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THE EFFECTS OF SELECTED PHYSICAL ACTIVITIES ON BODY-IMAGE OF EMOTIONALLY DISTURBED ADOLESCENT BOYS

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by

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ABSTRACT

ORTIZ, Thomas N.,: The Effects of Selected Physical Activities on Body-Image of Emotionally Disturbed Adolescent Boys

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Purpose of Study: The purpose of this study was to determine the self concept as measured by the two criteria of body-cathexis and self-cathexis of emotionally disturbed boys through an eight-week program of selected physical activities. The selected physical activities were used to determine if body-image of emotionally disturbed boys could be improved or changed.

Statement of Problem: This study was designed to determine if there was a significant difference between the body-cathexis and self-cathexis of emotionally disturbed boys (ages 13-18) who participated in an eight-week program of selected physical activities, and emotionally disturbed boys (ages 13-18) who did not participate in an eight-week program of selected physical activities as measured by the Secord Body-Cathexis Questionnaire.

Procedure: Two groups of emotionally disturbed boys participated in the study: (1) an experimental group, which numbered eighteen boys who participated in the selected physical activities program of weightlifting, tennis, softball and swimming, with classes forty-five minutes long, five days a week for eight weeks; and (2) a control group which did not participate in the eight-week, selected, physical activities program. This second group participated in physical activities of their choice, on their own time, and at their convenience after school. Both groups were tested before and after the eight-week period by the Secord Body-Cathexis Questionnaire in order to determine changes that occurred in body-image. The analysis of variance was used as the statistical computation for the data.

Conclusions: Within the limitations of this study, it was concluded that body-image of emotionally disturbed boys enrolled in a selected physical activities program and emotionally disturbed boys not enrolled in the same program did not improve significantly. It was also concluded that summer was not a good time to conduct research of this type in a school curriculum such as Southard School because of the unstable atmosphere.

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Approved for the Major Department

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INTRODUCTION

Body-image has been defined as the "image of our body which we form in our mind, the way in which our body appears to ourself" (25:11). In the male, the important features seem to be height, muscular development, strength, length of the penis, presence of testes, and hirsutism (11:636). Although these features are generally found in adolescents, there are of course many individual differences in both the quality and quantity of each physical characteristic. Moreover, these features change as the adolescent grows older and they continually create in him a new vision of his ever-changing body-image.

Normal adolescents, according to Caplan (3:45), find their bodily changes strange and are concerned about how they compare with their friends, but the emotionally disturbed child finds these changes even more difficult to accept. Two studies (6, 27) have shown that the more emotionally disturbed an adolescent is, the less tolerant he is of his physical self.

With an awareness of the importance of body-image to the adolescent himself, knowledge of body-image can also help the physical education teacher in understanding, of relating and working with these boys (3:42). For example, Caplan (3:43) stated that some adolescents mature later than others (delayed adolescence) causing them undue concern about their bodies because they are not equal in development with their peers. Furthermore, even adolescents within the normal range of

development find they cannot accept themselves as to some aspect of the appearance and function of their body.

Many of the problems of adaptation in adolescents which cause a disturbance to their body-image may be real or exaggerated. If the defect is real and can be altered, it may be desirable to modify it through diet, exercise, plastic surgery, or medication. If it cannot be changed, however, the physical education teacher must help the adolescent accept, understand and develop an insight into the difference between being abnormal or not being average. Therefore, an understanding of the concept of body-image can help the teacher in dealing with the problems of adolescents.

In addition to having knowledge of body-image in itself, it might be beneficial for the physical educator to know how physical education affects body-image. Through the various physical education games and activities in which the emotionally disturbed child participates, such as running, jumping, throwing and hanging, muscles are used, strength is developed and apparently growth is fostered. For example, to quote one authority, Edwin Levy (19), a Child Psychiatrist at the Menninger Foundation, stated that apparently as the child's abilities and skills improved in physical activities so did his body-image. Furthermore, one study (18) suggested that an individualized physical development program can be of significant value in the total functioning of the child. Therefore, it would be interesting and of value to the physical education professional to study further the emotionally disturbed child's body-image and the possible effects participation in a physical education program might have upon that image.

Moreover, Vincent and Dorsey (29:490) have stated that there is presently a lack of information concerning body-image in general. More specifically, there has only been a limited amount of body-image research dealing with emotionally disturbed children and physical education. With this thought in mind, the researcher hoped this study would shed further light on this important subject.

THE PROBLEM

The Menninger Foundation Children's Hospital is a residential treatment center for emotionally disturbed children. Southard School is the educational facility these children attend and is located within the residential treatment center. This school provides facilities for academic and physical education classes for elementary and senior high students in treatment. At some time during their treatment period most boys enroll in the physical education program.

It has been observed by the researcher that each boy in the physical education program appeared to perceive himself differently. For example, it appeared that boys who were slow to develop physically or mentally were frequently teased or rejected more by their peers. As a result, these boys seemed to see themselves as being inferior when comparing themselves with their peers, and generally indicated this feeling in their overt behavior. At times, this feeling of inferiority appeared to be illustrated by the negative behavior exhibited in physical education classes such as hostility toward their peers and their teacher, lack of motivation, and a general negative attitude toward physical education.

It was also observed that some of the boys seemed to be more satisfied with various parts and functions of their bodies than others. This kind of satisfaction is known as body-cathexis, which also includes dissatisfaction. Secord (26:344), for example, carries the term further to include morals, conscience, personality and self-awareness, to all of which he gives the term self-cathexis.

From observations made by the investigator, it appeared that there was a high degree of relationship between an individual's attitude toward self and the individual's outward behavior as demonstrated in various physical education classes. It was apparent to the researcher that a study was needed to investigate the concept of body-image of emotionally disturbed adolescent boys and the effects that physical education had upon their self concept.

Statement of the Problem

Is there a significant difference between the body-cathexis of emotionally disturbed boys (ages 13-18) who participated in an eight-week program of selected physical activities and emotionally disturbed boys (ages 13-18) who did not participate in an eight-week program of selected physical activities as measured by the Secord Body-Cathexis Questionnaire?

Is there a significant difference between the self-cathexis of emotionally disturbed boys (ages 13-18) who participated in an eight-week program of selected physical activities and emotionally disturbed boys (ages 13-18) who did not participate in an eight-week program of selected physical activities as measured by the Secord Body-Cathexis Questionnaire?

Statement of the Hypothesis

There is no significant difference between the body-cathexis of emotionally disturbed boys (ages 13-18) who participated in an eight-week program of selected physical activities and emotionally disturbed boys (ages 13-18) who did not participate in an eight-week program of selected physical activities as measured by the Secord Body-Cathexis Questionnaire.

There is no significant difference between the self-cathexis of emotionally disturbed boys (ages 13-18) who participated in an eight-week program of selected physical activities and emotionally disturbed boys (ages 13-18) who did not participate in an eight-week program of selected physical activities as measured by the Secord Body-Cathexis Questionnaire.

Purpose of the Study

It was the purpose of this investigation to determine the self concept as measured by the two criteria of body-cathexis and self-cathexis of emotionally disturbed boys through an eight-week program of selected physical activities. The selected physical activities were used to determine if body-image of emotionally disturbed boys could be improved or changed.

Significance of the Study

As the cost of education increases, administrators in the field of education are constantly thinking of new ways to save on the budget. Consolidation of schools and removing certain programs from the cirriculum are two of the many ideas that are put into effect by school administrators. Usually, one of the first programs to be removed from the school curriculum is that of physical education, some of the reasons being lack of facilities, personnel, cost and lack of worth of the

program. This removal is unfortunate for school systems where this occurs because if administered properly, physical education programs can benefit those participating in them. Therefore, the significance of this study is important because it will attempt to show if a program of selected physical activities can improve the body-image of emotionally disturbed boys through their participation in them. It is also hoped that knowledge gained from this study can be applied to normal children.

DEFINITION OF TERMS

This section has been set aside for the definition of terms.

Cathexis

Cathexis refers to the affective value of an object, idea, or action; its energizing value (7:77).

Body-Cathexis

Body-cathexis refers to the individual's degree of feeling of satisfaction or dissatisfaction with the various parts or processes of the body (26:343). Parts of the body refer to the nose, hair, arms, legs, and waist. Processes of the body refers to terms such as ability to concentrate, skill with hands, voice, breathing and muscular strength.

Self-Cathexis

Self-cathexis refers to the conceptual aspects of the self (26:345). Some examples of the conceptual aspect of the self are self-understanding, personality, and degree of self-consciousness.

Self

The self is that aspect or part of the person which carries out psychic, mental, or psychological acts; the agent for behavior as

distinguished from physiological activities (7:485).

Ideal Self

Ideal self refers to the grandiose overestimation of the self based on identification with the idealized image. The identification is a defense against the recognition of the gap between the person as he really is and the person which his neurotic pride says he should be (idealized image) (14:373).

Body Concept

Body concept refers to an evaluative representation of one's own body with special emphasis upon how one thinks it looks to others. This concept includes body functioning as well as structure (7:70).

Neurosis

Neurosis is a mental disorder ill-defined in character but milder than psychosis (7:344).

Psychosis

Psychosis is any severe, specific mental disorder or disease process that has a characteristic origin, course, and symptoms (7:428).

Normal Adolescents

Normal adolescents are those adolescents of average intelligence or development that are free from any mental defect or mental disorder and are not insane or neurotic (20:1665).

Emotionally Disturbed Children

Emotionally disturbed children are those children that have a mental illness that includes neurosis, character disorder, or psychosis.

This distinguishes them from the physically retarded. Also, this term refers to children that cannot function in an orderly classroom because of these problems (19).

Menninger Foundation Children's Hospital

Menninger Foundation Children's Hospital refers to a residential treatment center for emotionally disturbed children in Topeka, Kansas.

Southard School

Southard School is the educational facility for the emotionally disturbed children of the Menninger Foundation Children's Hospital. It is a combination elementary and senior high school located within the treatment center.

Secord Body-Cathexis Questionnaire

The Secord Body-Cathexis Questionnaire is an instrument used to measure body-image.

Selected Physical Activities

Selected physical activities refers to the physical activities used in the study which were weightlifting, tennis, softball, and swimming.

