment of life experience of the individual which would be likely to influence his self/ideal self congruency . . . the schools may well be a principal factor influencing this general increase in self/ideal self congruency. The extent to which the increase can be attributed to school experiences may be an indication of the school's effectiveness in facilitating this important aspect of children's development."[3]

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[1]Brookover, W. B., "A Social Psychological Concept of Classroom Learning", Sch. Soc., 1959, 8, 84-87.

[2]Ibid., p. 84-87.

[3]Phillips, A. S., "Self Concepts in Children", Ed. Research, 1964, 6 (2), 104-109.

While the self concept of the mentally retarded individual may not differ from the non-mentally retarded individual in terms of importance, there is evidence to suggest that mentally retarded individuals are more likely than their non-retarded peers to be handicapped by a self concept that is developed from failure experiences. For example, Stevens and Heber (92) conclude:

> "There is strong suggestion that the performance of retardates may be depressed as a function of generalized expectations of failure and that proportionately more retarded than normals may respond to the threat of failure with decreased rather than increased effort."[1]

This argument is more fully outlined by Dexter (27), who develops a position to account for the behavior of the mentally retarded individual.

> "Those who differ in such a way as to be regarded negatively by the people with whom they spend the greater part of their lives, their kin groups, work groups, or agemates, do not have moral support - so they are likely to develop an image of themselves as incapable or of other people as hostile - an image which extends beyond the specific areas of incompetence or hostility which actually exist, and suffuses most of their behavior."[2]

Dexter's use of the word suffuses would suggest that specific failure experiences influence many areas of performance for the mentally retarded and further suggests to this writer that for the mentally retarded, at least, unsatisfactory performance in one behavioral area will be interpreted by the retarded individual as unsuccessful performance in another behavioral area. It would appear that

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[1]Stevens, H. A., and Heber, R., Mental Retardation - A Review of Research, University of Chicago Press, Chicago, Illinois, 1964, p. 75.

[2]Dexter, L. A., "A Social Theory of Mental Deficiency", Am. Journal of Mental Deficiency, 1958, 62, 920-28.

Dexter is arguing that a mentally retarded student's attitudes about himself as inadequate in school become his attitudes about himself in other unrelated tasks. Further, one may conclude from Dexter's comments, that the retarded child's attitudes about himself as a learner in school may have developed out of failure experiences on non-school tasks.

This writer also stresses the importance of achievement generally, and school achievement particularly, in a society that forces upon the mentally retarded individual the mental picture of utter worthlessness when satisfactory achievement is not forthcoming. If Brookover's assertion is tenable, that the functional limits of one's ability to learn are determined by his conception or self image, one can argue that mentally retarded individuals are handicapped by more than impaired intellectual ability. Their performance, one could hold, is further limited by their self concept of themselves as failures.

This appears to be Dexter's conclusion:

> "The self image of the mentally defective in a society which stresses attitudes and intellectual achievement is likely to be negative because the "looking glass self"* principle operates and they learn from their social contacts and experiences to look down upon and distrust themselves."
>
> "There is a distinct possibility that many mental defectives become concrete, social, legal or economic problems simply because of the direct or indirect consequences of the inability of society to draw the mental defective into a workable unity - to give them social status. The indirect consequences of the

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*Looking Glass Self: (From: Young, K., and Mack, R. W., Systematic Sociology, p. 333) ". . . the child associates his own actions with the demands or responses of others, thereby building up habits and attitudes or roles concerning what he should do in their presence. C. H. Cooley referred to this as the "reflected looking glass self."

> high valuation placed upon such skill manifest themselves in discrimination and prejudice against the "stupid" which leads them to acquire a negative or hostile self image of themselves and therefore to live according to a self definition of themselves as worthless or contemptables."
>
> "The significant therapy is to find some place where they can be accepted completely."
>
> "The less the mental defective is exposed to conventional pressures of scholastic or equivalent success, and the less he is exposed to ridicule, the greater in the average adult, social and economic success experienced."[1]

It would seem that negative attitudes that have developed out of experiences of failure may be altered by experiences of success. If the society (and school) is responsible for negative attitudes or foster the transfer of results of failure experiences in one sphere, then, according to the position of Whipple (101), positive attitudes may also be transferred.

> "It is not only probable but fairly certain, that some of the most important agencies of transfer are to be found among the higher level relations in generalized attitudes, moods, ideals, sets and ways of going about mental operations generally."[2]

The above discussion has only indirectly referred to the existence of one general self concept as contrasted to the existence of many specific self concepts developed by performance on many tasks. Most writers do not differentiate between a general self concept (internal picture one has about one's self as a

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[1]Dexter, L. A., op. cit., p. 922.

[2]Whipple, G. M., "The Transfer of Training", 27th Yearbook of Natural Social Studies Education, pt. II, 1928, 179-209.

total functioning individual) and a specific self concept that may refer to functioning on a specific task or set of tasks. Brookover (11) has also introduced the idea of "self concept of ability", defined as "the evaluation one makes of one's self in respect to the ability to achieve in academic tasks in general, as compared with others."[1] He feels that if a child perceives that he is not able to learn in some areas, then this self perception will become a functionally limiting factor in school. If, moreover, the child perceives that he is able to learn, then he is freer to take maximum advantage of his inherent abilities.

It is central to this discussion to note that Brookover holds that more or less distinct self concepts exist. It is theoretically possible that a student may have a self concept of ability in specific academic subjects (academic self concept) quite different from a self concept of physical skills (games, hand-eye coordination tasks).

Theoretically, it is possible to assume that each person has a general self concept which is the totality of his academic self concept, physical skills self concept, social being self concept, and various other specific self concepts of ability.

The school, in dealing with the mentally retarded child as a school learner, may influence one or more of the student's specific self concepts. Evidence gathered by Brookover suggests that the school is highly involved with

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[1]Brookover, W. B., LaPere, J., Hamachek, D., Thomas, S., Erickson, E., Self Concept of Ability and School Achievement II. Report of Cooperative Research Project Number 1636, U. S. Office of Education, East Lansing: Bureau of Education Research Services, College of Education, Michigan State University, 1965.

the academic self concept, but little or no attention has been given to another seemingly important set of self attitudes, the physical skills self concept.

It may be argued that the school deals with physical skills directly in the physical education curriculum and the manual arts curriculum. Many so-called academic subjects deal indirectly with hand-eye coordination tasks (i.e. writing, basic counting and reading). In summary, there is evidence to suggest that both the academic self concept and the physical skills self concept are important factors in school learning.

One might also take the position that an important part of the child's society is the school, and that as a central factor in the child's environment the school might be of considerable significance in developing the child's general self concept. The relationship that the academic self and the physical skills self concept have for the child's general self concept may be highly significant. Whipple (101) suggests that attitudes may be transferred, while Dexter (27) feels that for the mentally retarded each specific self concept is highly influenced by another specific self concept. Consequently, it would appear that because the general self concept is nothing more than a sum of the specific self concepts, the general self concept may be influenced by improving either the physical skills self concept or the academic self concept.

Finally, Brookover's findings suggest the strong relationship between academic self concept and academic achievement, namely, that improving academic self concept will improve academic achievement. However, little is known about the relationship of the physical skills self concept to academic achievement. Will

the improvement of the other specific self concept also influence academic achievement?

Statement of the Problem

This study was an exploratory investigation of the effects of two treatments on academic achievement and general self concept. One treatment was an attempt to improve the academic self concept and the other treatment was an attempt to improve the physical skills self concept. The effects of both treatments on academic achievement and on general self concept was tested immediately and after one semester.

A summer day camp was used to control the learning environment for a sample of educable mentally retarded adolescents. A control group of 31 students was identified, but did not attend camp. An experimental group of 31 students attended camp for four weeks. Sixteen students from the experimental group received treatment to improve their academic self concept (Experimental Group E_1); 15 students received experiences to improve their physical skills self concept (Experimental Group E_2). Measurement of general self concept and academic achievement took place before camp, immediately after camp, and one semester after camp.

Definition of Terms

These terms are used throughout the study and are defined here:

A. Physical Skills Self Concept: A set of attitudes one develops about one's performance on hand-eye coordination tasks and other physical skills tasks

(i.e. a performer in baseball, swimming, balancing, etc.).

B. Academic Self Concept: A set of attitudes one develops about one's performance on academic learning tasks (i.e. a performer in reading, arithmetic, spelling, etc.).

C. General Self Concept: The sum of all self concepts of ability (includes academic self concept and physical skills self concept). It is operationally defined here as the composite score from the following instruments:

a. Tennessee Self Concept Scale
b. Ten Statements Test
c. Real Self - Ideal Self Scale
d. Brookover Self Concept of Ability Scale
e. The General Learner Scale
f. Real Learner - Ideal Learner Scale
g. Behavior Rating Scale

D. Academic Achievement: The composite score on the following instruments:

a. Wide Range Achievement Test (Reading)
b. Wide Range Vocabulary Test
c. Wide Range Achievement Test (Arithmetic)

E. Immediate Gain: Higher post test one scores than pretest scores, as measured immediately after treatments.

F. Long-Term Gain: Higher post test two scores than pretest scores, as measured immediately after treatments.

G. Retarded Adolescents: * Boys and girls, aged ten to fifteen years, who have been evaluated by a Michigan Department of Education approved School Diagnostician and have been certified to be educably mentally retarded (I.Q. 55-75). These boys and girls have been enrolled in a Michigan State Department approved public school program for the educable mentally retarded. Excluded from the

*See Appendix D for additional information regarding sample.

group are those students known to be neurologically impaired or seriously emotionally disturbed.

H. Control Group: Those retarded adolescents who were identified but did not receive either treatment (N=31, 16 boys, 15 girls).

I. Experimental Group: Those retarded adolescents who were identified and received either treatment for improvement to academic self concept or improvement to physical skills self concept (N=31, 15 boys, 16 girls).

J. Experimental Group I: Those retarded adolescents in the Experimental Group that received treatment to improve academic self concept (N=16, 8 boys, 8 girls).

K. Experimental Group II: Those retarded adolescents in the Experimental Group that received treatment to improve physical skills self concept (N=15, 7 boys, 8 girls).

Hypotheses

Hypothesis One

Those retarded adolescents who received either type of treatment (improvement to physical skills self concept or improvement to academic self concept) will demonstrate more immediate gain in general self concept than will those retarded adolescents who received neither treatment.

Discussion

We are theorizing that the academic self concept treatment and the physical skills self concept treatment given the experimental group will improve general self concept. Previously cited evidence supplied by Whipple (101) and Dexter (27) as to the transfer of training effect would support this. As the

control group had no such treatment we would have no basis for suggesting that this group would experience any greater gain than the experimental group in general self concept.

Hypothesis Two

Those retarded adolescents who received the treatment to improve the physical skills self concept will demonstrate more immediately gain in general self concept than will those retarded adolescents who received the treatment to improve the academic self concept.

Discussion

Although no research evidence can be cited as support for this hypothesis, one might take the position that the development of physical skills (walking, running, hand-eye coordination) occurs prior to academic training and may be more basic to the general self concept than are experiences associated with academic self concept. This is offered only as a speculation to test the hypothesis.

Hypothesis Three

Those retarded adolescents who received either type of treatment (improvement to physical skills self concept or improvement to academic self concept) will demonstrate more immediate gain in academic achievement than will those retarded adolescents who did not receive either treatment.

Discussion

Assuming the position of Brookover (9), Phillips (75), and Gordon (39) to be tenable, namely that self concept phenomena is significantly related to academic achievement, we are predicting that those students who have treatments to

improve general self concept, will also demonstrate greater gain in academic achievement than will those students who had no treatments to improve general self concept.

Hypothesis Four

Those retarded adolescents who received the treatment to improve the academic concept will demonstrate more immediate gain in academic achievement than will those retarded adolescents who received the treatment to improve physical skills self concept.

Discussion

Brookover's (11) evidence that the self concept of ability in academic subjects is positively related to academic achievement is cited as support for this hypothesis. On the basis of that evidence, we would expect that those students whose attitudes about themselves as academic learners (academic self concept) improved, improved academic achievement would be also possible.

Hypothesis Five

Those retarded adolescents who received either type of treatment (improvement to physical skills self concept or improvement to academic self concept) will demonstrate more long-term gain in general self concept than will those retarded adolescents who did not receive either treatment.

Hypothesis Six

Those retarded adolescents who received the treatment to improve the physical skills self concept will demonstrate more long-term gain in general self concept than will those retarded adolescents who received the treatment to

improve the academic self concept.

Major Hypothesis Seven

Those retarded adolescents who received either type of treatment (improvement of physical skills self concept or improvement of academic self concept) will demonstrate more long-term gain in academic achievement than will those retarded adolescents who did not receive either treatment.

Major Hypothesis Eight

Those retarded adolescents who received the treatment to improve the academic self concept will demonstrate more long-term gain in academic achievement than will those retarded adolescents who received the treatment to improve their physical skills self concept.

Discussion

The same argument can be used with five through eight as with one through four. Hypotheses five through eight differ from hypotheses one through four only in terms of the same predictions over time. While the first four hypotheses predict immediate effects, the latter four hypotheses argue the same position over time.

Other Questions of Interest

Related to the study, but not a major aspect of the formal research are the following questions:

A. What are some specific techniques for building self concept in the educable mentally retarded adolescent student?

B. How effective is the "team approach" (recreation expert, counselor, teacher) in the learning environment? How can it be enhanced?

C. What are possibilities for summer education when dealing with educable mentally handicapped students?

D. How can formal education be combined with recreation and counseling?

Organization of the Study

This chapter has presented the general nature of the problem and a specific statement of the problem. Terms used frequently in the study have been defined. Eight research hypotheses have been presented and discussed.