Hirsutism

Hirsutism refers to the excessive growth of hairs on the body.

LIMITATIONS OF THE STUDY

1. The study was limited to emotionally disturbed children at the Menninger Foundation Children's Hospital.

2. It was impossible to determine the amount of memorization between the pre and posttests of the Secord Body-Cathexis Questionnaire.

3. It was impossible to control the activities the control group engaged in during the eight-week study.

4. It was impossible to control the weather which determined to an extent the amount of participation outdoors.

DELIMITATIONS OF THE STUDY

1. Emotionally disturbed boys from ages thirteen through eighteen were used in this study.

2. The Secord Body-Cathexis Questionnaire was used as the instrument to determine body-image. The reader is referred to Appendix A, p. 52.

3. The physical education activities in this study were limited to weightlifting, tennis, softball, and swimming.

4. The techniques, procedures, and management of this program were those of the author.

Chapter 2

REVIEW OF RELATED LITERATURE

The concept of body-image has been recognized for centuries with the first written account appearing in the sixteenth century. However, little is known concerning the relationship of body-image to the field of physical education. Only recently has interest been expressed in their relationship with knowledge being slowly gained through various studies. Even less is known of the concept of body-image and its relationship to emotionally disturbed children and physical education. In order to clarify the body-image concept, this chapter has been divided into three sections: section one, a brief history of body-image; section two, related literature of body-image and its relationship to physical education; and section three, summary and conclusions.

History of Body-Image

The concept of body-image is difficult to trace in an historical sense because of its use in a number of fields of thought. Body-image has been used in the fields of psychology, neurology, sociology, and most recently, physical education. It has been referred to in the literature as the self, me, body ego, self-identity, self concept, self-awareness, body schema, and body concept. In the literature, body-image was applied to personality, child development, diseases, the handicapped, the physically fit, and to an endless amount of other references.

The first written account of body-image and the disturbance caused to amputee's body-image because of amputation was that of Ambroise Paré, a sixteenth-century French surgeon (1:749). He noticed that after amputation his patients experienced the "phantom limb" phenomenon. Fisher (8:59) explained that the "phantom limb" phenomenon refers to the fact that after an individual has had an amputation, or the loss of a limb, he usually experiences an illusory feeling of continued presence of the missing limb. It is as if the amputated limb were still a part of the body and a source of sensations. Paré (1:750) advised other surgeons to proceed with additional amputation if needed, regardless of the occurrence of the phantom limb phenomenon.

Before the turn of the century, a French neurologist Bonnier (9:4) was carefully observing distortions in body attitude exhibited by some of his patients. For example, he noted an instance in which one of his patients actually felt that his whole body had completely disappeared (aschematia). He documented other distortions with clinical data and offered some suggestions as to their importance. From Bonnier's work, it was recognized that body-image was a concept worth studying.

William James (16:177), an American psychologist, in 1910 placed the self as being important in psychological thinking. He divided the self into two classes. The first class was the Me, the second the I. The Me was subdivided into three classes: the material me, the social me, and the spiritual me. These made up the sum total of what a man could call his. Class two, the I, was that which at any moment is conscious, whereas the Me is only one of the things of which it is conscious.

In 1920, Henry Head (13:605), a British neurologist, was one of the first persons to develop an elaborate theory concerning body-image. He thought that each individual gradually constructed a picture of himself which becomes a standard against which all body movements and postures were judged. Without this standard or schema, he could not see how the individual could change from posture to posture smoothly. He also stated that each new movement made was dependent on a previously learned one. He proposed that some form of body-image was one of the fundamental standards in an individual's judgment system. Fisher and Cleveland (9:5) affirmed that there was no doubt that Head influenced the thinking of many other neurologists even though he never seemed able to define with any specificity how a schema was organized or how it actually influenced judgments.

The book Remembering, written by F.C. Bartlett (21:61) in 1926, was, in part, influenced by Head. Whereas Head referred to physical movement, Bartlett referred to memory. He concluded that each individual's current modes of organizing new sensory data was dependent upon the modes of past experience they had built up. In essence, both men referred to the fact that in the process of learning, the simple must be learned before the difficult can be mastered.

Body-image created a large amount of interest in Austria and Germany in the 1920's and 1930's. The beginnings of a number of our current body-image ideas were developed there. Fisher and Cleveland (9:6) reported that a group of doctors in the fields of neurology and psychology, among which Paul Schilder was a member, published a large series of papers which described important neurological syndromes involving body-attitudes distortions and which tried to define the reasons of or for the syndromes.

At that time body-image distortions were observed clinically, gradually classified, and grouped into four groups. The first group concerned itself with symptoms that involved neglect of one side of the body. This neglect included not moving one side of the body or even denying the existence of that side. The second group was involved with symptoms of denial of impairment of any given body part. For example, having a paralyzed limb and the patient denying something was wrong with it would fit in this group. Group three included generalized feelings of depersonalization and in some cases not having a body at all. Unusual feelings or sensations from the body, such as deadness and heaviness, made up the last group. Overall, the work of that group of doctors showed that there was almost no limits to the kinds of body-image distortions individuals with brain damage might develop.

Schilder (25:17-114), in 1935, wrote the most detailed description of the body-image phenomena to the present time. He not only included the individual, personal, or psychological investment in one's body and its parts, but also a sociological meaning for both the individual and society. He was one of the first neurologists to go beyond the neurological area of the body with body-image. Because of its vastness in material covered and relative difficulty of the material, the reader is referred to Schilder's book, The Image and Appearance of the Human Body.

There was a considerable amount of literature written on personality and self concept theories during the 1940's and 1950's. Wylie (30:3-4) reported that these theories were in many ways incomplete, ambiguous, and overlapping; and no one theory received large amounts of systematic empirical exploration. The ambiguities in the measuring

instruments of these theories could be traced partially to inadequacies in theorists definitions of their terms (30:4). For an explanation and listing of some of these theories, the reader is referred to the book, The Self Concept by Ruth Wylie.

From the 1950's to the present, measuring the body-image phenomena was emphasized in the literature. Instruments, some of which used complex measuring techniques, were used to measure body-image pathological phenomena and also normal behavior. For a list and some of the studies these instruments were used in, the researcher recommends the book, Body Experience in Fantasy and Behavior by Seymour Fisher (8).

English (7:413) described the first instruments used for measuring body-image, which were the projective tests, divised to get information about an individual's body-image by the individual drawing a person or drawing the inside of a person. The person doing the drawing would draw a human figure and unwittingly attribute some of their traits to it. By studying the drawing, interpretations about the subject could be made from the drawing. Since there are as few restrictions and directions as possible upon the mode of response, it was thought that one's current mood would determine the response. Inkblots, cloud pictures, cartoons, vaguely defined pictures, incomplete sentences, play materials, and drawings were some of the materials that have been used for this type of test.

English (7:548) also described the second type of measuring instrument, the objective test. In this type of measuring technique, the subject responded to questions which tried to measure how he experienced his body. Individual differences in behavior were measured; and, as far as possible, the influence of the examiner's bias or opinion

were eliminated. Answers to these tests could be recorded in a simple form such as checking a prescribed space, or writing yes or no. The answers were then compared to a standard answer.

There have been a great number of instruments and techniques devised to measure certain aspects of body-image. Body-image was measured by the use of mirror images and photographs. Techniques were used to measure defensive people, aggressiveness, body build, sex differences and so on, with the same goal, that of measuring and finding out more about body-image.

Related Literature of Body-Image and Physical Education

There is a vast amount of literature concerning the concept of body-image, but the literature connecting body-image and physical education is sparce. Literature that concerns itself with body-image and changes that occur due to participation in a physical education program involving emotionally disturbed children is even more limited.

In 1962, Holden (15:19) undertook a study to determine if a two-week summer camp experience had an effect on the body-image of physically handicapped children. The children participated in baseball, swimming, fishing, hiking, and handicrafts. There were sixty-nine handicapped children, ages six through twelve, which were divided into two experimental groups. These children had cerebral palsy and post-poliomyetitis. A control group, also divided into two groups, was used and consisted of sixteen non-handicapped for the first control group and forty handicapped children in the second control group. Both of these groups were enrolled in school and did not attend summer camp.

Before the start of summer camp and school, all of the children drew a human being drawing. Then they participated in the activities

during the two weeks of summer camp. After the summer school program was completed, all of the children drew another drawing of a human being. Every child's before and after drawings were compared, and the best one was selected by a panel of six judges. The best drawing was judged by nearness to human resemblance, size, detail (fingers, ears, nose, eyes), perpendicular stance, and, sometimes, movement. However, there were not any clues to any athletic or camp activity in the drawings that could have influenced the judges choice of drawings. The judges never knew whose drawing they were judging.

Holden concluded that there was a significant change in body-image of physically handicapped children due to the summer camp experience because the drawings selected were the best ones of the experimental groups. These selected drawings were made after the summer camp experience. There was no improvement in the drawings of the control group enrolled in the ordinary school setting.

In a similar study, Townsend (28:2388) investigated the effects of four weeks of a summer day camp experience on the self concept of sixty-two educable, mentally retarded adolescents. (In that study self concept had the same meaning as body-image). The children were divided into a control group and an experimental group with thirty-one adolescents in each group. Attendance of the summer day camp was only for the experimental group and did not include the control group. Further divisions were made to the experimental group. It was divided into two groups; the first which received educational treatment designed to improve academic self concept consisting of praising successful performance on reading and arithmetic tasks; the second which received treatment designed to improve physical skills self concept by praising

successful performance in physical education and hand-eye coordination tasks.

Both groups were evaluated (study did not mention how) before camp, immediately after camp, and one semester after camp. The purpose of the evaluation was to note changes in general self concept and/or academic achievement. Townsend found that giving educable, mentally retarded adolescents an experience to improve either academic or physical skills self concept resulted in greater immediate gain in general self concept than giving no treatment at all. However, the gain was lost over a period of one semester.