Chapter Two outlines the methodology and procedures used to gather the data. The chapter contains a description of the population sample, the treatment, the description of instruments used, the procedure used in gathering the data and, finally, the procedures in analyzing the data.

Chapter Three contains a review of the literature related to this study.

In Chapter Four an analysis of the data is presented.

Chapter Five concludes the study. The research findings are presented and discussed. Some general conclusions from the study are offered and suggestions for further study are outlined.

CHAPTER II

METHODOLOGY AND PROCEDURES

This chapter will discuss the study sample and the treatments. A description of all instruments used in the study will be followed by a discussion of the procedures used to collect and analyze the data.

Population Sample

A group of 62 educable mentally retarded adolescents (31 boys, 31 girls) were identified in the Hillsdale County, Michigan, special education program for the educable mentally handicapped. These adolescents varied in age from ten to fifteen years. All had been in the classroom for the educable mentally handicapped for at least one academic year. Excluded from the sample were those known to have had marked behavior problems (acting out, excessive withdrawn behavior, hyperactivity). Excluded also were those known to possess "brain damage", or other neurological disability.

Treatment

From the 62 subjects, 31 were randomly assigned to an experimental group and 31 were randomly assigned to a control group. The experimental group participated in a four week summer day camp program during August, 1966. The control group did not participate in any program.

The experimental group was randomly divided into two smaller experimental groups (Experimental Group E_1 and Experimental Group E_2). One experimental

group of 16 students was assigned to two Michigan State Department of Education certified and approved teachers of the educable mentally handicapped. Each teacher had a Master of Arts degree and each had taught in a State approved program for at least three academic years. The teachers were instructed to introduce new academic material (reading and mathematics, particularly). The students' performance on learning tasks was reinforced by liberal amounts of praise and encouragement. In addition, the two teachers were able to provide much small group and individual instruction due to team teaching possible with the low student/teacher ratio.

These teachers, however, were instructed to deal strictly with academic material. No physical skill material was introduced to this group - only academic material, and when academic material was introduced, the teachers were instructed to exercise care that each student's successful performance was accompanied by encouragement and praise. For example, teachers were quick to reward each student's academic performance with praise (i.e. "That's the best reading you have ever done, Sue". "Eric, that's a very hard arithmetic problem you just completed." "This summer camp air must have something extra in it.") This planned treatment to build academic self concept took place for three hours each morning for four consecutive weeks during August, 1966.

The remaining 15 children in the experimental group (Experimental Group E_2) were assigned to two instructors who had experience and interest in physical skills development. Each instructor had physical education courses in their background and had a Master of Arts degree. In this group these two instructors taught the students individual and group games and, in general, attempted to develop physical

skills. Hiking, swimming, baseball, horseshoes, volleyball, handicrafts and tether-ball were introduced by the instructors to individual and small groups of students. The instructors were asked to reward students' performance on each of these physical skills tasks with liberal amounts of praise and encouragement. Here, again, rewards and immediate positive feedback were frequent. Instructors were asked to praise continually. ("Sally, do you remember when you were afraid to even put your face in the water?" "Mike, we're going to declare you the horseshoe champion of Allen Road.")

These instructors were asked to deal with physical skills only. No academic material was introduced to this second experimental group. This planned treatment to build physical skills self concept took place for three hours in the morning each week day for four consecutive weeks in August, 1966.

In the afternoon, all 31 students in both experimental groups (Experimental Groups E_1 and E_2) were assembled in one group and were free to engage in any supervised group activity they chose. No planned treatment took place.

Methodology - Description of Instruments

All 62 students in the experimental group and the control group were evaluated in May, 1966 (just prior to camp), with 11 instruments designed to measure:

A. Academic Achievement

B. Self Concept

These subjects were re-evaluated with the same instrument in September, 1966 (just following camp), and again after the first semester, January, 1967.

Academic achievement was measured with the following instruments:*

*See Appendices A, B and C for sample instruments.

1. Wide Range Achievement Test - Reading (by Jastak) Published by: Psychological Corporation, New York, New York, 1946. This instrument is an individually administered test of reading achievement and the results are reported in grade level equivalents. The instrument requires the respondent to satisfactorily pronounce vocabulary words arranged in progressive order of difficulty.

Jastak (44) reports a correlation of coefficient of .81 between this reading section and the New Stanford Paragraph Reading Test. With the New Stanford Word Reading Test, a correlation coefficient of .84 is reported using a population sample of 389 seventh and eighth grade students. The correlations reported here were computed from raw scores prior to the establishing of grade norms.

Repeated testing produced a reliability coefficient of .95, based on 110 cases.

2. Wide Range Achievement Test - Arithmetic (by Jastak) Published by: Psychological Corporation, New York, New York, 1946.

This instrument is an individually or group administered test of arithmetic achievement and the results are reported as grade level equivalents. The respondent is asked, in the one half hour alloted, to complete as many written arithmetic problems as possible.

Jastak (44) reports a correlation coefficient of .91 between this section and the New Stanford Arithmetic Computation Test, based on 140 seventh and eighth grade student's performance.

Repeated testing produced a reliability coefficient of .90 based on 120 cases.

3. Wide Range Vocabulary Test (by Atwell and Wells) Published by: Psychological Corporation, New York, New York, 1937.

This instrument is a group or individually administered test of vocabulary knowledge*, containing 100 sentence stems and requiring the respondent to circle the correct word to complete the meaning of the sentence.

Paul S. Burnham, reporting in Buros' Third Mental Measurement Yearbook (15), states that although the manual for the instrument provides no data on reliability of the test or information on inter-correlation or correlations with other measures, "(one's) subjective opinion leads one to believe that this test might be useful for a preliminary screening, particularly if followed by more intensive testing of verbal factors."[1]

Measures of self concept included the following instruments:**

1. Tennessee Self Concept Scale (by Fitts) Published by: Counselor Recordings and Tests, Nashville, Tennessee, 1965.

The counseling form of this instrument contains 100 self descriptive statements which the respondent reads to himself*** and indicates whether the statement is, to him, completely false, mostly false, partly false and partly true, mostly true, or completely true. The over-all scale is subdivided into:

A. A Self Criticism Score: Reflects capacity for self criticism.

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*Note: The entire scale was read to all the mentally retarded adolescents.

[1]Buros, O., Third Mental Measurements Yearbook, Rutgers University Press, New Brunswick, Maryland.

**See Appendix B for sample instruments.

***Note: Some of the wording was deemed too difficult for mentally retarded adolescents. Therefore, certain parts of the same were simplified through rewording and the entire scale was read to respondents.

B. Positive Scores:* (Row and Column) Reflects what respondent feels he is, how he feels about himself, and what he does; an internal frame of reference within which the individual is describing himself.

C. Variability Score: Reflects variability or inconsistency between areas of self perception.

D. Distribution Score: Reflects certainty about the way the respondent sees himself.

Based on a sample of 626 persons from various sections of the United States, ranging in age from 12 years to 68 years, the author reports a test-retest reliability of .64 to .92. The "total positive" score yields a reliability score of .92.

Reported validity studies include that of Quinn, 1957 (30) who found a correlation of -.534 between the Total Positive Score and the Minnesota Teacher Attitude Inventory; Wayne, 1963 (30) who found a correlation of .68 between Total Positive Score and Iyard's Self Rating Positive Affect Scale. Searles, 1962 (30) reported a correlation of .58 between Total Positive and the Kell-Hoefline Incomplete Sentences Blank.

2. Ten Statements Test (Modified by investigator from Twenty Statement Test)[1]

Respondents reply to question: Who Am I? It is believed that on this measure of self attitudes, a respondent will tend to exhaust all consensual references (groups with known limits and conditions of membership - husband, girl, etc.) before making any subsensual references (requires interpretation by respondent - "too

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*Note: Because this investigation deals with the totality of self perception, only the total positive score is reported.

[1]Kuhn, M., and McPartland, T., "An Empirical Investigation of Self Attitudes", Am. Soc. Review, 1954, 19, 68-76.

fat", "happy", etc.). The number of consensual references (locus score) tends to indicate anchorage or self identity in the social system.

Kuhn and McPartland (55) tested 238 undergraduates at the State University of Iowa. They reported a coefficient of reproducability of .903 (151 respondents) and a test-retest reliability coefficient of .85.

3. Michigan State Self Concept of Ability Scale - General (by Brookover) Bureau of Educational Research, Michigan State University, East Lansing, Michigan.

This is an eight item scale which measures respondent's attitudes toward himself as a school achiever.*

Paterson, reporting in Self-Concept of Ability and School Achievement III (12), states that the above scale of eight items yielded a pretest coefficient of reproducability of .91 for fourth, fifth and sixth grade males and females. Later 1050 (non-Negro) seventh graders were tested and coefficients of .95 for males and .96 for females were obtained.

It was found that the scale correlated positively and significantly (.57) with grade achievement.

Following are five other instruments designed by the investigator.** No pretesting was carried out and consequently no normative data is available.

4. Real-Self - Ideal-Self Scale

A 21 item scale was designed by the investigator to measure self attitudes.* The scale reports a score which represents the discrepancy between what the

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*Note: This scale was read to all the mentally retarded adolescents.

**Note: See Appendix C for sample instruments.

respondent feels he is and what he feels he would like to be.

5. Real Learner - Ideal Learner Scale

A 20 item scale was designed by the investigator to measure self attitudes as a learner* - the scale yields a score which represents the discrepancy between how a respondent feels he is as a learner and what he would like to be.

6. General Learner Scale

This 21 item scale was designed by the investigator to tap attitudes of the respondent about himself as a learner.* Respondent is asked to rate his abilities in learner activities from "much below average" to "excellent".

7. Behavior Rating Scale

A behavior rating scale was developed by the investigator that asks teachers or administrators to rate children on a five point scale. The scale asks for ratings on 22 samples of observed behavior.

8. Teacher Interview Form

This instrument designed by the investigator attempts to qualitatively and subjectively note teacher's opinions and observations about student's behavior in school, as it relates to learning. The form contains five open-ended questions that ask for respondent's impressions about student behavior relating to peers, family and school personnel.

Procedures for Collecting the Data

In May, 1966, all 62 children were asked to complete all the previously described instruments and the teachers were asked to rate all the children as noted.

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*Note: This scale was read to all the mentally retarded adolescents.

The children were then placed in control and experimental groups and, later, the experimental group was divided into Experimental Group E_1 and Experimental Group E_2.

After camp (September, 1966) all control and experimental groups were re-evaluated with all the same instruments. The teachers again rated the children. Finally, in January, 1967, the entire process was undertaken the third and final time.

Procedures for Analysis of the Data

The data was subjected to a one way analysis of variance technique. Orthogonal comparisons of academic achievement of test scores and general self concept test scores were made between the group that did not attend camp (controls) and the group that attended camp (experimentals). These comparisons were made both immediately after camp and one semester following camp.

Orthogonal comparisons of academic achievement test scores and general self concept test scores were also made between the physical skills self concept (Experimental Group E_2) and the academic self concept group (Experimental Group E_1) immediately after camp and one semester following camp.

Support for using this analysis comes from Hayes (43), who notes that orthogonal comparisons assume both randomly distributed populations with equal variance and independent random samples. If the two comparisons are statistically independent, the information provided by one comparison is unrelated to information provided by the other.

Comparisons (non-orthogonal) tested by multiple "t" tests cannot necessarily be regarded as independent because the "t" tests themselves may involve related or overlapping aspects of the data.

CHAPTER III

REVIEW OF THE LITERATURE

This chapter will review the related studies. Although no studies could be found which investigated the relationship of physical skills self concept, academic self concept, general self concept, and academic achievement, related research will be described under four subheadings: Studies Involving Academic Achievement and Self Concept of the Mentally Retarded, Studies Involving Academic Achievement and Self Concept of the Non-Mentally Retarded, Studies Involving the Assessment of Self Concept, and Studies Involving School Camping as a Treatment Environment.

Studies by Brookover et al. (14) have indicated that the self concept of academic ability is associated with academic achievement at each grade level (grades seven through twelve), that changes in the self concept of academic ability is associated with a concomitant change in academic achievement and, finally, that the self concept of academic ability is a necessary but not a sufficient condition for satisfactory academic achievement. However, Brookover's study did not concern itself with mentally retarded children, nor did it investigate the relationship of more than the self concept of academic ability.

Studies Involving Academic Achievement and Self Concept of the Mentally Retarded

Both Meyerowitz (65) in investigating "self derogations" in young retardates, and Nelson (69), commented on the paucity of research upon the self concept of young retarded children. Meyerowitz concluded that a significant difference exists

between the self concept of educable mentally handicapped children in a special school class, and children of normal ability. This difference was found even during the first year of school. Mayer (63) also investigated the self concept of 98 mentally retarded children placed in special classes, at various times and notes that no significant difference in self concept seems to exist between students placed in a special class early in their school career and those placed later.

Towne (14) also investigated the self concept of ability as defined by Brookover (10), the academic aspirations and academic expectations of 62 students labeled "educable mentally retarded", and placed in a special classroom for retardates. He concludes:

> "First year educable mentally retarded students do not exhibit a significant downward trend in academic aspirations . . .
> (and)
> . . . First year educable mentally retarded students do not exhibit a significant downward trend in academic expectations."

It would appear that although the self concept of mentally retarded students differs significantly from that of the normal ability child, it makes little difference when the child is labeled in school.

Nelson's abstract (69) points up a need for developing knowledge regarding the development of self concept in the retarded. He investigated society's role in providing favorable feedback to the retardate.

Stevens and Heber's study (92) notes a "dynamic emotional reaction on the part of the retardate to social and school failure because the young retardate is not able to withstand the frustration generated by social and scholastic situations." This conclusion is also noted by Snyder (87) who compared personality adjustment,

self attitudes and anxiety differences in 180 retarded adolescents. Snyder found a significant difference in personality structure between high and low achievement groups on the California Test of Personality; a significant difference in self concept between high and low achievement groups in the Laurelton Self Attitude Scale; and a significant difference between the high and low achievement groups in anxiety as measured by Human Figure Drawings.

Somewhat inconsistent results are reported by McAfee (64) who investigated 30 adjusted and 30 maladjusted institutionalized retardates. He concluded that:

> "Discrepancy scores between self and ideal self are not valid indicators of psychological adjustment in educable mentally retarded males . . .
> that educable retarded males use normal peers as ideal self models."[1]

Research would indicate that emotional factors (internal images of self) are related to adjustment for the retarded school child.

Gorlow and associates (40) hypothesized that the self attitude accounts in a significant degree for retardates' motivation for and acceptance of the learning experience to which they are exposed. He also postulated that self attitudes may be viewed as a major determinant of the behavior and perception of retardates. The mentally retarded individual, more so than the normal individual, is preoccupied with a continuous defense of self because of the constant failure the retardate feels in meeting the demands of society. Feeling that this process is associated with

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[1]McAfee, R. O., and Cleland, C. C., "The Discrepancy Between Self Concept and Ideal Self as a Measure of Psychological Adjustment in Mentally Retarded Males", American Journal of Mental Deficiency, 70, July, 1965, p. 67.

detrimental performance in a wide variety of tasks, Gorlow developed a 100 item personality questionnaire for assessment of attitudes of a group of 100 institutionalized retardates. He combined his instrument with achievement tests and the Laurelton Self Attitude Scale. The study revealed:

> (1) "A small, but significant positive relationship was observed between self acceptance, intelligence, school achievement, success in the institutional training program and, finally, success on parole.
>
> (2) The fact that retardates who were separated from their parents at an early age express more negative attitudes is congruent with the expectation that self attitudes are formulated at an early age and are influenced by family stability."[1]

Both Perron (74) and Ringness (80) investigated the relationship of the accuracy of estimating self performance as it involved mental ability. Perron's study concluded that "retardates are more pessimistic than normals in making estimates of probable success in games."[2] This is supportive of research by Moses and Duvall (66), who found that persons with low estimates of self concept depreciated their performance on various tasks. However, these results are inconsistent with those of Fine (29), who found that retardates produced inaccurate, infalted and unrealistic perceptions of their abilities when asked to compare themselves with normal peers. Perhaps a measure of over-compensation operates to provide retardates a defense against anxiety.

Ringness (80) hypothesized that children who are of average or above average

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[1]Gorlow, L., Butler, A., and Guthrie, G. M., "Correlates of Self Attitudes of Retardates", Am. Journal of Mental Deficiency, 1963, 67, 549-55.

[2]Perron, Roger, "Personality Problems of the Mentally Retarded", Enfance, 1960, 4-5, (Psych. Abstracts), 398-419.

intelligence may be expected to have more accurate ideas of how they compare to others in certain areas of school achievement than will retarded children. His findings support those of Fine (29), yet point up the systematic inaccuracy of the self perceptions:

(1) "Mentally retarded children more generally tend to over-estimate success than do average or bright children.

(2) Mentally retarded children have less realistic self concepts than bright or average children."[1]

He suggests, finally, that the classroom atmosphere in which mentally retarded children are working is vitally important.

Current studies would show, then, that retarded children do bring with them to any school or other performance situation, a distorted estimate of their ability to perform. Results are inconsistent as to whether they tend to over-estimate or under-estimate their probability of success.

Glassman (37) investigated the question of psychotherapy for the child of full normal intelligence. In a review of child guidance clinic cases, she found a majority of children had developed an "extreme sense of inferiority" which, she feels, was due to lack of success in school. These feelings of inferiority were compensated for by running away (psychologically). A review of these cases also supported her contention that mentally handicapped children felt inferior and inadequate as a result of parental attitudes. The lack of success in school only serves to complicate this situation and increases the child's feelings of inadequacy, Glassman notes.

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[1]Ringness, T. A., "Self Concept of Children of Low, Average and High Intelligence", American Journal of Mental Deficiency, 1961, 65, 453-461.

Studies Involving Academic Achievement and Self Concept of the Non-Mentally Retarded

The positive relationship of self perceptions and academic achievement with non-mentally retarded subjects has been demonstrated time and time again.

Renzaglia (78) and Fink (30) report a high positive correlation between a positive general self concept and high academic achievement. In the Fink study, 44 pairs of achievers and underachievers were formed and then matched for sex and intelligence. For this group of high school freshmen, the hypothesis was confirmed that "a relationship does in fact exist between adequacy of self concept and level of academic achievement."[1]

Gerard (36) also reports that measures of self concept correlated positively with measures of intelligence and academic achievement. This research concludes, however, that only the correlation using boys, were significant. In the Fink study above, a similar finding was reported as the correlations for girls were less significant.

Fink (30) also describes the characteristics of four distinct groups sampled by him:

1. ". . . achieving girls: accepts herself and feels secure in certainty others will accept her.

2. underachieving girl: poorly controlled and impulsive - major orientation toward pleasure.

3. achieving boy: accepts himself but not to degree that achieving girl does, conformity, some lack of insight and critical ability.

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[1]Fink, Martin B., "Objectification of Data Used in Underachievement - Self Concept Study", in Underachievement, (Kornrich, M., Ed.) C. C. Thomas, Springfield, Illinois, 1965, p. 70.

4. underachieving boy: most inadequate and immature, alienated from society and perhaps from family - pleasure oriented, but so inadequate that he never achieves his goals."[1]

With measured ability held constant, Sheiro and Alves (83) measured the self concept of achieving and nonachieving students with the Bill's Index of Adjustment and Values. A direct association between negative self attitudes and academic achievement was found. Frier (33) also found that while self concept is relatively stable for both successful and failing students, it appears more stable for those who have met with success than for those who have met with failure.

Academic achievement, then, is positively related to self concept. As self concept varies, so does academic achievement.

Several studies have investigated the relationship of scholastic achievement to the discrepancy between what an individual wants to be and what he feels he is. As the discrepancy increases, it is assumed that self concept becomes more negative.

Chickering (19), Videbeck (99), and Phillips (75), have demonstrated that the size of the discrepancy is significantly related to academic achievement. Chickering suggests that " . . . the relationship between academic achievement and the discrepancy between ideal and actual self pertain primarily to differences in actual self concept."[2] On the basis of this study, concerned primarily with underachievers and overachievers, he concludes:

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[1]Fink, Martin B., op. cit., p. 75.

[2]Chickering, A. W., "Self Concepts - Ideal Self Concept and Achievement", Doctoral Dissertations, p. 123.

1. "There is an inverse relationship between academic achievement and the discrepancy between actual and ideal self concept.

2. Underachievers apply certain actual self perceptions to themselves to a greater degree than do overachievers.

3. Overachievers apply certain self perceptions to themselves to a greater degree than do underachievers."[1]

Chickering also notes that underachievers find it difficult to describe themselves accurately (a finding consistent with other studies), and that a high degree of discrepancy between real self and ideal self is correlated with underachievement.

Videbeck (99) manipulated experimental conditions which permitted approval and disapproval of an individual by his peers. As approval was increased from peers, the discrepancy between real self and ideal self decreased.

Moses and Duvall (66) predicted that persons with high self-idea would tend to depreciate their performance on achievement tasks, while low discrepancy people would more accurately evaluate performance. Such was the case as results favored the low discrepancy sample.

Inconsistency in the research is reported by Perkins (73) who investigated the congruence of real self - ideal self over six months with 251 elementary aged school children. He concluded that:

1. "The self concepts and ideal selves of children became increasingly significant over time.

2. The ideal self congruencies of girls are significantly greater than those of boys.

3. Sixth grade children whose teachers have completed child study courses show significantly greater self-ideal congruency than do

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[1]Chickering, A. W., op. cit., p. 127.

children, respectively, in the fourth grade and whose teachers have never participated in a child study program.

4. There is little or no relationship between children's self-ideal self congruency and (a) changes in school achievement and (b) changes in acceptance by peers."[1]

Finally, Borislow (8) compared the discrepancy between real self and ideal self perceptions as a college student with freshmen college students. Although no significant difference between achievers and underachievers would be found, Borislow comments that, "The level of academic achievement and scholastic achievement as a goal are important concomitants of level of students' self evaluation", and further, "Students who underachieve scholastically, have a poorer perception of themselves as students than do achievers subsequent to their scholastic performance, regardless of initial intention to strive for scholastic achievement as a goal."[2]

The research on discrepancy between ideal self and real self is generally supportive of other research which points up the direct relationship between achievement and self concept.

Finally, there are several studies which investigated the etiology of self perceptions as these perceptions involved children in school.

Helper (44) found a low, but positive correlation between parental evaluations and children's self evaluations with 74 eighth and ninth grade students.

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[1]Perkins, H. V., "Factors Influencing Change in Children's Self Concepts", Child Development, 1958, 29, 203-240.

[2]Borislow, B., "Self Evaluation and Academic Achievement", J. Consult. Psych., 1962, 9, 246-59.

A study by Peppin (72) corroborates Helper's findings as Peppin found that, " . . . children who underachieved relative to their ability had parents who had lesser understanding and lesser acceptance of them . . . "[1]

Staines (91) demonstrated (that):

1. "It is possible to distinguish reliability between teachers in normal classrooms in respect to frequency and kind of comments they make in reference to self and,

2. It is possible to teach so that, while aiming at the normal results of teaching, specific changes can be made in self picture."[2]

Everyday comments by teachers are overloaded with status possibilities and serious emotional content for children may be inherent in these passing remarks.

The more positive the children's perceptions of their teacher's feelings, the higher the academic achievement (in comparison to measured ability) was found by Reeder (77) and Stevens (93). A similar finding is also reported by Gordon and Wood (38).

There is little doubt that the opinions of parents (and teachers) are influential in determining the self concept of the child.

Peer evaluations are also of importance as Gerard (36) and Kimbal (50) found.

Gerard investigated a sample of college undergraduates and concluded that

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[1]Peppin, B. H., "Parental Understanding, Parental Acceptance, and the Self Concept of Children as a Function of Academic Over and Under Achievement", Doctoral Dissertation, Claremont Graduate School (Diss. Abst.), 1962.

[2]Staines, J. W., "Self-Picture as a Factor in the Classroom", British J. Ed. Psych., 1957 (June), 28, 97-111.

at least two types of comparisons were made by the individual. In one case one compares one's self to another on a specific attribute. On the other hand, one is concerned about a peer's opinion. Kimbal found scholastically underachieving students to be more aggressive and to feel more guilty and anxious. He concludes that underachievers are less able to give direct, effective expression to the negative feelings. It is highly possible that these negative feelings are generated by the underachiever's prolonged comparison of himself with others in school.

Studies Involving the Assessment of Self Concept

Strong and Feder (95) in a critique of the literature on self concept, list several widely used methods of measuring self concept:

1. Q Sort Technique
2. Rating Methods
3. Free Response Methods
4. Checklists

Buros (18), however, lists few commercially appropriate available tests. Brookover (14) had developed a measure of "Self Concept of Ability". Kimbal (50) and Malpass (60) used a sentence completion technique, as did Harris and Tseng (42); Bruck and Bodwin (16) developed a scale from the Draw-A-Man Test by Goodenough; Malpass (60) used a school picture test; and Lowe (59) used the Jacobs Self Attitude Scale. Other instruments include the Laurelton Self Attitude Scale and various "homemade" devices.

Studies Involving School Camping As A Treatment Environment

Support for using a school camping situation as a therapeutic environment comes from Berg (4), Beker (3) and Scheer and Sharpe (82). Berg writes that camping experiences of a therapeutic nature were beneficial for emotionally disturbed boys in:

" 1. Improving reality testing.
2. Providing control of behavior through group pressure.
3. Releasing crippling inhibitions as a result of the non-critical attitude of the group to poor performance in areas of skill.
4. Releasing inhibitions as a result of group support and encouragement.
5. Increasing ability to face problems because of their nature.
6. Providing opportunity for acceptance, status and success - and finally, by
7. Providing identification with healthy elements of the group members."[1]

Beker (3) studied the influence of school camping on the self concepts and social relationships of sixth grade school children. Seventeen sixth grade classes of lower and middle class children with normal intelligence were divided into two groups - 261 who participated in school camping and 96 controls who did not. A self concept checklist and the Classroom Social Distance Scale were administered at three different time intervals - before camp, just before leaving camp, and from ten weeks to three months later. He concluded, "Thus it seemed apparent that as a group, the children who had gone to camp experienced feelings of competence as people to an extent that was not matched by children who had not gone,

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[1]Berg, R. B., "Combining Group and Casework Treatment in a Camp Setting", Social Work, 1960, 5(1), 56-62.

evident in even greater magnitude after a lapse of more than ten weeks."[1] Apparently, the school camping experience had a marked influence upon the children's concept of themselves and it would appear that a camping experience provided an effective and efficient program for self concept building. Beker suggests that future research is needed to consider the variable of program content which might be applicable to the classroom.

Institutionalized delinquent male retardates were involved in school camping by Scheer and Sharpe (82). Although not research oriented, the study confirmed the hypothesis that gains were made on individual initiative and further, that " . . . skills in coping with social and intellectual dilemmas were promoted."[2]

In summary, there is a lack of direct research that investigates academic and physical skills self concept of the mentally retarded. However, related research has been cited for the following areas:

1. Studies Involving Academic Achievement and Self Concept of the Mentally Retarded - It is generally held that the self concept of the mentally retarded is an important factor in his lack of satisfactory adjustment. One concludes that mentally retarded children are probably more handicapped by a negative self concept than are their non-mentally handicapped peers.