In 1967, Johnson, Frentz, and Johnson (18:560-565) undertook a study to investigate the changes that occurred in children's self concept (the child he was) and ideal self concept (the child he would like to be) during six weeks in a clinic. The group numbered seventy-four children, ranging in ages from four to seventeen years with the median age being nine years. Of these sixty-three males and eleven females, there were twenty-eight emotionally disturbed children, thirty-one mentally retarded children, and fifteen brain damaged children. Nineteen of the children were labeled hyperactive, and twelve of them were labeled as aggressive. All of the children attended the clinic six weeks, twice a week, for one to two hours per visit. A swimming pool and a gymnasium were provided by the clinic for individualized, systematic, play-oriented, neuromotor-perceptual training. Interactions and relationships with other children were encouraged whenever possible, but the clinician-child relationship was basic (they were together all of the time). Clinicians were persons with training and experience in physical education and working with children.

The children were measured before and after the clinic in self concept (the child he was) and ideal self concept (which child he would like to be) of the body in height, weight, and arm and leg length. Interpersonal relationship choices and the type of activity preferred, whether it be individual or group, were also measured.

Self and ideal self concepts of the body were measured by presenting each child with ten figures of his or her own sex. Each figure was larger than the one before in the order of height, weight, arm length and leg length. Each child chose the figure he was (self concept) and the figure he wanted to be (ideal self concept). Self choice, ideal choice, and self-ideal discrepancy were recorded.

Interpersonal situations were measured for self and self-ideal concepts by having each child look at a sheet with six clusters of circles, two clusters each of one, two, and four circles. Each child was then asked to identify the circle he was and the circle he wanted the most to be. The clinician was also placed in some of these circle clusters, and he was identified by a square. The child was also scored on whether he selected a circle cluster including or excluding the authority figure.

A child's choice for type of activity was recorded by his or her choice from fifteen strips with three pictures on each strip. Each strip contained a picture of solitary idleness, solitary task activity (building a house), and a picture that showed group activity. The child was asked to tell which child he was (self concept) and which child he would like to be (ideal self).

After a comparison of preclinic and postclinic scores were made, significant changes were found in a decrease in self and self-ideal

discrepancy on height but none on the other parts of the body and activity orientation. They also found an increase in willingness to be with larger groups of children and an increase in willingness to be near the clinician.

Fulton (10:3486-3487), in 1968, conducted a study to investigate the effect a twelve-week physical education program, aimed specifically at the improvement of certain selected physical abilities, had on the body-image and self concept of college-aged males. The Secord Body-Cathexis Questionnaire was used to measure body-image and self concept. An eight item physical performance test measured the physical abilities of the students, which were 151 freshman and sophomore males, enrolled in the basic instruction program of physical education at Temple University. (These eight items were not explained in this particular abstract). The experimental group met twice a week in the physical education program, while the control group did not meet at all. Both groups were tested before and after the twelve-week period of physical education. The findings showed a significant improvement in the performance level of the experimental group, but it revealed no significant modifications of either the body-image or self concept variables.

In another study, Read (22:4312-4313) investigated the influence of competitive and non-competitive programs of physical education on body-image and self concept. These concepts were measured by the Secord Body-Cathexis Questionnaire and the Tennessee Self-Concept Scale and were administered before and immediately after the study. The competitive group had thirty-seven boys, and the non-competitive group had thirty-two boys.

No significant differences were found in body-image and self concept between both groups. However, the results indicated that those subjects that were constant winners had significantly higher positive body-image and self concept scores than those who were constant losers in the competitive program of physical education. This suggested that physical education could benefit physically as well as psychologically. However, what needed to be done was to determine the critical point where losing begun to have a detrimental effect on one's concept of self. The subjects who fell within the middle, that is, never winning all of the time nor losing all of the time either, were found not to have changed significantly in body-image and self concept. It was also significantly found from a non-statistical standpoint that the non-competitive group was more disorderly and uninterested in the program than the competitive group.

Clifford and Clifford's study (4:241-248) involved fifty boys enrolled in a survival training school for a period of one month. They wanted to find the effect a month of rigorous physical conditioning exercises, from bathing in a cold stream to running and climbing, had on their feelings of self worth and competence. Building physical stamina and pushing each individual to his physical limits in order to develop character (a high degree of tolerance to physical pain) was the object of the school where the study was conducted. Ages of the boys ranged from sixteen to twenty-one years, and a control group was not used. The tests were administered before the start of the month and immediately before completion of the project at the end of the month. Clifford and Clifford showed significantly that the self was viewed more positively, and that the discrepancy between self concepts and ideal self concepts become

smaller.

In 1970, Rohbracher (23:1905-1906) conducted an investigation that examined the influence of a special camp program for obese boys on weight loss, body-image, and self concept. The obese boys were grouped for statistical purposes by the degree of obesity, maturational level, religion, parental status, and parental obesity. Secord's Body-Cathexis Questionnaire and a Homonym Test of Body anxiety were the tests administered on a pre, post, and post-post basis. A control group was not used in the study. The experimental part of the study lasted eight weeks, and the follow-up phase lasted sixteen weeks.

Rohbracher found that weight loss during camp was not significantly associated with a positive change in body-image and self concept, but that weight change after camp was positively associated with change in body-image but not with self concept. Self concept seemed to be fixed in the more mature boys and relatively unaffected in all of the subjects the entire length of the camp. He also found that as some of the subjects gained weight during the follow-up study, they developed anxiety feelings toward their bodies.

Collingwood and Willett's study (5:411-412) also dealt with obese boys whom they investigated for the effects of physical training on self-attitude (an evaluation of one's own self or personality) changes. They believed that these subjects would show significant changes in physical fitness performance, positive body attitudes, and a significant decrease in real verses ideal self-discrepancy.

Five males between the ages of thirteen and sixteen enrolled in the three-week obesity program. One hour per day was spent in the gymnasium, and one hour per day was spent in the swimming pool by these

five obese boys. They also received three hours of group counseling discussion. Workouts for these boys in the gymnasium consisted of jogging and calisthentic exercises. Workouts in the swimming pool consisted of bobbing, floating, sprints, and endurance swimming. Both programs stressed all out effort each day. The subjects were tested before and after the three-week obesity program by physical fitness tests, the Body Attitude Scale, and Bill's Index of Adjustment and Values, which measures self concept, self acceptance, and ideal self.

The subjects exhibited significant increases in physical performance and weight loss and also showed a significant increase in self concept and self-acceptance, and a non-significant increase on the ideal self. However, a significant decrease was found between self concept and ideal self. These findings indicate that physical training provided a good experience in growth and success and also gave the subjects positive information about themselves concerning their self-attitudes.

Summary and Conclusions

The concept of body-image has existed for centuries. In the sixteenth century, Paré (1) recorded the "phantom limb" phenomenon and its affect on the body-image of amputees. Bonnier (9) brought the body-image to a status of importance for study through his clinical study of distortions exhibited by his patients. In the early 1900's, James studied body-image in relationship to psychology, dealing particularly with personality reactions to changes of body-image. In 1920, Head (13) developed the elaborate theory that some form of body-image was one of the fundamental standards in an individual's judgment system. At the same time current concepts of body-image were developed in Austria and

Germany. An even more detailed account concerning body-image was written by Schilder (25). In the 1940's and 1950's, a considerable amount of literature was written about personality and self concepts, but they were vague. Measuring the body-image phenomena was emphasized since 1950. Within the two categories, projective and objective tests, a great number of instruments for measuring body-image have been developed.

Literature that concerns itself with body-image and changes that occur due to participation in a physical education program involving emotionally disturbed children is even more limited. Most of the studies in the review of related literature showed favorable results between body-image and physical education. Holden (15) and Townsend (28) found that summer camp could improve the body-image and self concept of physically and mentally handicapped children. Read (22) suggested that physical education could benefit the participants, physically, as well as psychologically. However, what needed to be done by the physical education teacher was to determine the critical point where losing began to have a detrimental effect on one's self concept. Rohbracher (23) found that weight loss of obese boys was not significantly associated with a positive change in body-image and self concept. However, Collingwood and Willett (5) found that the subjects showed significant increases in physical performance and weight loss, and a significant increase in self concept.

In a majority of the studies reviewed, the subjects improved their body-image and self concept. Therefore, in conclusion, the studies seemed to show that having the knowledge of body-image might be beneficial in the administering of a good physical education program.

Chapter 3

METHODS AND PROCEDURES

The purpose of this study was to determine whether or not an eight-week, selected, physical activities program could change the body-images of emotionally disturbed boys. A control group and an experimental group were used in this study, and both groups were tested before and after the eight weeks of summer school during the summer of 1972. The instrument used to appraise the body-image concept of the two groups was the Secord Body-Cathexis Questionnaire. Results for the pretest and posttests were calculated after both tests had been completed by all of the boys involved in the study.

A review of the related literature was conducted in order to gain insight and knowledge of body-image and of previous research conducted in the field of body-image and physical education for emotionally disturbed boys. Some of the psychiatrists and psychologists from the Menninger Foundation were consulted concerning both the design and proper procedures to follow in the investigation. They were consulted in order to gain their knowledge of proper testing techniques and procedures to follow in the actual testing situations.

NATURE OF THE SELECTION OF SUBJECTS

Subjects for this study were drawn from a population enrolled at Southard School of the Menninger Foundation, a residential setting for emotionally disturbed boys. There were thirty-eight boys, ages

thirteen through eighteen, involved in the study. These boys were chosen for the study because that age group made up the biggest percentage of the total population of the school. It was assumed that boys younger than thirteen would have had difficulty understanding the questionnaire. These thirty-eight boys were divided into two groups: the first group of eighteen boys were classified as the experimental group and were enrolled in physical education classes; the second group of twenty boys used were treated as the control group and were not enrolled in the physical education program.

As mentioned in the previous paragraph, the boys were divided into an experimental group and a control group. The experimental group consisted of eighteen emotionally disturbed boys who were enrolled in physical education classes. The purpose of this group was to participate in the selected physical activities for eight weeks to see if the body-image was affected by their participation. Lesson plans for this group were kept for the entire summer and have been placed in the appendix (Appendices B and C, pp. 56 and 62). Four of the eighteen boys were enrolled in swimming classes only, and five boys were enrolled in both physical education and swimming classes, which happened by chance and was not predetermined by the researcher. The remaining nine boys were enrolled only in the physical education classes. Swimming classes, taught by qualified Red Cross instructors, consisted of the Senior and Junior Life Saving courses. After school and in the evenings, the experimental group participated in the activities of tennis, bike riding, swimming, softball fishing, football, bowling, weightlifting, miniature golf, horseback riding, water skiing, pool, walks, and jogging. A complete list may be found in the appendix (Appendix G, p. 74). A diary was kept by the

researcher on each boy of the experimental group that indicated the different activities he participated in and the length of time (in hours and/or minutes) spent in each activity. This record was kept for all thirty-eight boys in the study every day including weekends of the entire summer school. At the end of the summer, the total time was compiled for each activity in which each boy participated (Appendices G and H, pp. 74 and 76).