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[1]Beker, J., "Influence of School Camping on the Self Concepts and Social Relationships of Sixth Grade School Children", Journal of Educational Psychology, (Dec., 1960) p. 355.

[2]Scheer, R. M., and Sharpe, W. M., "Social Group Work in Day Camping With Institutionalized Delinquent Retardates", Training School Bulletin, 1963, p. 145.

2. Studies Involving Academic Achievement and Self Concept of the Non-Mentally Retarded - Here it was generally indicated that a positive relationship exists between achievement in school and self concept and that as the discrepancy between real self and ideal self increases, achievement decreases. Parents, teachers, siblings, and peers are in part responsible for the development of self concept in children.

3. Studies Involving the Assessment of Self Concept - Research in the area of self concept concluded that several means are used to assess self concept.

4. Studies Involving School Camping as a Treatment Environment - Several investigators reported increased emotional adjustment on the part of children after a period of school camping.

CHAPTER IV

ANALYSIS OF THE DATA

This chapter will present the hypotheses and will discuss the statistical treatment of the data. Each research hypothesis will be presented and will be followed by the null hypothesis. The table of means and standard deviations will follow the listing of the hypotheses. Discussion of the results will be presented, finally.

In the analysis of the data collected in this study, general self concept and academic achievement are considered the dependent variables. It is assumed that the treatment effects (improvement on academic self concept and improvement on physical skills self concept, the independent variables) will influence general self concept and academic achievement.

Statistical Treatment and Results

A. Immediate Gains in General Self Concept

1. Hypothesis One

Those retarded adolescents who received either type of treatment (improvement to physical skills self concept or improvement to academic self concept) will demonstrate more immediate gain in general self concept than will those retarded adolescents who received neither treatment. (Accepted, Table 2)

1a. Null Hypothesis One

Those retarded adolescents who received either type of treatment (improvement to physical skills self concept or improvement to academic self concept)

will not demonstrate more immediate gain in general self concept than will those retarded adolescents who received neither treatment. (Rejected, Table 2)

2. Hypothesis Two

Those retarded adolescents who received the treatment to improve the physical skills self concept will demonstrate more immediate gain in general self concept than will those retarded adolescents who received the treatment to improve the academic self concept. (Rejected, Table 2)

2a. Null Hypothesis Two

Those retarded adolescents who received the treatment to improve the physical skills self concept will not demonstrate more immediate gain in general self concept than will those retarded adolescents who received the treatment to improve the academic self concept. (Accepted, Table 2)

The comparison of mean scores and standard deviations by group and the results of the analysis of variance for immediate gain in general self concept scores are presented in Tables 1 and 2, respectively.

TABLE 1

COMPARISON OF GENERAL SELF CONCEPT MEAN/STANDARD DEVIATION SCORES AND PRETEST TO POST TEST ONE GAIN SCORES

Group	Pretest		Post Test		Gain	
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD
All	21.18	2.16	17.63	2.85	-3.55	2.65
Non-Camp (Control Group)	20.92	1.74	16.12	2.32	-4.80	1.99
Camp (Experimental Group)	21.44	2.55	19.66	2.45	-2.27	2.60
Academic Self Concept (Experimental Group E_1)	21.39	2.58	18.39	2.20	-2.99	2.60
Physical Skills Self Concept (Experimental Group E_2)	21.49	2.52	19.93	2.70	-1.55	2.59

(N=62)

TABLE 2

ANALYSIS OF VARIANCE OF GENERAL SELF CONCEPT
IMMEDIATE (PRETEST TO POST TEST ONE) GAIN SCORES

Source	df	ss	ms	F	p
Camp vs. Non-Camp	1	149.79	149.79	18.50	p.0005**
Physical Skills Self Concept vs. Academic Self Concept	1	16.13	16.13	3.02	n.s.
Error	58	315.13	5.34		
(N = 62)					

**Significant at .01 level
* Significant at .05 level

While a comparison of the means and standard deviations in Table 1 shows a regression in the mean score from pretest to post test one for all groups on the general self concept Scale, the analysis of variance table (Table 2) indicates that the camp group (Experimental Group) scores are significantly different from the non-camp group (Control Group) scores. Although research hypothesis one stated that the camp group would demonstrate more gain in general self concept than would the non-camp group, neither group demonstrated a gain. However, the camp group demonstrated significantly (.01 level) less regression than did the non-camp group. While less regression is not the same as more gain, the groups were found to be significantly different in favor of the Experimental Group. Null hypothesis one is rejected.

No significant difference was found to exist between the academic self concept group (Experimental Group E_1) and the physical skills self concept group (Experimental Group E_2). Null hypothesis two is accepted.

The data does suggest that treatment to improve either academic self concept or physical skills self concept does immediately improve general self concept. However, it apparently makes no significant difference whether the treatment is aimed at improving academic self concept or at improving physical skills self concept.

B. Immediate Gains in Academic Achievement

3. Hypothesis Three

Those retarded adolescents who received either type of treatment (improvement to physical skills self concept or improvement to academic self concept)

will demonstrate more immediate gain in academic achievement than will those retarded adolescents who did not receive either treatment. (Rejected, Table 4)

3a. Null Hypothesis Three

Those retarded adolescents who received either type of treatment (improvement to physical skills self concept or improvement to academic self concept) will not demonstrate more immediate gain in academic achievement than will those retarded adolescents who did not receive either treatment. (Accepted, Table 4)

4. Hypothesis Four

Those retarded adolescents who received the treatment to improve the academic self concept will demonstrate more immediate gain in academic achievement than will those retarded adolescents who received the treatment to improve the physical skills self concept. (Rejected, Table 4)

4a. Null Hypothesis Four

Those retarded adolescents who received the treatment to improve the academic self concept will not demonstrate more immediate gain in academic achievement than will those retarded adolescents who received the treatment to improve the physical skills self concept. (Accepted, Table 4)

The comparison of mean scores and standard deviations by group and the results of the analysis of variance for immediate gain in academic achievement scores are presented in Tables 3 and 4, respectively.

TABLE 3

COMPARISON OF ACHIEVEMENT MEAN/STANDARD DEVIATION SCORES AND PRETEST TO POST TEST ONE GAIN SCORES

Group	Pretest		Post Test		Gain	
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD
All	7.52	2.42	9.86	2.48	2.34	1.62
Non-Camp (Control Group)	8.16	2.44	10.77	2.52	2.62	1.61
Camp (Experimental Group)	6.90	2.31	8.97	1.95	2.08	1.45
Academic Self Concept (Experimental Group E_1)	6.84	2.51	8.50	2.58	1.67	.76
Physical Skills Self Concept (Experimental Group E_2)	6.95	2.03	9.43	1.32	2.48	2.13

(N = 62)

TABLE 4

ANALYSIS OF VARIANCE OF ACADEMIC ACHIEVEMENT
IMMEDIATE (PRETEST TO POST TEST ONE) GAIN SCORES

Source	df	ss	ms	F	p
Camp vs. Non-Camp	1	4.58	4.58	1.81	n.s.
Physical Skills Self Concept vs. Academic Self Concept	1	5.14	5.14	2.03	n.s.
Error	58	149.41	2.53		

(N = 62)

**Significant at .01 level
* Significant at .05 level

These tables indicate that no significant difference exists between either the camp group (Experimental Group) and the non-camp group (Control Group) or between the academic self concept group (Experimental Group E_1) and the physical skills self concept group (Experimental Group E_2). While all groups (Control, Experimental Group E_1, Experimental Group E_2) demonstrated gain in academic achievement from pretest to post test, the differences between groups are not significant and null hypothesis three and four must be accepted.

The treatments to improve academic self concept and physical skills self concept did not result in greater immediate gain in academic achievement than did no treatment at all. Furthermore, the evidence suggests that the treatment to improve academic self concept did not result in any greater immediate gain in academic achievement than did the treatment to improve physical skills self concept.

C. Long-Term Gains in General Self Concept

5. Hypothesis Five

Those retarded adolescents who received either type of treatment (improvement to physical skills self concept or improvement to academic self concept) will demonstrate more long-term gain in general self concept than will those retarded adolescents who did not receive either treatment. (Rejected, Table 6)

5a. Null Hypothesis Five

Those retarded adolescents who received either type of treatment (improvement to physical skills self concept or improvement to academic self concept) will not demonstrate more long-term gain in general self concept than will those retarded adolescents who did not receive either treatment. (Accepted, Table 6)

6. Hypothesis Six

Those retarded adolescents who received the treatment to improve the physical skills self concept will demonstrate more long-term gain in general self concept than will those retarded adolescents who received the treatment to improve the academic self concept. (Rejected, Table 6)

6a. Null Hypothesis Six

Those retarded adolescents who received the treatment to improve the physical skills self concept will not demonstrate more long-term gain in general self concept than will those retarded adolescents who received the treatment to improve the academic self concept. (Accepted, Table 6)

The comparison of mean scores and standard deviations by groups and the results of the analysis of variance for long-term gain scores in general self concept are presented in Tables 5 and 6, respectively.

TABLE 5

COMPARISON OF GENERAL SELF CONCEPT MEAN/STANDARD DEVIATION SCORES AND PRETEST TO POST TEST TWO GAIN SCORES

Group	Pretest		Post Test		Gain	
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD
All	21.18	2.16	10.81	2.57	-10.37	3.15
Non-Camp (Control Group)	20.92	1.74	10.02	2.67	-10.90	3.04
Camp (Experimental Group)	21.44	2.55	11.62	2.15	- 9.81	3.20
Academic Self Concept (Experimental Group E_1)	21.39	2.58	10.90	2.08	-10.48	2.82
Physical Skills Self Concept (Experimental Group E_2)	21.49	2.52	12.34	2.21	- 9.14	3.57

(N=62)

TABLE 6

ANALYSIS OF VARIANCE OF GENERAL SELF CONCEPT
LONG-TERM (PRETEST TO POST TEST TWO) GAIN SCORES

Source	df	ss	ms	F	p
Camp vs. Non-Camp	1	18.43	18.43	1.88	n.s.
Physical Skills Self Concept vs. Academic Self Concept	1	13.94	13.94	1.43	n.s.
Error	58	575.54	9.75		

(N = 62)

**Significant at .01 level
* Significant at .05 level

These results point up that all groups again demonstrated regression instead of gain in general self concept from pretest to post test two. No significant differences are found between either the camp group (Experimental Group) and the non-camp group (Control Group) or between the academic self concept group (Experimental Group E_1) and the physical skills self concept group (Experimental Group E_2). Therefore, null hypotheses five and six must be accepted.

The data suggests that although all groups (Control Group, Experimental Group E_1, Experimental Group E_2) demonstrated long-term regression on the general self concept scale, there were no significant differences among groups. This finding suggests that neither the treatment to improve academic self concept or the treatment to improve physical skills self concept had any long-term effect on general self concept. Further, the data indicates that the treatment to improve physical skills self concept was not any more effective in improving general self concept than was the treatment to improve academic self concept.

D. Long-Term Gain in Academic Achievement

7. Hypothesis Seven

Those retarded adolescents who received either type of treatment (improvement to physical skills self concept or improvement to academic self concept) will demonstrate more long-term gain in academic achievement than will those retarded adolescents who did not receive either treatment. (Rejected, Table 8)

7a. Null Hypothesis Seven

Those retarded adolescents who received either type of treatment (improvement to physical skills self concept or improvement to academic self concept)

will not demonstrate more long-term gain in academic achievement than will those retarded adolescents who did not receive either treatment. (Accepted, Table 8)

8. Hypothesis Eight

Those retarded adolescents who received the treatment to improve academic self concept will demonstrate more long-term gain in academic achievement than will those retarded adolescents who received the treatment to improve physical skills self concept. (Rejected, Table 8)

8a. Null Hypothesis Eight

Those retarded adolescents who received the treatment to improve academic self concept will not demonstrate more long-term gain in academic achievement than will those retarded adolescents who received the treatment to improve physical skills self concept. (Accepted, Table 8)

The comparisons of means and standard deviations by groups and the results of the analysis of variance for long-term gain in academic achievement are presented in Tables 7 and 8, respectively.

TABLE 7

COMPARISON OF ACHIEVEMENT MEAN/STANDARD DEVIATION SCORES AND PRETEST TO POST TEST TWO GAIN SCORES

Group	Pretest		Post Test		Gain	
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD
All	7.52	2.42	8.87	2.17	1.35	1.65
Non-Camp (Control Group)	8.16	2.44	9.45	2.09	1.30	1.69
Camp (Experimental Group)	6.90	2.31	8.30	2.03	1.41	1.48
Academic Self Concept (Experimental Group E_1)	6.84	2.51	7.61	2.05	.77	1.09
Physical Skills Self Concept (Experimental Group E_2)	6.95	2.03	8.99	2.00	2.05	1.87

(N = 62)

TABLE 8

ANALYSIS OF VARIANCE OF ACADEMIC ACHIEVEMENT
LONG-TERM (PRETEST TO POST TEST TWO) GAIN SCORES

Source	df	ss	ms	F	p
Camp vs. Non-Camp	1	.18	.18	.07	n.s.
Physical Skills Self Concept vs. Academic Self Concept	1	12.51	12.51	4.85	p.03*
Error	58	152.43	2.58		

(N = 62)

**Significant at .01 level
* Significant at .05 level

Examination of the results indicates that no significant difference exists between the camp group (Experimental Group) and the non-camp group (Control Group) where long-term gain in academic achievement is involved. Gains for all groups are apparent, but differences between groups are not significant. Null hypothesis seven must be accepted.