In physical education classes, prior to the summer school program of 1972, the boys were asked if they were willing to cooperate with the researcher and be part of the investigation, one that dealt with body-image and physical education. Body-image was explained to them by the researcher, and they were told that they would take a body-image test before and after the eight weeks of summer school. The scores of the pre and posttests would then be compared. After they agreed, permission to conduct the research was sought and granted from the school principal and from the boys' residential psychiatrists. Finally, permission was granted by the Hospital Council which consisted of a social worker, the school principal, seven residential psychiatrists, and the director of the Children's Hospital (that division of Menninger's which includes Southard School). The researcher went before the Hospital Council and explained the purpose and procedures of the investigation.

The control group consisted of twenty emotionally disturbed boys that were not enrolled in any part of the physical education program. However, this group was important because changes in the body-image, if any, were to be compared to the body-image changes of the experimental group after the eight weeks of summer school. In other words, the experimental group was to participate in physical activities in a physical

education program to determine if the body-image would be affected. The control group did not participate in any physical activities in the physical education program.

Eight of the twenty boys were not enrolled in school during the summer of 1972. They participated in the same activities as the experimental group after school and during the evening. Participation in activities also occurred during school for these boys on the treatment center grounds. These were restricted to their residence and were not given "off grounds" privileges. The other twelve boys of the control group were enrolled in school, but had fewer restrictions due to their individual progress in treatment. Five of the twenty boys did not participate in any activities during the summer. A diary, or record, was also maintained for this group in exactly the same manner as for the experimental group.

EQUIPMENT AND FACILITIES

Physical education classes were conducted under the administration of Southard School with the researcher in control of them. The swimming classes were conducted at the West Campus swimming pool, which is located two miles west of Southard School, and were directed by qualified Red Cross swimming instructors. The researcher attended these classes not as a swimming teacher but as the teacher responsible for having the swimmers off Southard School grounds. He also dealt with all discipline problems that occurred at the pool.

Conducting the rest of the physical education program required the following facilities: two tennis courts, a softball diamond, and the school gymnasium. The weightlifting part of the program was conducted in

the school gymnasium because the regular weight room was too small to accommodate the weightlifting classes. Southard School also provided tennis balls and rackets; softballs, bats, and some gloves; and weights, mats, and bench press benches. The researcher's office was used to administer the questionnaire. This measured six by eight feet and had two small desks, two chairs, a bookcase, a ceiling light, and one desk lamp.

MATERIALS AND INSTRUMENTATION

The instrument used to determine body-image was the Secord Body-Cathexis Questionnaire. This test was recommended by Marjorie Stone, professor, Kansas State Teachers College of Emporia, Kansas. In the review of the literature the questionnaire was discussed at length. In a number of studies, it was substantiated as a reliable instrument for measuring body-image. Secord and Jourard showed a reliability of .81 for body-cathexis and .90 for self-cathexis. They showed through the questionnaire that feelings about the body were commensurate with feelings about the self (26:347). Johnson's (17:146) study showed the reliability of the questionnaire through the test-retest method. After comparing results of two sets of the Secord Body-Cathexis Questionnaire (one had been given eight weeks later) a reliability of .72 was derived for body-cathexis and .74 was compiled for self-cathexis. Rosen and Ross (24:100) had a reliability of .62 for body-cathexis and self-cathexis scores combined.

Toward the end of the spring semester, May of 1972, those subjects that had consented to be part of the investigation were told by the researcher that they would take a body-image questionnaire at the

beginning of the eight weeks of summer school (pretest). At the same time, they were informed that they would take the identical questionnaire after the eight weeks of summer school were completed. During this same period, body-image was not mentioned or discussed with the students. The purpose, of course, was that the results of the posttest would not be biased in either direction.

Thomas Cummings, Chief Psychologist of the Menninger Foundation for Southard School, was consulted in order to benefit from his experience in administering questionnaires of this type to emotionally disturbed boys. Cummings was in charge of the testing program at Southard School. He suggested that each subject take the test individually with the researcher present in the same room. By following this procedure, distractions would be kept to a minimum as compared to the whole group taking the questionnaire at the same time. In addition, it was suggested that the results would be of a higher quality, more reliable and more meaningful.

Therefore, the boys that were enrolled in school took the test in the researcher's office which provided the privacy that was desired for administering the questionnaire. Of the thirty-eight subjects in the study, twenty-eight took the test in the researcher's office. The remaining ten subjects took the test in the privacy of their own room. This was necessary because they were not enrolled in school because it was felt by their treatment team (therapist, residential psychiatrist, workers, social worker, teachers) that they were not ready emotionally for it. Because of this, the researcher went to their unit (where they lived) and administered the test. They were not allowed to come to the school to take the test in the researcher's office. Subjects took the

pretest and posttest in the same room. According to Cummings, the results of this procedure would not be affected in any significant degrees.

The subjects took the pretest and posttest with the researcher present. They were placed at the desk in the researcher's office, given the questionnaire, and told to read the directions. If they came to certain parts of the test they did not understand, the researcher explained that part of the test to them. No time limit was set, and the subjects took approximately ten minutes to complete the questionnaire. The same procedure was followed for these taking the questionnaire in their rooms.

Upon completion of the questionnaire, it was placed inside a manilla envelope. This was done so the researcher could not see the results and be influenced in any way by them. The tests were not examined until after both the pretests and posttests had been administered and completed by the subjects. Manilla envelopes were used to separate the control groups' pre and post questionnaires from the experimental group's tests.

A diary, or record of each subject's daily participation in physical activities during or after school (participation in physical education was not included), was kept. The diary was an important part of the study because it showed the comparison of the total hours of participation for both groups for the entire summer. The results of the diary were tabulated and placed in the appendix (Appendices G and H, pp. 74 and 76).

Each morning at school or before each boy's physical education class, the researcher asked the boys to inform him of the physical activities in which they participated the day before, and the amount of time spent in each activity. This information was then written on each

boy's individual diary, or daily chart. Charts or diaries were kept for each boy in the study, and they had spaces for every day of the entire summer on them. Those subjects that were restricted to residence (not allowed to come to school because of their progress in treatment did not justify their attending school) were visited by the researcher after school and the same information was obtained from them and charted.

STATISTICAL PROCEDURE

The statistical technique used in the analysis of data for this study was the analysis of variance. The analysis of variance is the statistical test used to test for a significant difference between the means of two or more populations.

After the posttest was administered, both sets of questionnaires were programmed and computed on a computor at Kansas State Teachers College, Emporia, Kansas. Data included scores for each subject in body-cathexis, self-cathexis, and a total score (a combination of the two cathexis scores). Results were then compared for any significance that occurred between the two groups in body-image and total time of participation by both groups. A summary of these test results have been tabled (Tables 1-6) in Chapter 4.

Chapter 4

ANALYSIS OF DATA

The purpose of this study was to determine whether or not an eight-week physical activities program could change the body-images of emotionally disturbed boys. A control group and an experimental group of emotionally disturbed boys were tested before and after the eight weeks of summer school. The instrument used to test them was the Secord Body-Cathexis Questionnaire. Tables with the results of body-cathexis and self-cathexis for each group have been included in this chapter.

RESPONSE ANALYSIS

A control group and an experimental group of emotionally disturbed boys were used as the subjects of this research. There were thirty-eight boys in all, with twenty boys in the control group and eighteen boys in the experimental group. Boys in both groups ranged in ages from thirteen to eighteen years of age and were enrolled in junior and senior high school at the Southard School of the Menninger Foundation Children's Hospital.

STATISTICAL ANALYSIS

This study dealt with two specific sections of the Secord Body-Cathexis Questionnaire. Section one consisted of the self-cathexis part of the questionnaire, whereas section two dealt with body-cathexis. In the analysis of the data, tables, and results have also been divided into

the same corresponding sections.

The two groups, experimental and control, participated in physical activities that were not part of the school program. Usually, this participation occurred after school and during the evening. The experimental group participated in 1,098 hours and fifty-five minutes of physical activities, while the control group participated in 464 hours and thirty-five minutes of physical activities. Means were determined for both groups with the experimental group having one of 60 hours and 9 minutes while the control group had a mean of 23 hours and 23 minutes. The experimental group participated in approximately three times more activities after school than the control group did for longer periods of time.

Self-Cathexis. This part of the questionnaire appraised the satisfaction or dissatisfaction an individual had on the various conceptual aspects of the self. Forty items or words were listed in this part of the test, and each one was rated on a five point scale. These items or words were representations of individual characteristics. Words such as temper, sense of humor, ability to lead, and vocabulary were some of the characteristics the individual was asked to measure or appraise. Appraising was done by circling a number (one to five) after each self-trait. If the individual was happy with himself or had strong positive feelings about certain self-traits, he would circle number one. Strong negative feelings about certain self-traits would be classified by circling number five. Number three represented no feeling one way or the other toward that body part or trait while number two was not as great as number one and four was not as great as five. Scores for each individual were obtained by adding all forty of the circled numbers and dividing

the total score by forty.

Control group pre-post test. The mean score obtained on the pretest was 2.651, while the mean value on the posttest was 2.538. With these twenty students, it was found that the pretest mean square was 0.1286 and the posttest square was 0.1680.

Table 1

Analysis of Variance of Twenty Students (Control Group) on the Secord Body-Cathexis Questionnaire Test, Self-Cathexis

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F
Between groups	0.1286	1	0.1286	0.7654
Within groups	6.3873	38	0.1680	
Total	6.5159	39		

Using 1, and 38 degrees of freedom, an F-value equal to or greater than 4.10 was needed to reject the null hypothesis at the .05 level of significance ($F_{1,38} \geq 4.10$). Since the obtained F-ratio of 0.7654 did not fall within the critical region, it would be concluded that there was no significant difference between the population means of the pretest and posttest self-cathexis section of the Secord Body-Cathexis Questionnaire for the control group.