A significant difference (.05 level) in academic achievement was found to exist between the group given the treatment to improve physical skills self concept (Experimental Group E_2) and the group given the treatment to improve academic self concept (Experimental Group E_1). However, the difference was found to be in favor of the group given treatment to improve physical skills self concept, and as hypothesis eight predicted in favor of the group given treatment to improve academic self concept, null hypothesis eight must be accepted.

The data suggests that over time, treatment to improve physical skills self concept will be associated with greater gain in academic achievement than will treatment to improve academic self concept.

Analysis of the Teacher Interview Form (TIF)

Because the Teacher Interview Form did not lend itself to quantitative scoring, analysis of the data provided by the instrument could not be treated statistically. However, an attempt was made to note comparisons in comments by interviews (teachers in whose classroom the students were enrolled during the time of the investigation), by analyzing the change in a sample of comments from pretest to post tests.

A. Immediate Changes in Responses for Camp Group and Non-Camp Group

1. Non-Camp Group (Immediate Change)

On all five open ended questions the interviewers noted little change over time. By inspecting each question and each subject and noting each comment on both the pretest and post test one, the control group remained basically unchanged, as noted by the interviewers. Comments such as "difficult to motivate S for school work", "gives up easily", and "inclined to stay home at slightest excuse", were apparent in both testings.

2. Camp Group (Immediate Change)

Some change in behavior was indicated. For the experimental group on the post test one form, the comments were as follows:

Question 1 (Feelings about self as a learner)

"Now tries in school", "loves school now", "excellent attitude toward school now", "happier with school work", "relating better toward school", "feels she can be successful in her work in school now", "wants to learn now and feels she can be successful in school work", "improved attitude in school and in learning".

Question II (Feelings about outside classroom activities)

"Passive to aggressive behavior", "will enter into play group activities now", "is more outgoing and relates to peers somewhat better".

Question III (Relationship with peers on school projects)

"Much improved relationship with peers on classroom projects", "works better with others", "much more cooperative", "less frequent difficulty on playground and in lunch room", "now enjoys going into the other rooms to work on school projects."

Question IV (Relationship with school authority figures)

"Not threatened by authority figures now", "shy but happy in presence of authority figures now", "improving relationships with other teachers".

Question V (Relationships at home regarding school)

"Improved home/school relationships", "home much more cooperative", "attendance has improved markedly", "parent now attending parent-teacher conferences."

B. Immediate Changes in Responses for Academic Self Concept Group and Physical Skills Self Concept Group

No discernible differences could be found in responses by raters that contrasted the two experimental groups. Comments were equally favorable for both groups.

C. Long-Term Changes in Responses for Experimental Group and Control Group

1. Control Group (Long-Term Change)

Again, no change was apparent on the responses on the pretest instrument when compared to responses on the post test two version. The behavior of the control group, as noted by the interviews, remained generally unchanged over time.

2. Experimental Group (Long-Term Change)

Some change in behavior, as noted by interviewers, was noted when pre-test responses were compared with post test two responses. The comments were as follows:

Question I (Feelings about self as a learner)

"Maintains confidence in himself", "S is loving the feeling of success", "much more at ease in school", "positive attitudes toward school now", "S loves school and feels he is continuing to do well", "S is happy at school", "S is now proud of his work - really attempts school work now", "accepts fact that she has some difficulty".

Question II (Feelings about outside classroom activities)

"Is in the library during free time now", "Goes out for sports and extracurricular activities", "seems more at ease on playground and enters into group activities."

Question III (Relationships with peers on school projects)

"More confidence with peers", "enters into group discussions more", "more cooperative with peers now", "was chosen chairman of group project".

Question IV (Relationships regarding school authority figures)

"Not threatened by school principal", "likes to go to office", "is more at ease with other teachers and principal".

Question V (Relationships at home regarding school)

"Home extremely interested in S's progress in school", "both parents now interested in helping S at home", "attendance has improved", "parents continue to attend school functions".

D. Long-Term Changes in Responses for Academic Self Concept and Physical Skills Self Concept Groups

As was true in comparisons between the pretest instrument and post test one instrument, no differences were detected in ratings of the two experimental groups when comments were compared between the pretest and post test two instruments.

Summary of Results

Each research hypothesis and null hypothesis was presented. This presentation was followed by a table of means and standard deviations and an analysis of variance table. Finally, all results were discussed. The results of the treatments are summarized below:

1. All groups (Control Group, Experimental Group E_1, Experimental Group E_2) regressed from pretesting to the first post testing on the general self concept scale.

2. The experimental group that received either treatment (to improve physical skills self concept or academic self concept) demonstrated significantly less (.01 level) immediate regression on the general self concept scale than did the control group that

received no treatment.

3. No significant differences were found between the experimental group that received the treatment to improve physical skills self concept and the experimental group that received the treatment to improve academic self concept, when immediate gains in general self concept were compared.

4. No significant differences were found between the experimental group that received either treatment (to improve physical skills self concept or academic self concept) and the control group that received no treatment, when immediate gains in academic achievement were compared.

5. No significant differences were found between the experimental group that received the treatment to improve physical skills self concept and the experimental group that received the treatment to improve academic self concept, when immediate gains in academic achievement were compared.

6. All groups (Control Group, Experimental Group E_1, Experimental Group E_2) regressed from pretesting to the second post testing on the general self concept scale.

7. No significant differences were found between the experimental group that received either treatment (to improve physical skills self concept or academic self concept) and the control group that received no treatment, when long-term gains in general self concept were compared.

8. No significant differences were found between the experimental group that received the treatment to improve physical skills self concept and the experimental group that received the treatment to improve academic self concept, when long-term gains in general self concept were compared.

9. No significant differences were found between the experimental group that received either treatment (to improve physical skills self concept or academic self concept) and the control group that received no treatment, when long-term gains in academic achievement were compared.

10. A significant (.05 level) difference was found between the experimental group that received the treatment to improve physical skills self concept and the experimental group that received the treatment to improve academic self concept, when long-term gain in academic achievement was considered. The physical skills self concept group demonstrated significantly more long-term gain in academic achievement than did the academic self concept group.

CHAPTER V

SUMMARY AND CONCLUSIONS

Introduction

The purpose of this study was to investigate the effect of two treatments on academic achievement and general self concept.

A group of 62 educable mentally retarded adolescent students were identified and 31 students randomly placed in an experimental group, while 31 students remained in a control group. The experimental group attended a four week day camp during the month of August, 1966. The control group did not attend camp. The experimental group was randomly divided into two sub-groups. One sub-group (Experimental I) received a treatment to improve academic self concept while the other sub-group (Experimental II) received treatment to improve physical skills self concept. All groups (Control, Experimental I, Experimental II) were evaluated with a series of instruments designed to measure general self concept and academic achievement. Testing was done immediately before camp, immediately after camp, and one semester after camp.

It was predicted that the experimental group that received the treatments would demonstrate more immediate and long-term gain in general self concept and academic achievement than would the control group that did not attend camp. It was also predicted that the experimental group that received the treatment to improve physical skills self concept would demonstrate more immediate and long-term gain

on general self concept than would the experimental group that received the treatment to improve academic self concept. It was predicted, finally, that the experimental group that received the treatment to improve academic self concept would demonstrate more immediate and long-term gain in academic achievement than would the experimental group that received the treatment to improve physical skills self concept.

An analysis of variance statistical procedure with orthogonal comparisons was applied to each dependent variable. Means and standard deviations were computed for each group studied and an analysis of variance table was prepared.

Discussion of Results

1. All groups (Control Group, Experimental Group E_1, Experimental Group E_2) regressed from pretesting to the first post testing on the general self concept scale. This is a most puzzling result and cannot be definitely accounted for at this time. Some reasons are offered as possibilities for accounting for this regression. Most (five of seven) of the instruments used to measure general self concept were designed by this investigator and because of the short time between instrument development and the first measurement, no instrument pretesting was carried out. Hence, no normative data was available. For the other two instruments not designed by this investigator (Brookover Self Concept of Ability Scale, Tennessee Self Concept Scale), little is known about their effectiveness with a mentally retarded population. This possible lack of satisfactory validity and reliability is cited as a possible factor in the regression phenomena. Student familiarity with the instruments may have effected the second and third test results.

2. The experimental group that received either treatment (to improve physical skills self concept or academic self concept) demonstrated significantly less (.01 level) immediate regression on the general self concept scale than did the control group that received no treatment. These two experimental groups (combined for a comparison with the control group) demonstrated significantly less regression on the general self concept scale than did the control group. The treatment effects, or at least something about the camp experience, appears to have had an effect on the dependent variable, the general self concept test scores. However, this effect cannot necessarily be attributed to the specific treatment, as the "Hawthorne effect" was not controlled. The fact that a group of students attended a camp, interacted with themselves and with adults, may have produced this significant difference in the general self concept scores. Camping itself is a treatment. Boys and girls who attended camp and were successful in either academic or physical skills activities, scored higher on the general self concept scale, administered immediately after camp, than did their peers who had received no planned success on either type of activity. Giving retarded students any experiences of success, then, appears to have an immediate positive effect on general self concept. It is noteworthy that general self concept can be influenced, even though we are not specific about how this happens.

3. No significant differences were found between the experimental group that received the treatment to improve physical skills self concept and the experimental group that received the treatment to improve academic self concept, when immediate gains in general self concept were compared. These results suggest that when general self concept is influenced (improved), it seems to make little difference

whether one's specific physical skills self concept is improved or whether one's academic self concept is improved. Although evidence from this study just cited suggests that general self concept can be improved, improving one specific self concept appears to be equally as effective as improving another specific self concept. The important factor, this study asserts, is that the experience of attending camp (treating academic and/or physical skills self concept) is more important than which type of treatment the group receives once it is at camp.

4. No significant differences were found between the experimental group that received either treatment (to improve physical skills self concept or academic self concept) and the control group that received no treatment, when immediate gains in academic achievement were compared. When the control group was compared to the experimental group (physical skills self concept group and the academic self concept group) it was found that the experimental group gained no more in academic achievement than did the control group. On the basis of findings here, there is no evidence to suggest that academic achievement is influenced by treatment effects designed to improve general self concept. Although general self concept appears to have been influenced, academic achievement was not. It could be that the four weeks involved with the treatment was insufficient to produce immediate gains in academic achievement, or perhaps the treatments were not intensive enough. Finally, academic achievement may not be as highly related to general self concept as other evidence would suggest.

5. No significant differences were found between the experimental group that received the treatment to improve physical skills self concept and the experimental

group that received the treatment to improve academic self concept, when immediate gains in academic achievement were compared. The treatment to improve academic self concept did not result in any greater immediate gain in academic achievement than did the treatment to improve physical skills self concept. This is an interesting finding when the evidence cited by Brookover and others is considered. Evidence gathered by other investigators would suggest that the academic self concept group would demonstrate greater immediate gain in academic achievement. However, either the treatment to improve academic self concept was not effective, or academic achievement is not as related to academic self concept as one might expect.

6. All groups (Control Group, Experimental Group E_1, Experimental Group E_2) regressed from pretesting to the second post testing on the general self concept scale. The same regression phenomena was also observed when results of the first post testing were compared. Again, no definite reason can be discerned as to why this regression was observed, but the reasons cited earlier (instrument insensitivity, student familiarity, or unknown variable effecting the pretesting) are offered as possibilities.

7. No significant differences were found between the experimental group that received either treatment (to improve physical skills self concept or academic self concept) and the control group that received no treatment, when long-term gains in general self concept were compared. The comparison of experimental group (a combination of the physical skills and academic self concept group) with the control group (no treatments) resulted in no significant long-range effect on general self concept. The experience of attending camp and receiving either of the treatments

seemed to influence general self concept no more than not attending camp and having the experience. The influence on general self concept, noted immediately after camp, was not noted after one semester, which suggests that the passage of time dissipated the effects of the treatments. Insufficient follow-up reinforcement is suggested as a reason for the lack of difference between the groups over time. It is possible that the techniques used to improve physical skills and academic self concepts were not used by school personnel over the next three to four months, and apparently, the experimental group lost the gain it had made as a result of the summer experience.

8. No significant differences were found between the experimental group that received the treatment to improve physical skills self concept and the experimental group that received the treatment to improve academic self concept, when long-term gains in general self concept were compared. The physical skills self concept group fared no better over the semester following the treatment than did the academic self concept group, as far as general self concept was concerned. Evidence from this investigation suggests that treating physical skills self concept does not produce any greater long-term effect on general self concept than does treating academic self concept.

9. No significant differences were found between the experimental group that received either treatment (to improve physical skills self concept or academic self concept) and the control group that received no treatment, when long-term gains in academic achievement were compared. A similar pattern of gain in academic achievement was found after one semester, as was found immediately after the treatments. When the control group was compared with the experimental group

(combined physical skills and academic self concept groups) regarding long-term gain in academic achievement, results demonstrated no significant differences. When the two experimental groups were combined, academic achievement was not influenced by either treatment.

10. A significant (.05 level) difference was found between the experimental group that received the treatment to improve physical skills self concept and the experimental group that received the treatment to improve academic self concept, when long-term gains in academic achievement were compared. The physical skills self concept group demonstrated significantly more long-term gain in academic achievement than did the academic self concept group. This finding is contrary to the evidence gathered by Brookover, cited earlier, that improvement in academic self concept will be associated with improved academic achievement. The results of this study seem to demonstrate that after one semester at least, the improvement to physical skills self concept is associated with improved academic achievement. This relationship is not noted immediately after the treatment, however, and seems to be related to the passage of time.