Experimental group pre-post test. The mean score obtained on the pretest for the experimental group was 2.300, while the mean value

on the posttest was 2.251. The pretest mean square for these eighteen students was 0.0216 and 0.1636 for the posttest mean square.

Table 2

Analysis of Variance of Eighteen Students (Experimental Group) on the Secord Body-Cathexis Questionnaire Test, Self-Cathexis

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F
Between groups	0.0216	1	0.0216	0.1320
Within groups	5.5627	34	0.1636	
Total	5.5843	35		

Using 1, and 34 degrees of freedom, an F-value equal to or greater than 4.13 was needed to reject the null hypothesis at the .05 level of significance ($F_{1,34} \geq 4.13$). The obtained F-ratio of 0.1320 did not fall within the critical region; therefore, it would be concluded that there was no significant difference between the population means of the pretest and posttest self-cathexis section of the Secord Body-Cathexis Questionnaire for the experimental group.

Body-Cathexis. This part of the questionnaire appraised the satisfaction or dissatisfaction an individual had with certain parts of functions of his body. Forty words describing certain body parts or functions were listed in this section of the questionnaire, and they were also rated on a five point scale. Words such as hair, nose, legs, waist, and elimination were asked to be appraised in exactly the same way

as the self-cathexis traits. Individual scores were calculated in the same manner as self-cathexis.

Control group pre-post test. The mean score obtained on the pretest for the control group on body-cathexis was 2.700, and the mean value for the posttest was 2.570. The pretest mean square for this group of twenty students was 0.1680, while the posttest mean square was 0.0881.

Table 3

Analysis of Variance of Twenty Students (Control Group) on the Secord Body-Cathexis Questionnaire Test, Body-Cathexis

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F
Between groups	0.1680	1	0.1680	1.907
Within groups	3.3500	38	0.0881	
Total	3.5180	39		

Using 1, and 38 degrees of freedom, an F-value equal to or greater than 4.10 was needed to reject the null hypothesis at the .05 level of significance ($F_{1,38} \not> 4.10$). The F-ratio obtained was 1.907 and did not fall into the critical region; therefore, it would be concluded that there was no significant difference between population means of the pretest and posttest body-cathexis section of the Secord Body-Cathexis Questionnaire for the control group.

Experimental group pre-post test. The mean score obtained on the pretest was 2.393, while the mean value on the posttest was 2.106. With these eighteen students, it was found that the pretest mean square was 0.7438 and the posttest mean square was 0.2394.

Table 4

Analysis of Variance of Eighteen Students (Experimental Group) on the Secord Body-Cathexis Questionnaire Test, Body-Cathexis

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F
Between groups	0.7438	1	0.7438	3.107
Within groups	8.1401	34	0.2394	
Total	8.8839	35		

Using 1, and 34 degrees of freedom, an F-value equal to or greater than 4.13 was needed to reject the null hypothesis at the .05 level of significance ($F_{1,34} \geq 4.13$). Since the obtained F-ratio of 3.107 did not fall within the critical region, it would be concluded that there was no significant difference between the population means of the pretest and posttest body-cathexis section of the Secord Body-Cathexis Questionnaire for the experimental group.

Control group, both scores combined. The mean score obtained for the body-cathexis and self-cathexis combined was 2.671, and the mean value for the same combination on the posttest was 2.548. The pretest mean square for this group of twenty boys was 0.1524, while the posttest

mean square was 0.0960.

Table 5

Analysis of Variance of Twenty Students (Control Group) on the Secord Body-Cathexis Questionnaire Test, Body-Cathexis and Self-Cathexis Combined

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F
Between groups	0.1524	1	0.1524	1.588
Within groups	3.6490	38	0.0960	
Total	3.8010	39		

Using 1, and 38 degrees of freedom, an F-value equal to or greater than 4.10 was needed to reject the null hypothesis at the .05 level of significance ($F_{1,38} \not> 4.10$). However, the F-ratio of 1.588 was obtained, and it did not fall into the critical region; therefore, it would be concluded that there was no significant difference between population means of the combined pre and posttest body-cathexis and self-cathexis sections of the Secord Body-Cathexis Questionnaire for the control group.

Experimental group, both scores combined. The mean score obtained for the body-cathexis and self-cathexis combined was 2.428, while the mean value on the posttest was 2.178. With these eighteen students, it was found that the pretest mean square was 0.5622, and the posttest mean square was 0.1391.

Table 6

Analysis of Variance of Eighteen Students (Experimental Group) on the Secord Body-Cathexis Questionnaire Test, Body-Cathexis and Self-Cathexis Combined

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F
Between groups	0.5622	1	0.5622	4.0416
Within groups	4.7311	34	0.1391	
Total	5.2933	35		

Using 1, and 34 degrees of freedom, an F-value equal to or greater than 4.14 was needed to reject the null hypothesis at the .05 level of significance ($F_{1,34} \not> 4.13$). Since the obtained F-ratio of 4.0416 did not fall into the critical region, it would be concluded that there was no significant difference between the population means of the combined pre and posttest body-cathexis and self-cathexis sections of the Secord Body-Cathexis Questionnaire for the experimental group.

Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

The purpose of this investigation was to determine whether or not an eight-week, selected, physical activities program could change the body-images of emotionally disturbed boys. The Secord Body-Cathexis Questionnaire was the instrument administered before and after the eight weeks of summer school to measure the body-images of both groups.

Two groups of emotionally disturbed boys participated in the study: (1) an experimental group, which numbered eighteen boys, who participated in the selected physical activities program of weightlifting, tennis, softball, and swimming with classes forty-five minutes long, five days a week for eight weeks; and (2) a control group which did not participate in the eight-week, selected, physical activities program. After school this second group participated in physical activities of their choice, on their own time, and at their convenience. The analysis of variance was used as the statistical computation for the data. It is the statistical test used to test for a significant difference between the means of two or more populations.

The findings of this study were as follows:

1. Emotionally disturbed boys enrolled in physical education classes participated in more physical activities and for longer periods of time than those not enrolled in physical education classes (Appendices

G and H, pp. 74 and 76).

2. On body-cathexis, self-cathexis, and total score, the pre-test means of the experimental groups were higher than those of the control group.

3. On body-cathexis, self-cathexis, and total score, the experimental group did not improve at a different rate from the control group.

4. The control group's body-image improved even though they were not enrolled in physical education classes.

CONCLUSIONS

One of the conclusions drawn from the review of related literature was that the body-image of emotionally disturbed children could be improved by participation in physical activities. However, the results of this study did not support the conclusion drawn from the review of related literature. Specifically, on body-cathexis, self-cathexis, and total score, the obtained F-ratios did not fall into the critical region; therefore, the null hypothesis was retained.

Some of the major factors that were discussed in the review of related literature have been compared to the findings of this study. Since there is some discrepancy between the findings of this study and some of the major factors discussed in the review of related literature, a discussion of these factors follows.

One of the findings previously stated was that emotionally disturbed boys enrolled in physical education participated in more physical activities (approximately three times more) than those emotionally disturbed boys not enrolled in physical education. Reasons for this

significant difference were that the experimental group enjoyed the active participation, were further along in their treatment process, were healthier, and were more advanced in their skills and knowledge of the activities.

In contrast, the control group did not participate as frequently in the physical activities as the experimental group, one of the reasons being that some of them had no desire to do so. Others did not have sufficient skills nor adequate knowledge of the physical activities to perform comfortably; therefore, they did not participate to an extensive degree. Finally, it was felt by those responsible for the treatment of these boys that they (boys) were not far enough along in their treatment to warrant extracurricular activities in addition to therapy.

It was also found that on body-cathexis, self-cathexis, and total score the pretest means of the experimental groups were higher than those of the control group. A factor that could have had a result in that finding was that both groups did not start with the same scores. The experimental group obtained higher scores on the pretest than the control group; therefore, room for improvement was not as great for them as it was for the control group. Factors that helped the higher scores by the experimental group could have been that group's greater involvement in their treatment process and their school work, as well as their better body-image.

An unusual and unexpected finding was that the body-image of the control group improved, even though they were not enrolled in the physical education program. It was concluded that factors which contributed to that change were the maturation of the boys and also the the progress of their treatment at the Menninger Foundation. Each boy

had therapy with a psychiatrist at the Menninger Foundation, with the goal that each boy's problems had to be worked out or understood. The boy also had help from a social worker, a residential psychiatrist, teachers and child care workers (aides). These people helped the control group with their everyday problems by personal involvement with them. Also, the fact that these boys participated in some physical activities on their own time could have accounted for the change in their body-image.

Changes in body-image for both groups occurred approximately at the same rate and approximately the same amount in the eight weeks of the study. According to the Secord Body-Cathexis Questionnaire, the boys did not rate their body-images significantly different in this short period of time. One would therefore conclude that raising the body-image of an individual most likely takes a greater period of time than these boys had. It could also be that because change in body-image is a slow process, more knowledge must be attained about this concept before results can be predicted.

It was also concluded that summer was not a good time to conduct research of this type in a school curriculum such as Southard School of the Menninger Foundation because of the unstable atmosphere and of the inability of the researcher to control the environment.

The unstable atmosphere that prevailed was caused by the loss of some of the boys' therapists and/or psychiatrists that had completed their training program. For example, doctors that have had the boys in psychiatric treatment complete their training in psychiatry at that time and leave. The loss of his therapist was very important to each boy and was keenly felt. In addition, summer vacations by other members of the

treatment team (social workers, teachers, child care workers, residential psychiatrists) generally affect the boy in an adverse way with respect to his treatment. This general despondent feeling was carried to the school and was exhibited by the boy in class. In conclusion, the school atmosphere was more relaxed and not as rigid as during the regular school year.

Another psychological factor possibly responsible for this study's results not being significant was that toward the end of the summer school program the boys began to reduce their involvement in the physical activities because school would soon be out. They were anxious to complete the program so that they could get ready to leave on vacation.