Each staff member was asked to comment on the experiences of summer camp. He was asked about the value of combining formal education with recreation, about the effectiveness of the team approach (counselor, teacher, recreation leader), and about the use of a summer camp for educational purposes. These results are summarized next.

No highly unusual techniques were developed by the summer camp staff to build self concept in the mentally retarded. However, liberal praise and

encouragement and individual acceptance proved successful. Small groups of five or six students per adult were also employed where each student actively participated in each activity. The small group (and individual) contact was found to be the most singularly useful technique in building self concept.

Activities were highly varied. If a student did not find immediate success in one area, he usually was more successful in another. These successes were continually pointed out to him and the relative unimportance of inadequate performance in one area. Several small group counseling sessions were held to discuss the meaning of one's performance on physical skills tasks and on academic tasks. Although no new specific teaching techniques were demonstrated during this study, the "team approach" was found to hold several advantages over the single teacher approach. Individual teachers or instructors were able to work in physical skills or academic areas in which they felt most comfortable. For example, one teacher felt more comfortable in working with arithmetic, while the other felt she functioned better in reading. One physical skills instructor was particularly adept in teaching swimming, while another had experience and training in handicrafts. These are the traditional advantages of team teaching and they seemed to prove useful here.

General Conclusions

This study was an exploratory study which utilized a group of mentally retarded adolescents from two rural Michigan school systems to test hypotheses concerning the relationship of two treatment effects to over-all perception and academic achievement. No effort was made to establish the sample as representative of any particular population, although random selections (from the individual school

population of mentally retarded adolescents) were made in establishing control and experimental groups.

The conclusions of the study are greatly influenced by the immediate and long-term regression of all groups on the general self concept scale. This result cannot be adequately explained on the basis of this limited study, although several possibilities have been offered. Any other result of the investigation must be interpreted in light of this regression.

In spite of this regression phenomenon, some conclusions are suggested by the study. Building physical skills self concept does not appear to be a better elevator of general self concept than does building academic self concept. One treatment (at camp) was found to be about as effective (or ineffective) as the other treatment - whether evaluation occurred immediately after camp or one semester after camp. It is possible that the expected transfer of training did not take place or the instruments used were insensitive to this change. Perhaps the environment of the summer camp was in part responsible for the lack of transfer. At any rate, it seems to make little difference both immediately and after time, whether mentally retarded students receive treatments to build physical skills self concept, or whether they receive treatments to build academic self concept.

Effects on general self concept were apparent when camp and non-camp groups were compared immediately after camp. The fact that a group of adolescent mentally retarded students were provided some type of experience did effect their over-all general self concept. While it cannot be definitely stated that the change in general self concept scores was due entirely to the treatment effects, it may be

reasonable to assume that the success experiences at camp were at least partially responsible. Working with educable mentally retarded school students in this manner will, this study contends, positively alter their general self concept.

Academic achievement was not significantly affected as a result of the treatments. The experimental group fared no better than the control group on tests of academic achievement administered immediately after camp and one semester after camp. This study would assert that academic achievement does not appear to be as directly related to general self concept as certain other studies have found it to be. Four weeks of treatment is a relatively short time to offset patterns of behavior that have taken years to establish. It is highly possible, however, that little follow-up reinforcement either for physical skills self concept or academic self concept was forthcoming after the camp experience was over.

Immediate measurement of general self concept comparing the physical skills self concept group and the academic self concept group noted no difference between these two groups, suggesting again that the two treatments had little differential effect on general self concept. As far as immediate gain in academic achievement, it seems to make little difference which area of general self concept (physical skills self concept or academic self concept) is influenced. However, more long-term gain in academic achievement was observed for the physical skills self concept group than for the academic self concept group. Physical skills experiences, after time, do seem to influence academic achievement. Perhaps, the effects of physical skills tend to build over time, and come to influence academic achievement after time has passed. It is also possible that for the educable mentally retarded student, physical

skills have more meaning than do academic skills. Mentally retarded students come to know their world more through direct activity rather than through the more symbolic reading or other academically related sense. Therefore, perhaps physical skills are more rewarding to the retarded student than are academic skills.

In conclusion, it must also be pointed out that any generalizations from this study must be made with the following considerations in mind:

A. An educational setting was not fully utilized - a recreational, summer camp environment was used instead.

B. Only educable mentally retarded (I.Q. 55 - 75) adolescents in two school districts were selected as subjects. The sample was restricted to adjusted, relatively well integrated students who had been satisfactorily placed in public school programs for the educable mentally handicapped.

C. Highly trained, carefully selected teachers and counselors were used as treatment agents.

D. The sample was further restricted (and possibly biased) because of the necessary parent approval to participate in the summer camp experience.

Suggestions for Further Study

More studies are needed which investigate the general self concept of the mentally retarded and the relationship of the general self concept to academic achievement. Additional information needs to be supplied regarding the importance of general self concept in increasing achievement. More detailed studies might also

be made on the relationship of physical skills self concept, academic self concept and academic achievement.

A study similar to this one might be carried out within the confines of the school. A summer camp environment is different from the classroom environment, and any attempt to apply results to the classroom, based on this recreational environment, should be viewed cautiously. For this reason, more classroom research is suggested.

The general self concept instruments used in this study need to be pretested and normative data gathered before using them again. Perhaps the number of instruments used might be decreased in the future, but gathering normative data for the instruments is suggested as the basis for further study.

Other factors such as age, number of years in school, socio-economic background and age at the time placed in a special classroom are variables which might be controlled in future research.

Additional research might control for the extra attention given the camp group by establishing a second camp group and extending no planned treatment of any kind (placebo group).

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APPENDIX A

TESTS OF ACADEMIC ACHIEVEMENT

WIDE RANGE ACHIEVEMENT TEST - VOCABULARY

A B O S E R T H	8
to see cat milk red tree big block was city	18
eat him animal letter then himself how deep spell	27
between weather lip book awake size aboard felt	35
chin tray approve cliff stalk split huge plot	43
quality escape urge collapse grieve abuse residence	50
quarantine contagious glutton exhaust imply image contemporary	57
theory threshold participate ethics desolate eliminate	63
triumph tranquillity humidity contemptuous alcove humiliate	69
conspiracy aeronautic predilection emphasis municipal rescinded	75
luxurious unanimous intrigue protuberance audacious benign	81
prevalence repugnant peculiarity rudimentary pugilist mitosis	87
bibliography anomaly decisive mosaic deteriorate spurious	93
irascible expugn coercion discretionary enigmatic regime	99
centrifugal itinerary abysmal soliloquize inchoate oligarchy	105
exigencies mnemonic ingratiating covetousness aborigines	110
emaciated seismograph pseudonym usurp idiosyncrasy schism	116
misogyny desuetude exophthalmic succinct longevity remiges	122
vehemence regicidal evanescence heinous omniscience conduit	128

WIDE RANGE ACHIEVEMENT TEST - ARITHMETIC

ADD (+)

						48
						2853
	6		32		452	724
5	1	5	24	75	137	82
1	2	7	40	8	245	6215

SUBTRACT (-)

8	5	14	84	745	6204	6700904
0	4	8	36	368	530	9018

MULTIPLY (x)

4	23	420	834	636	420.3	7.952
2	3	4	7	208	29	3.7

DIVIDE (÷)

4	8	9	72	6	968	3.	9.105	31	6263

Carry to two decimal places

5.2	572	536	4762

ADD

1/3

1/3

SUBT

7/8
3/8

MUL

3/4

Su

7
3

W
fr

4 1
3
9/1

WIDE RANGE ACHIEVEMENT TEST - ARITHMETIC

ADD (+) REDUCE ALL FRACTIONS TO LOWEST TERMS

1/3	1/2		3 2/5	6 1/5
	1/4	2 4/5	2 1/4	4
1/3	1/8	7 2/5	1 5/6	2/7
				9 4/5

SUBTRACT (-)

7/8	4 2/3	8	7 1/6	19 1/5
3/8	2 2/3	1 3/5	3/4	14 2/3

MULTIPLY (x)

3/4 x 4/5 = 2/3 x 9 = 5/8 x 6/7 = 4 3/8 x 2/3 =

25 1/2
16 3/4

Subtract	Divide	Average	Express in %	Write as a common fraction
7 x y	1/2 : 3/4 =	26	3/4 =	3% =
3 x y	7/8 : 3 2/3 =	45	.45 =	66 2/3% =
		97	7/100 =	
		82		

Write as a decimal fraction.	Find:	What % of 60 is 15?	Solve:
4 1/2 =	120% of 20 =	Ans.....	(-5)(+9) =
3/5 =	2/3% of 300 =	6 is 20% of what number?	$(3)^3$ =
9/100 =	2.3% of 40 =	Ans.....	$(4^2)^3$ =
		30 is what % of 200?	$(25)^{1/2}$ =
		Ans.....	

NAME

BIRTH

A.

1.
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WIDE RANGE VOCABULARY TEST
C. R. Atwell and F. L. Wells
Form B

NAME _____ DATE _____

BIRTHDATE _____ GROUP _____

A.	A street is a	field hill road stream path
1.	A saucer is a	table spoon hat eat dish
2.	Jelly is eaten on	bread potatoes cabbage soup lobsters
3.	To learn is to	jump give fall know wake
4.	Men are	dogs statues women people monkeys
5.	The stomach is for	eating fighting hunting success exercise
6.	If we are merry we are	sad married happy drunk naughty
7.	To step is to	ride fall stop write walk
8.	We fry	cookies eggs coffee people flowers
9.	To be furious is to be	angry gentle pretty silly noisy
10.	A spade is used to	insult dig rake carry win
11.	Flutter refers to	wings drinking singing heels teeth
12.	Like means	same different lady new candy
13.	Bran comes from	fish peaches wheat bananas liver
14.	Wealth is	bananas strength happiness presents riches
15.	A scholar is a	fool pendant book student birch
16.	To agree is to	argue consent flavor love upset
17.	A warrant is served by a	cafeteria preacher restaurant salesman policeman
18.	A major is an	artist officer auditor orator igloo
19.	To preserve is to	save water fish brown boil
20.	A cave is a	rock lake coat hole porch
21.	Many means	several mica coins less some
22.	Spinal pertains to	fish collarbone architecture backbone disease
23.	To fidget is to	scream squirm forget mend rest
24.	To recognize is to	talk overlook know ignore seem
25.	Transact refers to	business bridges streetcars threaters churches
26.	To achieve is to	deceive ravage acknolwedge pass accomplish
27.	To rumple is to	sit iron dance wrinkle ride
28.	To take is to	send please carry lose give
29.	A zone is an	acre estate era area antiseptic
30.	A far country is	away near beautiful strange rich
31.	Rickets is a kind of	medicine disease furniture game food
32.	Temperature refers to	electricity dampness pressure heat sunshine
33.	A couch is a	cold porch bed chair lie
34.	A ladle is a	star crib dipper canoe lady
35.	A seafarer is a	captain ship bird reprobate sailor
36.	To resume is to	stop continue start consider smoke
37.	Unfruitful means	unproductive frosted bitter unfaithful green
38.	To forewarn is to	forearm forbear forget forgive foretell
39.	To whir is to	eat laugh buzz wiggle cut
40.	Immune means	expose vast diseased inundated protected

41. To seclude is to — travel suspect withdraw linger mistrust
42. Rations refer to — food logic soldiers banks countries
43. A coiffure is a — negligee headdress drink bracelet box
44. To be ruthless is to be — pitiful punishing competitive pitiless aggressive
45. A denial is a — refusal proposal declamation dock confirmation
46. A lathe is a kind of — bath building onion machine clock
47. Straddle refers to — babies fighting position money leather
48. Inquisition means — punishment war pogrom riot investigation
49, To relapse is to — climb recover backslide stop bend
50. A kingdom is a — monastery country palace capitol fish
51. To recruit is to — discount retreat enlist march fight
52. A leer is a kind of — dance beckoning vegetable payment look
53. To make a pun is to — laugh rhyme joke fasten kick
54. To coil is to — ravel strike wave pin wind
55. A Calyx is a term in — physics chemistry orthopedics botany agronomy
56. To rejuvenate is to make — young happy beautiful silly blonde
57. To foil is to — arrest prevent avoid flavor squeal
58. A clubfoot is a kind of — gadder plant society deformity animal
59. A bilge belongs to a — wheelbarrow automobile ship tree fish
60. A flagstone is used for a — pole weapon sundial tracing pavement
61. To shroud is to — bury shiver shape cover worry
62. To be lenient is to be — heavy tolerant languourous lithe dependent
63. To rile is to — laugh consider anger draw envy
64. To assent is to — dissent climb trust fortify agree
65. A dilemma is a — problem horn controversy digression contradiction
66. Infallible means without — religion error permission science legality
67. A zigzag path is — narrow rough up-and-down back-and-forth roundabout
68. Harum-scarum means — ambiguous Mohammedan elfish flighty frightened
69. An azalea is a king of — moss fish insect flower chiffon
70. One may incur — speed measles spinach people debt
71. To administer is to — squander manage substitute judge partake
72. To exemplify is to — enlarge exonerate illustrate distrust placate
73. Manifold means — many duplicate multiform few simple
74. To dupe is to — poison dress deceive demolish clean
75. A chalice is a kind of — plate collar cup knight quest
76. A sot is — bald neat shiftless stubborn insane
77. To indict is to — charge prosecute arrest acquit sentence
78. Presentiment means — foreboding gift official emotion chastisement
79. Avidity means — greediness dampness dryness hatred honesty
80. Adjutant means — bookkeeper officer marine initiation society
81. Anterior refers to — back side front right left
82. A wench is a — man witch girl nut tool
83. Malachite is a kind of — mineral disease race lumber cave
84. To venture is to — risk have explore conquer tease
85. A guise is a — feature semblance volcano masquerade posture

86.	A tetrasyllable is a	phrase sentence ruler word quadruped
87.	To inter means to	debate bury embalm question undertake
88.	A nuncio is a	pope traveler monastery foreigner messenger
89.	A micrometer measures	space sound intelligence strength heat
90.	Corvine means like a	cow hawk crow eagle cat
91.	A mendicant is a	tailor friar ministrel beggar druggist
92.	Prodigal is	wasteful masculine thirifty wandering favored
93.	A privilege is a	kitchen right letter crime favor
94.	A minister is a	bachelor lady helper lobby church
95.	Phthisis is a term in	metallurgy astronomy physics psychology medicine
96.	An ibex is a kind of	bird goat fish jewel plant
97.	A canard is a	vegetable steamer hoax newspaper fish
98.	Pensile means	hanging thoughtful written criminal worthless
99.	A spiracle is for	climbing breathing drawing decoration antisepsis
100.	Englantine is a kind of	lily rose violet columbine daisy

APPENDIX B

TESTS OF SELF CONCEPT

(Not Designed by Investigator.)

TENNESSEE SELF CONCEPT SCALE

		Item No.
1.	I have a healthy body	1
3.	I am an attractive person	3
5.	I consider myself a sloppy person	5
19.	I am a decent sort of person	19
21.	I am an honest person	21
23.	I am a bad person	23
37.	I am a cheerful person	37
39.	I am a calm and easy going person	39
41.	I am a nobody	41
55.	I have a family that would always help me in any kind of trouble	55
57.	I am a member of a happy family	57
59.	My friends have no confidence in me	59
73.	I am a friendly person	73
75.	I am popular with men	75
77.	I am not interested in what other people do	77
91.	I do not always tell the truth	91
93.	I get angry sometimes	93

Responses:	Completely false	Mostly false	Partly false and Partly true	Mostly true	Completely true
	1	2	3	4	5

		Item No.
2.	I like to look nice and neat all the time	2
4.	I am full of aches and pains	4
6.	I am a sick person	6
20.	I am a religious person	20
22.	I am a failure as a person	22
24.	I do wrong things even though I know they're wrong	24
38.	I have a lot of self-control	38
40.	I am a hateful person	40
42.	I am losing my mind	42
56.	I am an important person to my friends and family	56
58.	I am not loved by my family	58
60.	I feel that my family doesn't trust me	60
74.	I am popular with women	74
76.	I am mad at the whole world	76
78.	I am hard to be friendly with	78
92.	Once in a while I think of things too bad to talk about	92
94.	Sometimes, when I am not feeling well, I am cross	94

Responses:	Completely false	Mostly false	Partly false and Partly true	Mostly true	Completely true
	1	2	3	4	5

		Item No.
7.	I am neither too fat nor too thin	7
9.	I like my looks just the way they are	9
11.	I would like to change some parts of my body	11
25.	I am satisfied with the way I act	25
27.	I am satisfied with the way I believe in God	27
29.	I ought to go to church more	29
43.	I am satisfied to be just what I am	43
45.	I am just as nice as I should be	45
47.	I hate myself	47
61.	I am satisfied with my family relationships	61
63.	I understand my family as well as I should	63
65.	I should trust my family more	65
79.	I am as friendly as I want to be	79
81.	I try to please others, but I don't overdo it	81
83.	I am no good at all when it comes to having friends	83
95.	I do not like everyone I know	95
97.	Once in a while, I laugh at a dirty joke	97

Responses:	Completely false	Mostly false	Partly false and Partly true	Mostly true	Completely true
	1	2	3	4	5

		Item No.
8.	I am neither too tall nor too short	8
10.	I don't feel as well as I should	10
12.	I should be liked by boys/girls more	12
26.	I believe in God as much as I want to	26
28.	I wish I could be more trustworthy	28
30.	I shouldn't tell so many lies	30
44.	I am as smart as I want to be	44
46.	I am not the person I would like to be	46
48.	I wish I didn't give up as easily as I do	48
62.	I treat my parents as well as I should	62
64.	I care too much what my family says	64
66.	I should love my family more	66
80.	I am satisfied with the way I treat other people	80
82.	I should be more polite to others	82
84.	I ought to get along better with other people	84
96.	I talk about other people a little at times	96
98.	At times I feel like swearing	98

Responses:	Completely false	Mostly false	Partly false and Partly true	Mostly true	Completely true
	1	2	3	4	5

		Item No.
13.	I take good care of my body	13
15.	I try to be careful about my appearance	15
17.	I often act like I am clumbsy	17
31.	I am true to my religion in my everyday life	31
33.	I try to change when I know I'm doing things that are wrong	33
35.	I sometimes do very bad things	35
49.	I can always take care of myself in any situation	49
51.	I take the blame for things without getting mad	51
53.	I do things without thinking about them first	53
67.	I try to play fair with my friends and family	67
69.	I take a real interest in my family	69
71.	I give in to my parents	71
85.	I try to understand the other fellow's point of view	85
87.	I get along well with other people	87
89.	I do not forgive others easily	89
99.	I would rather win than lose in a game	99

Responses:	Completely false	Mostly false	Partly false and Partly true	Mostly true	Completely true
	1	2	3	4	5

		Item No.
14.	I feel good most of the time	14
16.	I do poorly in sports and games	16
18.	I am a poor sleeper	18
32.	I do what is right most of the time	32
34.	I sometimes use unfair means to get ahead	34.
36.	I have trouble doing the things that are right	36
50.	I solve my problems quite easily	50
52.	I change my mind a lot	52
54.	I try to run away from my problems	54
68.	I do my share of work at home	68
70.	I argue and fight with my family	70
72.	I do not act like my family thinks I should	72
86.	I see good things in all the people I meet	86
88.	I do not feel at ease with other people	88.
90.	I find it hard to talk with strangers	90
100.	Once in a while I put off until tomorrow what I ought to do today	100

Responses:	Completely false	Mostly false	Partly true and Partly false	Mostly true	Completely true
	1	2	3	4	5

10 STATEMENTS TEST

WHO AM I?

1.

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10.

SELF CONCEPT OF ABILITY - GENERAL
(FORM A)

Michigan State University
Bureau of Educational Research

Circle the letter in front of the statement which best answers each question.

1. How do you rate yourself in school ability compared with your close friends?

   a. I am the best
   b. I am above average
   c. I am average
   d. I am below average
   e. I am the poorest

2. How do you rate yourself in school ability compared with those in your class at school?

   a. I am among the best
   b. I am above average
   c. I am average
   d. I am below average
   e. I am among the poorest

3. Where do you think you would rank in your class in high school?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

4. Do you think you have the ability to complete college?

   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probablynot
   e. no

5. Where do you think you would rank in your class in college?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

6. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?

   a. very likely
   b. somewhat likely
   c. not sure either way
   d. unlikely
   e. most unlikely

7. Forget for a moment how others grade your work. In your own opinion, how good do you think your work is?

   a. my work is excellent
   b. my work is good
   c. my work is average
   d. my work is below average
   e. my work is much below average

8. What kind of grades do you think you are capable of getting?

   a. mostly A's
   b. mostly B's
   c. mostly C's
   d. mostly D's
   e. mostly E's

APPENDIX C

SELF CONCEPT INSTRUMENTS DESIGNED BY INVESTIGATOR

REAL SELF SCALE

1. I AM FRIENDLY

1	2	3	4	5
Not at all	Not very often	Some of the time	Most of the time	All of the time

2. I AM HAPPY

1	2	3	4	5

3. I AM KIND

1	2	3	4	5

4. I AM BRAVE

1	2	3	4	5

5. I AM HONEST

1	2	3	4	5

6. I AM LIKABLE

1	2	3	4	5

7. I AM TRUSTED

1	2	3	4	5

8. I AM GOOD

1	2	3	4	5

9. I AM LAZY

5	4	3	2	1
Not at all	Not very often	Some of the time	Most of the time	All of the time

10. I AM LOYAL

1	2	3	4	5

11. I AM COOPERATIVE

1	2	3	4	5
Not at all	Not very often	Some of the time	Most of the time	All of the time

12. I AM CHEERFUL

1	2	3	4	5

13. I AM THOUGHTFUL

1	2	3	4	5

14. I AM POPULAR

1	2	3	4	5

15. I AM COURTEOUS

1	2	3	4	5

16. I AM JEALOUS

5	4	3	2	1

17. I AM OBEDIENT

1	2	3	4	5

18. I AM POLITE

1	2	3	4	5

19. I AM BASHFUL

5	4	3	2	1

20. I AM CLEAN

1	2	3	4	5

21. I AM HELPFUL

1	2	3	4	5

IDEAL SELF SCALE

1. I WOULD LIKE TO BE FRIENDLY.

1	2	3	4	5
Not at all	Not very often	Some of the time	Most of the time	All of the time

2. I WOULD LIKE TO BE HAPPY

1	2	3	4	5

3. I WOULD LIKE TO BE KIND

1	2	3	4	5

4. I WOULD LIKE TO BE BRAVE

1	2	3	4	5

5. I WOULD LIKE TO BE HONEST

1	2	3	4	5

6. I WOULD LIKE TO BE LIKABLE

1	2	3	4	5

7. I WOULD LIKE TO BE TRUSTED

1	2	3	4	5

8. I WOULD LIKE TO BE GOOD

1	2	3	4	5

9. I WOULD LIKE TO BE LAZY

1	2	3	4	5

10. I WOULD LIKE TO BE LOYAL

1	2	3	4	5

11. I WOULD LIKE TO BE COOPERATIVE

1	2	3	4	5
Not at all	Not very often	Some of the time	Most of the time	All of the time

12. I WOULD LIKE TO BE CHEERFUL

1	2	3	4	5

13. I WOULD LIKE TO BE THOUGHT FUL

1	2	3	4	5

14. I WOULD LIKE TO BE POPULAR

1	2	3	4	5

15. I WOULD LIKE TO BE COURTEOUS

1	2	3	4	5

16. I WOULD LIKE TO BE JEALOUS

5	4	3	2	1

17. I WOULD LIKE TO BE OBEDIENT

1	2	3	4	5

18. I WOULD LIKE TO BE POLITE

1	2	3	4	5

19. I WOULD LIKE TO BE BASHFUL

5	4	3	2	1

20. I WOULD LIKE TO BE CLEAN

1	2	3	4	5

21. I WOULD LIKE TO BE HELPFUL

1	2	3	4	5

REAL LEARNER SELF SCALE

1. I AM A GOOD STUDENT

1	2	3	4	5
Not at all	Not very often	Some of the time	Most of the time	All of the time

2. I LEARN EASILY

1	2	3	4	5

3. I AM HAPPY AT SCHOOL

1	2	3	4	5

4. I LIKE MY TEACHER

1	2	3	4	5

5. I LIKE MY PRINCIPAL

1	2	3	4	5

6. I LIKE THE OTHERS IN MY ROOM

1	2	3	4	5

7. I LIKE THE OTHERS IN SCHOOL

1	2	3	4	5

8. I LIKE TO WORK ON SCHOOL PROBLEMS

1	2	3	4	5

9. I ENJOY COMING TO SCHOOL IN THE MORNING

1	2	3	4	5

10. I LIKE TO LEARN IN SCHOOL

1	2	3	4	5

11. I CAN LEARN IN SCHOOL

1	2	3	4	5
Not at all	Not very often	Some of the time	Most of the time	All of the time

12. I AM GLAD I CAN COME TO SCHOOL TO LEARN

1 2 3 4 5

13. I AM HAPPY TO LEARN TO READ

1 2 3 4 5

14. I AM HAPPY TO LEARN ARITHMETIC

1 2 3 4 5

15. I AM HAPPY WHEN I AM LEARNING NEW THINGS

1 2 3 4 5

16. MY TEACHERS HELP ME TO LEARN MANY DIFFERENT THINGS

1 2 3 4 5

17. OTHER PEOPLE BESIDES TEACHERS HELP ME TO LEARN MANY DIFFERENT THINGS

1 2 3 4 5

18. I AM AS IMPORTANT AS ANYONE ELSE WHEN I AM LEARNING

1 2 3 4 5

19. I WANT TO LEARN MORE

1 2 3 4 5

20. I AM HAPPY ANYWHERE AS LONG AS I CAN LEARN

1 2 3 4 5

IDEAL LEARNER SELF SCALE

1. I WOULD LIKE TO BE A GOOD STUDENT

1	2	3	4	5
Not at all	Not very often	Some of the time	Most of the time	All of the time

2. I WOULD LIKE TO LEARN EASILY

1	2	3	4	5

3. I WOULD LIKE TO BE HAPPY AT SCHOOL

1	2	3	4	5

4. I WOULD LIKE TO LIKE MY TEACHER

1	2	3	4	5

5. I WOULD LIKE TO LIKE MY PRINCIPAL

1	2	3	4	5

6. I WOULD LIKE TO LIKE THE OTHERS IN MY ROOM

1	2	3	4	5

7. I WOULD LIKE TO LIKE THE OTHERS IN SCHOOL

1	2	3	4	5

8. I WOULD LIKE TO WORK ON SCHOOL PROBLEMS

1	2	3	4	5

9. I WOULD LIKE TO ENJOY GOING TO SCHOOL INTHE MORNING

1	2	3	4	5

10. I WOULD LIKE TO LEARN IN SCHOOL

1	2	3	4	5

11. I WOULD LIKE TO BE ABLE TO LEARN IN SCHOOL

1	2	3	4	5
Not at all	Not very often	Some of the time	Most of the time	All of the time