In addition, the environmental conditions varied during the length of the study. The days were hot and humid, with temperatures as high as 100 degrees. On these days, the boys did not involve themselves in the physical activities as much as was desired by the researcher. Furthermore, four days of actual participation were missed because of rain.

Another psychological factor that could have changed the results of the study was the anxiety of the boys during the administration of the pretests and posttests of the Secord Body-Cathexis Questionnaire. However, there seemed to be more anxiety during the pretest than the posttest. This factor alone could have been responsible for the results not being significant.

RECOMMENDATIONS

The following recommendations have been made for further study:

1. When future studies such as this are done, the individuals of the groups should be equated on the basis of a body-image test in which matched pairs would be used to establish similar subjects in the experimental and control groups. In addition, the two groups should contain a larger sample size, preferably up to thirty boys per group.

2. With respect to time, further studies should be conducted over a period of one semester as the minimum time and probably over an entire school year. A replication of this study during the regular school year, would be strongly recommended because of the more stable atmosphere.

3. When future studies such as this are done, a balance design should be used in the administering of the questionnaire. When administering the pre and posttests, one should be given in the instructor's office and the other in the student's own room. Then, the procedure should be switched. Differences in scores in certain rooms would show that the rooms had some affect on the test scores and should be investigated.

4. Future studies should be made in which the results of the pretest are acknowledged by the teacher and the student in a conference. Knowledge gained from this conference about the student's body-image can help the physical educator plan individual programs for boys with low body-image. If a boy is dissatisfied with his arms and the physical educator is aware of that feeling, he can help the boy help himself by suggesting a weightlifting program. In addition, a program of diet and

exercise might also be suggested by the physical educator to an obese boy that wants to change his body-image. Posttest results could then be compared with the pretest results to note if changes of this procedure were greater.

5. Further studies should be made involving varsity coaches and their athletes. For example, knowledge of the strengths and weaknesses could be utilized to the varsity team's coach's advantage. Strengths might be used to develop a better team and the weaknesses could be concentrated on to help raise the body-image of the individual.

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APPENDIX A

SECORD BODY-CATHEXIS QUESTIONNAIRE

FORM D

NAME_____

Date of Birth_____ Sex_____ Year in School_____
Month Day Year

On the following pages are listed a number of things characteristic of yourself or related to you. Consider each item listed and encircle the number after each item which best represents your feelings according to the following scale:

1. HAVE STRONG POSITIVE FEELINGS
   Encircle a (1) for those aspects of yourself about which you feel proud or happy or which give you a pleasant feeling when you think about them. For example, if you are proud of your body build, encircle the (1) after that item. If you feel happy about your intelligence level, encircle the (1) after that item.

2. HAVE MODERATE POSITIVE FEELINGS
   Encircle a (2) for those aspects of yourself about which you have some positive feeling but not as strong as that in category (1).

3. HAVE NO FEELING ONE WAY OR THE OTHER
   Encircle a (3) for those aspects of yourself about which you have no feeling at all. For example, if you have no feeling at all about your artistic talents (or lack of them) encircle the (3) after that item.

4. HAVE MODERATE NEGATIVE FEELINGS
   Encircle a (4) for those aspects of yourself about which you have some negative feeling but not as strong as that in category (5) (see below).

5. HAVE STRONG NEGATIVE FEELINGS
   Encircle a (5) for those aspects of yourself about which you worry or which you dislike very much or which cause you to feel unhappy when you think about them. For example, if you think that your profile is ugly and this disturbs you when you think about it, or if you feel unhappy about your height, encircle the (5) after these items.

SELF-CATHEXIS ITEMS

1 - Have strong positive feelings
2 - Have moderate positive feelings
3 - Have no feeling one way or the other
4 - Have moderate negative feelings
5 - Have strong negative feelings

sense of humor 1 2 3 4 5

degree of independence 1 2 3 4 5

temper 1 2 3 4 5

ability to express self 1 2 3 4 5

self-understanding 1 2 3 4 5

artistic talents 1 2 3 4 5

tolerance of other's shortcomings 1 2 3 4 5

moods 1 2 3 4 5

extent of general knowledge 1 2 3 4 5

imagination 1 2 3 4 5

degree of popularity 1 2 3 4 5

self-confidence 1 2 3 4 5

ability to accept criticism 1 2 3 4 5

memory 1 2 3 4 5

thriftiness 1 2 3 4 5

overall personality 1 2 3 4 5

ability to concentrate 1 2 3 4 5

procrastination 1 2 3 4 5

degree of self-assertiveness 1 2 3 4 5

ability to express sympathy 1 2 3 4 5

ability to make decisions 1 2 3 4 5

sensitivity to other's feelings 1 2 3 4 5

ability to lead 1 2 3 4 5

ability to control impulses 1 2 3 4 5

intelligence level 1 2 3 4 5

athletic skills 1 2 3 4 5

present degree of happiness 1 2 3 4 5

creativeness 1 2 3 4 5

love life at present 1 2 3 4 5

sex appeal 1 2 3 4 5

skill with hands 1 2 3 4 5

gracefulness 1 2 3 4 5

amount that you worry 1 2 3 4 5

capacity for work 1 2 3 4 5

ability to meet people 1 2 3 4 5

vocabulary 1 2 3 4 5

ability to discipline self 1 2 3 4 5

degree of suggestibility 1 2 3 4 5

present strength of will power 1 2 3 4 5

degree of self-consciousness 1 2 3 4 5

BODY-CATHEXIS ITEMS

1 - Have strong positive feelings
2 - Have moderate positive feelings
3 - Have no feeling one way or the other
4 - Have moderate negative feelings
5 - Have strong negative feelings

hair 1 2 3 4 5

facial complexion 1 2 3 4 5

appetite 1 2 3 4 5

hands 1 2 3 4 5

distribution of hair (over body) 1 2 3 4 5

nose 1 2 3 4 5

physical stamina 1 2 3 4 5

elimination 1 2 3 4 5

muscular strength 1 2 3 4 5

waist 1 2 3 4 5

energy level 1 2 3 4 5

rear view 1 2 3 4 5

ears 1 2 3 4 5

age 1 2 3 4 5

chin 1 2 3 4 5

body build 1 2 3 4 5

profile 1 2 3 4 5

height 1 2 3 4 5

keenness of senses 1 2 3 4 5

tolerance for pain 1 2 3 4 5

width of shoulders 1 2 3 4 5

arms 1 2 3 4 5

chest (or breasts) 1 2 3 4 5

appearance of eyes 1 2 3 4 5

digestion 1 2 3 4 5

hips 1 2 3 4 5

resistance to illness 1 2 3 4 5

legs 1 2 3 4 5

appearance of teeth 1 2 3 4 5

sex drive 1 2 3 4 5

feet 1 2 3 4 5

sleep 1 2 3 4 5

voice 1 2 3 4 5

health 1 2 3 4 5

sex activities 1 2 3 4 5

knees 1 2 3 4 5

posture 1 2 3 4 5

face 1 2 3 4 5

weight 1 2 3 4 5

sex organs 1 2 3 4 5

APPENDIX B

LESSON PLANS FOR PHYSICAL EDUCATION CLASSES

LESSON PLANS FOR PHYSICAL EDUCATION CLASSES

June 1, 1972 Assign lockers, explain procedures, expectations, discuss weightlifting with class.	June 8 5 minutes - dress. 30 minutes - lift weights. 10 minutes - shower.
June 2 Help class make out charts for weightlifting. Help select lifts each boy wanted to do, the amount of weight and number of repetitions. Safety explained. Each boy responsible for his chart. Benefits of weightlifting explained.	June 9 Same
June 5 5 minutes to dress. 30 minutes to lift weights. Half worked on upper body. Half worked on lower body. Help spot, work on techniques. 10 minutes to shower.	June 12 Same
June 6 5 minutes to dress. 30 minutes to lift weights. Same as previous day only boys switched from upper to lower body and vice-versa. Help spot. 10 minutes to shower.	June 13 Same
June 7 5 minutes - dress. 30 minutes - lift weights. 10 minutes - shower	June 14 Same

June 15 Same	June 22 Same
June 16 Same	June 23 Same
June 19 Same	June 26 Start on tennis. Talked on history of it, explained rules, care of equipment. Showed grips and explained forehand and backhand.
June 20 Same	June 27 10 minutes - dress, walk to courts. 25 minutes - volleyed, practiced on forehand and backhand. Helped each boy on techniques. 10 minutes - shower.
June 21 Same	June 28 Same

June 29 10 minutes - dress. 10 minutes - volley. 15 minutes - explained serve, showed techniques of it, each boy served. 10 minutes - shower.	July 6 Same
June 30 10 minutes - dress. 5 minutes - volley. 10 minutes - practice serves. 10 minutes - explained singles. 10 minutes - shower.	July 7 10 minutes - dress. 15 minutes - explained doubles. 10 minutes - played doubles. 10 minutes - shower.
July 3 Holiday	July 10 10 minutes - dress. 5 minutes - volley. 20 minutes - played doubles, choose partner. 10 minutes - shower.
July 4 Holiday	July 11 10 minutes - dress 5 minutes - volley. 20 minutes - choose partner, play doubles, best two of three games. 10 minutes - shower.
July 5 10 minutes - dress. 5 minutes - volley. 20 minutes - played singles. 10 minutes - shower.	July 12 Same

July 13 Same	July 20 10 minutes - dress, report to softball diamond. 10 minutes - warm up, play catch. 15 minutes - each boy bats, hits ten balls. Fielders work on techniques. 10 minutes - shower.
July 14 Same	July 21 10 minutes - dress 5 minutes - warm up. 20 minutes - batting practice, fielding practice. 10 minutes - shower.
July 17 Start on softball. Talked about history, rules, positions, boundaries, expectations, care of equipment.	July 24 Rain. Stayed inside. 5 minutes - dress. 10 minutes - warm up with exercise, ten laps in gym, twenty pushups, twenty situps. 20 minutes - reviewed techniques in fielding, batting, catching. 10 minutes - shower.
July 18 Rain. Stayed inside. 5 minutes - dress. 15 minutes - played catch. Showed techniques for catching and throwing. 15 minutes - explained techniques for infield and outfield play. 10 minutes - shower.	July 25 10 minutes - dress, report to softball diamond. 5 minutes - explained workup. 5 minutes - warm up. 15 minutes - played workup. 10 minutes - shower.
July 19 Rain. Stayed inside. 5 minutes - dress. 10 minutes - played catch. 10 minutes - reviewed infield and outfield play. 10 minutes - explained batting, showed techniques to each boy. 10 minutes - shower.	July 26 10 minutes - dress. 5 minutes - warm up. 20 minutes - played workup. 10 minutes - shower.