12. I WOULD LIKE TO BE GLAD I CAN COME TO SCHOOL TO LEARN

1 2 3 4 5

13. I WOULD LIKE TO BE HAPPY TO LEARN TO READ

1 2 3 4 5

14. I WOULD LIKE TO BE HAPPY TO LEARN ARITHMETIC

1 2 3 4 5

15. I WOULD LIKE TO BE HAPPY WHEN I AM LEARNING NEW THINGS

1 2 3 4 5

16. I WOULD LIKE MY TEACHERS TO HELP ME LEARN MANY DIFFERENT THINGS

1 2 3 4 5

17. I WOULD LIKE OTHER PEOPLE BESIDES TEACHERS TO HELP ME LEARN MANY DIFFERENT THINGS

1 2 3 4 5

18. I WOULD LIKE TO BE AS IMPORTANT AS ANYONE ELSE WHEN I AM LEARNING

1 2 3 4 5

19. I WOULD LIKE TO WANT TO LEARN MORE

1 2 3 4 5

20. I WOULD LIKE TO BE HAPPY ANYWHERE AS LONG AS I CAN LEARN

1 2 3 4 5

GENERAL LEARNER SCALE

1. How well do you think you can throw a ball?

   Excellent Good Average Below Average Much Below Average

2. How good a jumper do you think you are?

   Excellent Good Average Below Average Much Below Average

3. How well do you think you can swim?

   Excellent Good Average Below Average Much Below Average

4. How well do you think you kick a ball?

   Excellent Good Average Below Average Much Below Average

5. How well do you think you can sing?

   Excellent Good Average Below Average Much Below Average

6. Which best describes your body build?

   Excellent Good Average Below Average Much Below Average

7. How well do you think you can draw?

   Perfectly Good Average Below Average Much Below Average

8. How well do you think you can hike?

   Perfectly Good Average Below Average Much Below Average

9. Which best describes how well you think you can learn things outside of school?

   Excellent Good Average Below Average Much Below Average

10. Which best describes how well you think you can learn about nature?

    Excellent Good Average Below Average Much Below Average

11. How well do you think you can play horseshoes?

    Excellent Good Average Below Average Much Below Average

12. How well do you think you can play tetherball?

Excellent Good Average Below Average Much Below Average

13. How well do you think you can play volleyball?

Excellent Good Average Below Average Much Below Average

14. Which best describes your ability to play checkers?

Excellent Good Average Below Average Much Below Average

15. Which best describes your ability to play cards?

Excellent Good Average Below Average Much Below Average

16. Which best describes your ability to work in the kitchen?

Excellent Good Average Below Average Much Below Average

17. How well do you think you can cut and paste?

Excellent Good Average Below Average Much Below Average

18. How well do you think you can play small inside games?

Excellent Good Average Below Average Much Below Average

19. Which best describes your ability to tell your feelings to a counselor?

Excellent Good Average Below Average Much Below Average

20. Which best describes your ability to tell your feelings to a teacher?

Excellent Good Average Below Average Much Below Average

21. How well do you think you can discuss your problems and feelings in a small group (three or four people)?

Excellent Good Average Below Average Much Below Average

BEHAVIOR RATING SCALE

Rater: Circle number of item which best fits subject under consideration (S)

Name of S

1. Playground Behavior (either organized or unorganized games - activities)

1. Is afraid - will not participate	2. Fearful but sometimes participates	3. Participates frequently but only as follower	4. Sometimes leads but more often follower	5. Leads and initiates activities

2. S regarded by others in Type A room

1. Either isolated or overly rejected	2. Quite often not regarded favorably by others	3. Seems to be accepted but seldom chosen	4. Generally favorable - sometimes chosen	5. Popular and often chosen by others

3. Over-all behavior that is characteristic of S

1. Shy, retiring, shrinks from any situation	2. Frequently passive and shy	3. At times open at times shy	4. Frequently free and responsive	5. Very free - responsive, seems carefree

4. Reaction to criticism - correction

1. Cries, upset, apparently traumatic	2. Becomes somewhat threatened and anxious	3. Sometimes becomes threatened or anxious	4. Not often threatened or upset - takes in stride often	5. Takes in stride - does not seem too threatened. Realizes intention of correction.

5. S's reaction to you

1. Does not relate. I feel he's afraid, frightened.	2. Generally avoids me and infrequently asks my opinion.	3. Sometimes asks questions or will relate to me in certain situations.	4. Mostly relates positively. Frequently asks questions.	5. Seems to be at ease with me in and out of school. Relates well in most every situation.

6. Communication of thoughts - feelings

1. Never - I have little idea what any of his problems may be	2. Seldom, but has begun to privately.	3. Infrequently but has discussed some thoughts or feelings privately.	4. Frequently, yet is still hesitant about discussing in group.	5. Very frequently brings thoughts or feelings into class discussions.

7. Response to praise and support

1. Little reaction, has no effect - seems to not know how to take it.	2. Little reaction yet doesn't appear to be fearful of it.	3. Some reaction of positive nature is beginning to understand praise and how to take it.	4. Positive reaction. Smiles - needs more.	5. High, positive reaction. Enjoys pleasing others.

8. S's feelings about physical appearance

1. Is not concerned. Has given up about appearance.	2. Concerned very little.	3. Sometimes concerned, others not. Ambivalent.	4. Most of time is concerned.	5. Cares a great deal about how he looks to others. Attempts to look his best.

9. Behavior in regards to peers

1. Very derogative, no positive regard for anyone	2. Has one or two associates he refers to favorably	3. Has several fairly close friends but negative about others in group	4. Has many close friends but negative about others	5. Seems to find and concentrate on strengths of others. Has many friends.

10. Overt behavior in classroom

1. Upset, nervous, on verge of tears.	2. Mostly upset. Has a few good days.	3. Has good days and bad days.	4. Mostly good days, but some bad days, too.	5. Almost never upset. Happy when in school.

11. Motivation in school

1. Cares nothing about school. Difficult to get response in class. Never volunteers for assignments or projects.	2. Very little concern. Infrequently volunteers. Must be assigned to project or group.	3. Some concern. Seems to vary with project or assignments.	4. Most of time concerned with school tasks. Frequently volunteers.	5. Always favorable about school. Willing to do what is asked. Takes work home.

12. Complaints about inadequacies

1.	2.	3.	4.	5.
Almost constant complaints about things he can't do. Complains about illness, etc.	Frequent complaints. Needs counseling about personal problems, etc.	Some complaints but seems specific to certain situations.	Seldom complains. Seems to be able to solve most situations or problems by self.	Never seems to complain. Self sufficient.

13. Independence on school tasks

1.	2.	3.	4.	5.
Dependent upon others in most every situation. Always asks for a great deal of help from teachers, peers, etc.	Generally dependent. Requires some time in assisting - turns to peers for help frequently.	Partially Independent but varies with situation - some dependency on peers, teachers.	Mostly independent. Requires little help. Generally needs help just to get started.	Independent. Needs very little help from others. Initiates activities and new ways.

14. Social contact

1.	2.	3.	4.	5.
Remains to self. Never speech or contact with others.	Prefers not to speak or to interact but will of necessity. Minimal.	Will respond to others but initiates contact infrequently. Has some friends, though.	Some initiation of friendship. Friends in Type A room, few in other rooms.	Initiates social contacts. Has many friends, in and out of room, both sexes.

15. Acceptance of limitations

1.	2.	3.	4.	5.
Is almost paralyzed by felt limitations. Dwells on what can't do rather than what he can do.	Very much aware of limitations. Area of much concern to him. Difficulty in accepting limitations.	Some difficulty with limitations. Specific to certain areas and certain limitations.	Is somewhat concerned but not greatly handicapped by felt limitations. Has discussed and some compensations.	Can and has discussed limitations. Tries to allow for them and compensates. Not an area of concern.

16. Feelings about being in Type A room

1.	2.	3.	4.	5.
Is very much unhappy. Wants very much to leave room.	Frequently unhappy but beginning to adjust to program.	Vacillates between days or times of relative adjustment and days of unhappiness.	Generally happy in room but might want to return to regular program. Sometimes questions why here.	Seems contented and feels he is profitting from his placement. Probably wouldn't want to go back into regular program

17. Reactions to complaints about self by peers not in room

1.	2.	3.	4.	5.
Cries, complains, wants to leave - won't go outside or to area where regular program students are. Even after occasional remarks.	Quite unhappy about remarks made - tells teacher and expects teacher to remedy situation.	Some remarks made still causes unhappiness, but some let pass.	Lets most remarks pass with little or no incident.	Feels not important, yet will stand up for rights. Not bothered by remarks.

18. Reactions to innovation in procedure, program, etc.

1.	2.	3.	4.	5.
Appears confused, disoriented, needs guidance.	Needs help in beginning new activity. Somewhat threatened.	Some help neces sary. Many questions asked, though.	Minimum of help - perhaps only initially.	Stimulated and looks forward to anything new. Eagerly awaits new units, etc.

19. S's regard for children in regular program

1.	2.	3.	4.	5.
As greatly superior, yet menacing and hostile and to be avoided.	Somewhat superior. Does not cultivate friendships, somewhat threatened.	Hesitant but will talk to them if necessary.	Is not threatened but doesn't seek out others in any other room.	Generally regards as equal. Frequently invited to room or goes to their room.

20. S's regard for teachers in regular program

1. As threats - greatly superior to himself. Won't talk and avoids at all cost.	2. Somewhat threatened and to be avoided if possible.	3. Hesitant but will talk to them if necessary.	4. Not regarded as threats but knows no other teacher except own.	5. Regards as a friend - knows other teachers and they know him.

21. S's feelings about future

1. Pessimistic. Does not look forward to anything. Insecure.	2. Mostly pessimistic, but some area of his life he feels positive about.	3. Ambivalent. Some feelings of pessimism, some of optimism.	4. Optimistic most of the time.	5. Is optimistic. Looks forward to next day, year.

22. Your opinion of how S feels about himself most of the time

1. Worthless, inadequate, a failure, and fearful.	2. Most inadequate. Few areas of strengths.	3. Some strengths, still many inadequacies.	4. Able to deal with most inadequacies.	5. Realistically as a human being with strengths and weaknesses. Not threatened bylife.

TEACHER INTERVIEW FORM

Name of Student	Date	Teacher

I. Teacher's impressions regarding S's feelings about learning, about his school program, about himself as a learner.

II. Teacher's evaluation of S's behavior relative to activities outside of classroom which are learning oriented. (Playground, discipline, bus, lunch period.)

III. S's relationship with peers on projects in school, on playground.

IV. S's relationship with teachers, principal, other authority figures relative to school.

V. Teacher's opinion of relationships at home as they involve S's coming to school, doing homework, becoming involved in learning activities.

APPENDIX D

CERTAIN CHARACTERISTICS OF STUDY SAMPLE

CERTAIN CHARACTERISTICS OF STUDY SAMPLE

	Subject	Age	Intelligence Quotient	Sex	School District
I.	Control Group				
	1	12.9	65	M	A
	2	13.2	74	M	A
	3	14.0	67	M	A
	4	12.8	71	F	B
	5	14.0	73	M	B
	6	12.9	75	F	B
	7	13.5	68	F	B
	8	11.6	70	F	B
	9	12.8	55	F	B
	10	14.0	70	F	B
	11	10.9	75	M	A
	12	13.7	73	M	A
	13	14.0	70	F	A
	14	14.8	72	M	B
	15	13.6	75	F	B
	16	13.8	73	M	B
	17	14.0	71	F	B
	18	12.1	70	F	B
	19	11.9	72	F	B
	20	15.0	73	F	A
	21	14.8	73	M	A
	22	14.3	75	F	A
	23	13.8	67	F	A
	24	12.7	73	M	B
	25	14.7	75	M	A
	26	14.0	73	M	A
	27	14.0	75	M	A
	28	13.9	70	M	A
	29	12.9	69	M	B
	30	14.9	70	M	B
	31	13.8	74	F	B
II.	Experimental Group I				
	32	12.4	78	M	A
	33	12.0	71	M	A
	34	14.2	75	M	A

Subject	Age	Intelligence Quotient	Sex	School District
35	13.3	70	F	A
36	14.6	75	M	A
37	13.4	73	M	B
38	12.0	72	M	B
39	13.5	69	F	B
40	15.0	70	F	A
41	12.6	70	F	B
42	13.0	75	M	B
43	14.0	75	F	B
44	13.2	70	F	B
45	13.0	71	F	B
46	12.0	70	F	B
47	13.4	55	M	A
III. Experimental Group II				
48	12.3	74	M	A
49	13.3	75	M	A
50	12.0	72	F	A
51	12.2	70	M	A
52	12.3	71	F	B
53	15.0	70	M	B
54	12.1	67	F	B
55	14.0	73	F	B
56	14.4	65	M	B
57	13.8	58	F	B
58	13.0	75	M	A
59	15.8	78	F	A
60	13.0	76	F	B
61	15.2	72	M	A
62	14.9	77	F	A

TABLE 9

SUMMARY OF CERTAIN CHARACTERISTICS OF STUDY SAMPLE

GROUP	AGE		INTELLIGENCE QUOTIENT		SEX	SCHOOL DISTRICT RESIDENCE
	X	SD	X	SD		
All	13.5	1.1	71.5	1.3	31F, 31M	29 (School District A) 33 (School District B)
Control	13.5	1.3	71.2	1.3	15F, 16M	14 (School District A) 17 (School District B)
Experimental	13.4	.8	71.7	1.4	16F, 15M	15 (School District A) 16 (School District B)
Experimental I	13.2	2.4	71.8	1.4	8F, 8M	7 (School District A) 9 (School District B)
Experimental II	13.6	.14	71.5	1.3	8F, 7 M	8 (School District A) 7 (School District B)