July 27 Rain. Stayed inside. Class took test on entire course all period.	
July 28 No class. School dismissed for summer.	

APPENDIX C

LESSON PLANS FOR SENIOR AND JUNIOR LIFE SAVING COURSE

SENIOR AND JUNIOR LIFE SAVING COURSE

June 1, 1972 Classified swimmers. 4 surface dives (Pike and Tuck). 2 laps each of breast, back, side and crawl strokes.	June 8 16 laps. 4 approach crawl stroke. 4 approach breast stroke. 2 side inverted scissor, arm out, quick pull 2 trudgen crawl. 2 on back, arms out. Quiz chapters 1, 4.
June 2 Swim ½ mile. 4 laps of crawl, breast, side, back strokes. Practice 2 approach crawl, 2 of breast stroke. Start on conditioning.	June 9 Learn to disrobe. Pants inflate. Shirt inflate. Back scull. Swim clothed.
June 5 Swim ½ mile 2 laps approach crawl, 2 regular. 2 laps breast, 2 regular. 2 laps side stroke. 2 elementary back. 15 bobs. 1 minute back float.	June 12 15 bobs. 5 minutes tread test. 2 minutes back float test. 4 approaches crawl test. 4 approaches breast test. Survival float.
June 6 Swim ½ mile. 4 approach crawl. 4 approach breast. 4 elementary back 4 side strokes. 15 bobs. Pike and Tuck surface dive. Spreadeagle entries.	June 13 Rain. Review strokes, disrobing.
June 7 10 lengths of 4 different strokes. Pike tuck, feet first surface dives. 20 bobs. Learned trudgen crawl, overarm, sidestroke, inverted scissor kick.	June 14 15 bobs; 20 laps; 2 laps on back, arms out; 2 laps trudgen; 2 laps regular breast stroke; 2 laps of regular crawl; 4 laps, regular side, 2 on each side; 4 laps--side inverted, 2 each; 4 laps--side inverted kick, shallow arm pull carrying a towel.

June 15 Same as previous day.	June 22 Book work in American Red Cross Water Safety Book. 32 laps--any stroke.
June 16 Survival float. Quick reverse. Level off. Chin pull. Test on spreadeagle, approach stroke, surface dive, recover 20 lb. weight from bottom of the pool, 25 meter elementary back stroke.	June 23 Book work. Rear approach 8 laps, any stroke.
June 19 Rear approach - quick reverse, level off, chin pull, cross chest carry. Front approach. Surface survival float test, 16 laps, any stroke.	June 26 No class, teacher ill
June 20 Rear approach. Front surface. Lecture on front under water approach. Shallow dive test. 3 laps - side stroke.	June 27 15 bobs. Tread water 10 minutes. Backfloat, survival float, rear approach. Front surface approach. Front underwater approach. 16 laps, any stroke.
June 21 Same as previous day.	June 28 75 bobs, tread water 5 minutes, survival float, 5 minutes, work on spreadeagle entry. Shallow water dive, rear approach, front surface approach 16 laps, any stroke.

June 29 Show films on boating, floats, rescues, mouth to mouth resuscitation.	July 6 Review test, correct mistakes. 10 laps, any stroke.
June 30 Work on front underwater approach, front head hold release.	July 7 Review test. 10 laps, any stroke.
July 3 No class--holiday.	July 10 Work on: front head hold release, rear head hold release, double wrist grip release.
July 4 No class--holiday	July 11 Work on: head carry, hair carry, tired swimmers assist, 4 laps and cross chest carry, 2 laps.
July 5 Test over boating.	July 12 Lift victim from deep end, rear approach, front surface approach, front underwater approach with entry, lift from deep water, and position for artificial respiration.

July 13 Lecture on canoes, demonstrate proper techniques of entering, leaving, handling of canoe.	July 20 Test on front head hold release, rear head hold release, double wrist grip release.
July 14 Work on block, block and carry, block and turn, rescue the instructor using these techniques.	July 21 Test on block and turn, submerged victim deep water lift.
July 17 Work on releases, approaches and carries. 8 laps, any stroke.	July 24 Final written exam.
July 18 Review all releases. 16 laps, any 4 strokes.	July 25 No class, instructor ill.
July 19 Skill test on front underwater approach and front surface approach.	July 26 Skill test on skills that need to be reviewed.

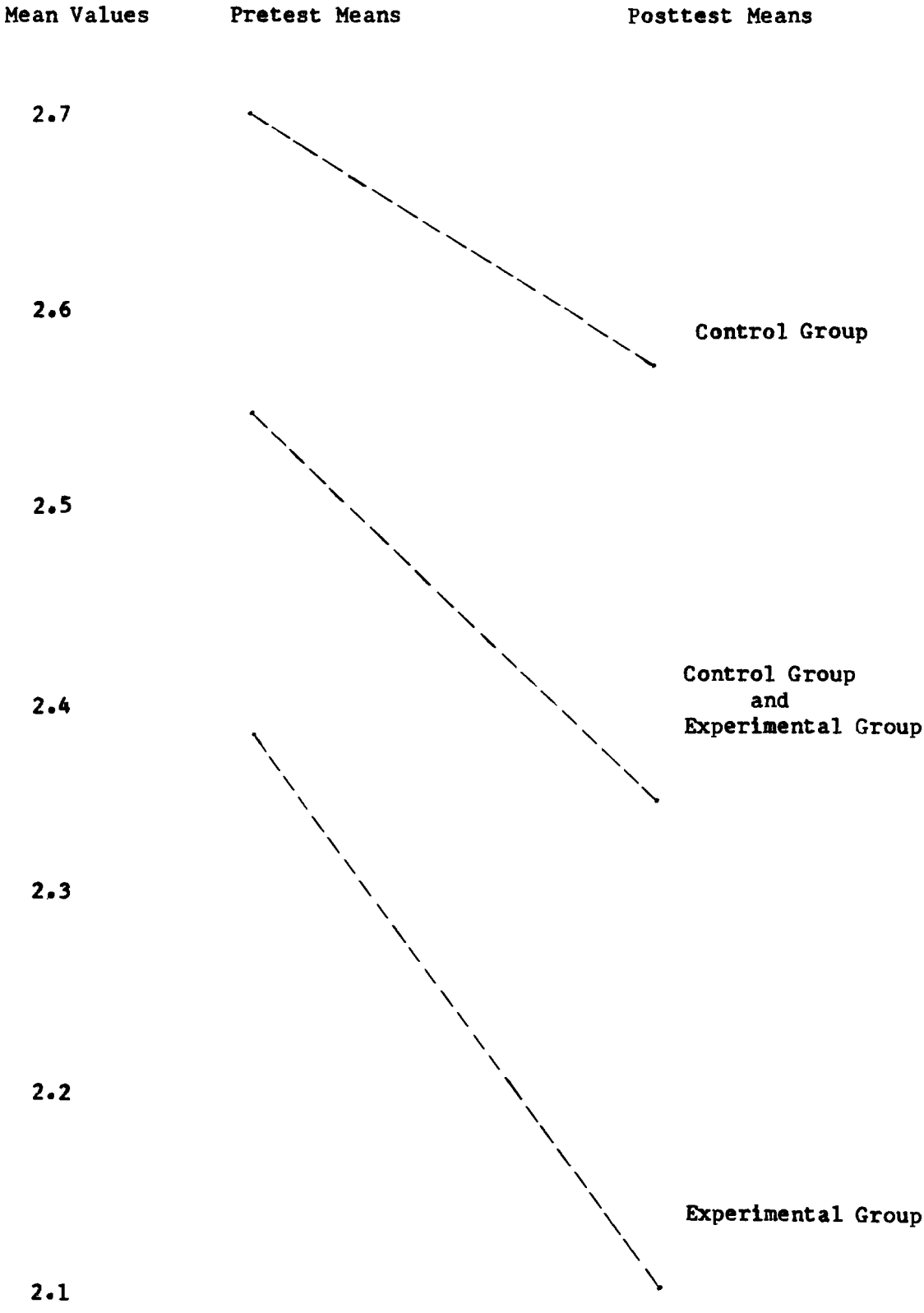
July 27 Complete skill test.	
July 28 No class. Class dismissed for summer.	

APPENDIX D

CHART OF MEANS ON

BODY-CATHEXIS

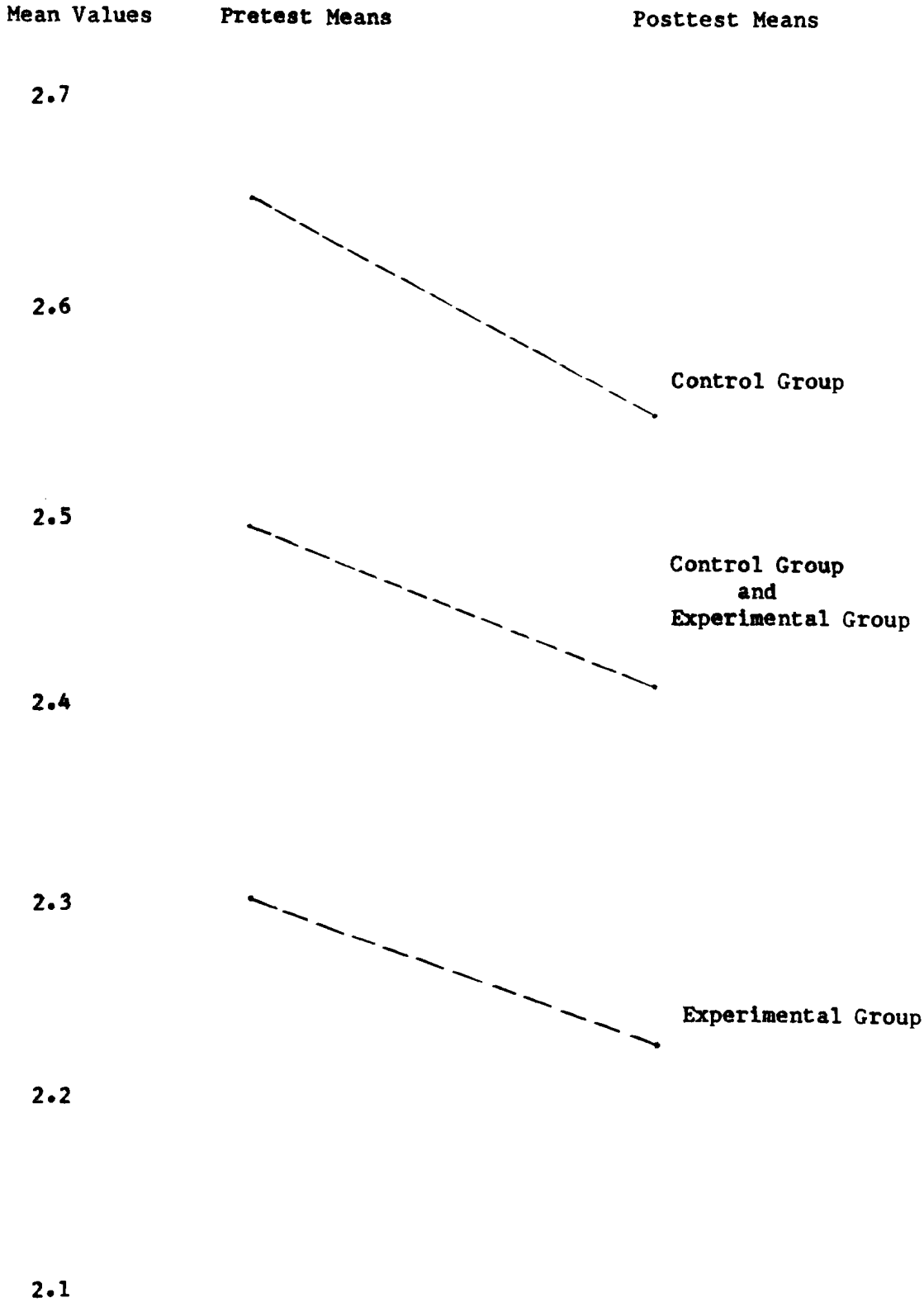
BODY-CATHEXIS MEANS



APPENDIX E

CHART OF MEANS OF SELF-CATHEXIS

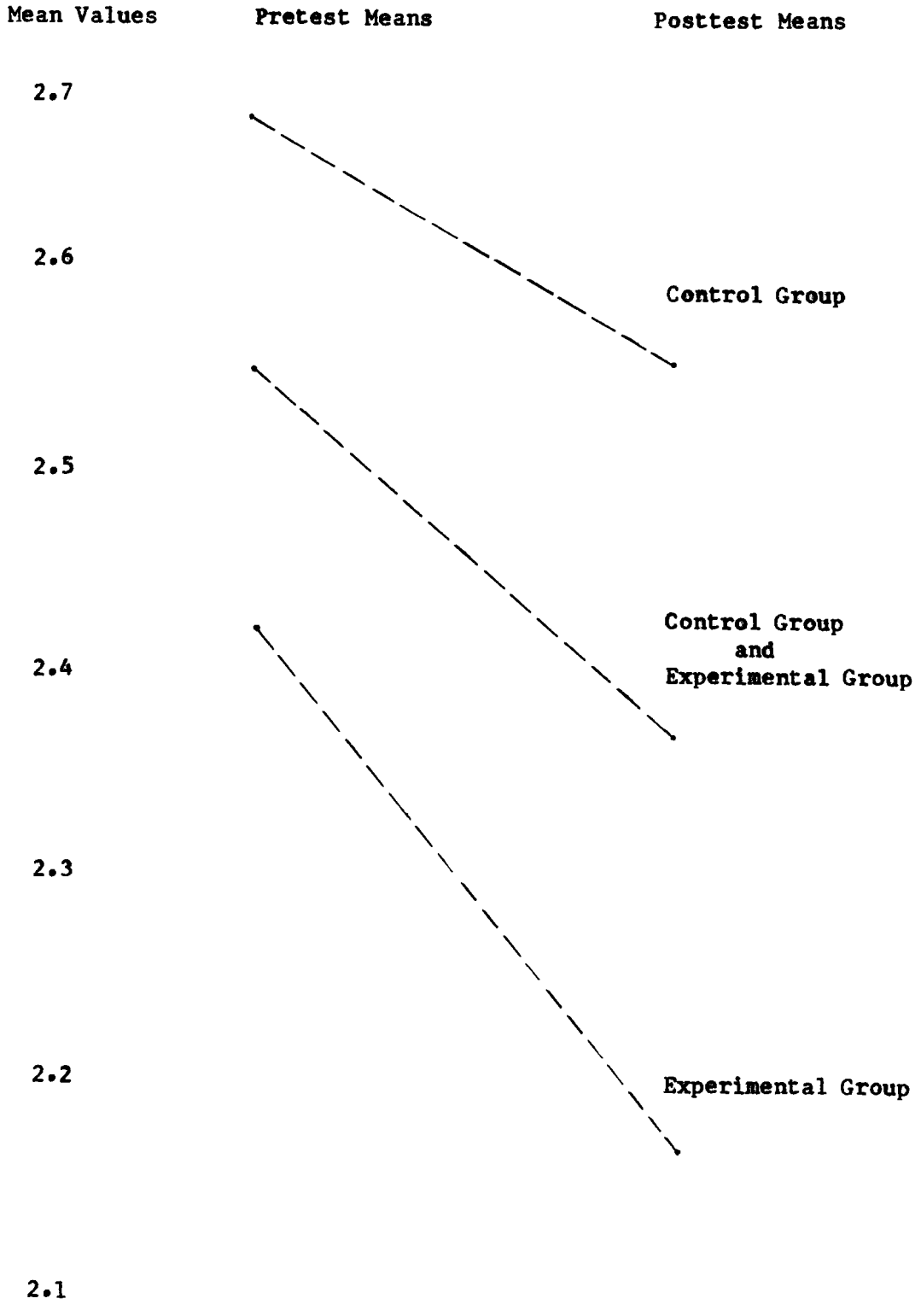
SELF-CATHEXIS MEANS



APPENDIX F

CHART OF MEANS OF BODY AND SELF-CATHEXIS

BODY AND SELF-CATHEXIS MEANS



APPENDIX G

TOTAL TIME RECORD OF

EXPERIMENTAL GROUP

Table 7

TOTAL HOURS AND MINUTES OF EXPERIMENTAL GROUP PARTICIPATION IN PHYSICAL ACTIVITIES

Activity / Participant	Bicycle Riding	Tennis	Swim	Jog	Softball	Fishing	Football	Bowling	Weight Lifting	Miniature Golf	Walk	Horse-back Riding	Water Ski	Pool	Total
1	9'30"	31'30	21'30"				3'30"		1'00"				1'00"		68'00"
2	1'00"	7'00"	13'00"					1'00"							22'00"
3	21'45"	35'00"	20'30"	1'00"							1'40"				79'55"
4		34'00"	4'00"				1'00"		6'30"				2'30"		48'00"
5	18'50"	50'00"	25'00"							3'00"			4'00"		100'50"
6	2'00"	19'00	45'00"			6'00"		2'00"							74'00"
7			11'30"						0'30"			4'00"	4'00"	5'30"	25'30"
8	1'30"	31'40"	17'30"	0'30"					8'00"				3'45"		62'55"
9	5'00"	38'00"	36'00"												79'00"
10	8'20"	4'00"	17'00"		8'00"				1'45"						39'05"
11	5'45"		20'00"												25'45"
12	2'30"	28'30"	4'00"	4'20"	16'00"							2'00"			57'20"
13	20'00"	43'00"									1'30"		2'00"		66'30"
14	28'00"	26'15"	22'30"		7'30"					3'00"					87'15"
15	3'10"	29'30"	4'00"										3'45"		40'25"
16	11'30"	48'00"	10'00"	0'45"	13'40"			5'00"							88'55"
17		67'30"					1'09"		2'00"		1'30"	1'30"			73'30"
18	5'30"	18'00"	29'30"				1'15"				1'30"		4'15"		60'00"
	144'20"	510'55"	301'00"	6'35"	45'10"	6'00"	6'45"	8'00"	19'45"	6'00"	6'10"	7'30"	25'15"	5'30"	1098'55"

APPENDIX H

TOTAL TIME RECORD OF

CONTROL GROUP

Table 8

TOTAL HOURS AND MINUTES OF CONTROL GROUP IN PHYSICAL ACTIVITIES

Activity / Participant	Bicycle Riding	Tennis	Swim	Jog	Softball	Fishing	Football	Bowling	Weight Lifting	Table Tennis	Miniature Golf	Walk	Horse-back Riding	Water Ski	Pool	Total
1	1'30"	0'30"	9'45"									2'15"	6'00"			20'00"
2	2'00"			2'30"					28'30"							33'00"
3	13'15"		3'30"							7'30"						24'15"
4	27'00"	18'00"	21'00"									3'30"				69'30"
5	9'00"															9'00"
6																0'00"
7			6'00"								1'00"	3'00"		8'00"		18'00"
8																0'00"
9	10'00"						0'30"					14'15"				24'45"
10										28'30"						28'30"
11	3'00"								0'45"							3'45"
12										2'15"		0'15"				2'30"
13	28'20"		3'30"	1'45"					0'30"		2'00"	3'00"		1'00"		40'05"
14	4'30"	0'30"							0'15"		2'30"	0'30"			0'15"	8'30"
15			2'00"									12'30"	2'00"	5'00"		21'30"
16	29'45"	59'00"		4'00"	21'00"	5'00"		13'30"	5'00"		5'00"					142'15"
17																0'00"
18																0'00"
19																0'00"
20		9'00"	4'00"										6'00"			19'00"
	128'20"	87'00"	49'45"	8'15"	21'00"	5'00"	0'30"	13'30"	35'00"	38'15"	10'30"	39'15"	14'00"	14'00"	0'15"	464'35"