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From the mid-1950's to the present, school systems throughout America have dealt with the racial issue in numerous manners. Students were exposed to a period of transition from one type of school system to another, depending on the manner in which their localities met the particular problem. This study has investigated the attitudes toward physical education of students who attended school during that transitional period.

Several reliable and valid instruments for measuring attitudes toward physical education exist, one of which, the Mercer Attitude Inventory, was used to compare the attitudes of students from four schools from the central Virginia area. Results were interpreted with regard to race and school of the subjects. The schools involved in the study were Amherst County High School, an integrated public high school; Prince Edward County High School, an all-black public high school; Holy Cross High School, a predominantly white parochial school; and Seven Hills School, an all-white private school for girls. Physical education teachers from the four schools administered the Mercer Attitude Inventory to all ninth grade physical education students.

Results of the inventory were compiled in three manners: between races, among schools, and among racial

groups within the schools. The following results were obtained: white subjects scored significantly higher than black subjects; students at Holy Cross High School scored significantly higher than students at Prince Edward County High School; students from Amherst County High School scored significantly higher than those from Seven Hills School and Prince Edward County High School.

Ninety-six percent of the 524 subjects recorded a score that indicated an attitude favorable to physical education.

Spak Martin Settle

This document is  
the result of the research carried out  
at the University of North Carolina at Chapel Hill  
in partial fulfillment  
of the requirements for the degree  
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Approved by

  
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A COMPARISON OF ATTITUDES TOWARD PHYSICAL EDUCATION  
AMONG NINTH GRADE STUDENTS IN FOUR SCHOOLS  
IN CENTRAL VIRGINIA, WITH EMPHASIS  
ON RACIAL SIGNIFICANCE

by

Leah Watts Settle

A Thesis Submitted to  
the Faculty of the Graduate School at  
The University of North Carolina at Greensboro  
in Partial Fulfillment  
of the Requirements for the Degree  
Master of Science in Physical Education

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1975

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During the 1950's, the School Board of the Prince Edward County Public School System ordered that the schools of the county be closed in order to avoid racial integration. Subsequent events led to federal injunctions which in turn necessitated the reopening of schools, the opening of several "private" (and in this case, segregated) schools, and general disruption of the traditional operation of the school systems in Virginia.

Since the mid-1960's, desegregation in varying degrees of rapidity has taken place throughout the Commonwealth. This reorganization has resulted in an assortment of problems. Many were derived from confusion in the assignment of students and teachers to particular schools to achieve racial quotas. Many educators believed that this type of adjustment may have not only caused difficulties in the administration of the school program, but also affected the

## CHAPTER I

### INTRODUCTION

Desegregation of schools became a crucial issue in America in the 1950's, an issue of profound concern both to educators and to legislators. The citizens of the Commonwealth of Virginia became aware of the future ramifications of the racial issue in the course of education, when, in 1954, the School Board of the Prince Edward County Public School System ordered that the schools of the county be closed in order to avoid racial integration. Subsequent events led to federal injunctions which in turn necessitated the reopening of schools, the opening of several "private" (and in this case, segregated) schools, and general disruption of the traditional operation of the school systems in Virginia.

Since the mid-1960's, desegregation in varying degrees of rapidity has taken place throughout the commonwealth. This reorganization has resulted in an assortment of problems. (89) Many were derived from confusion in the assignment of students and teachers to particular schools to achieve racial quotas. Many educators believed that this type of adjustment may have not only caused difficulties in the administration of the school program, but also affected the

social attitudes and conduct of those directly involved in the transition.

The students in a physical education class are placed in a situation in which they must interact socially. Physical educators believe that students face situations in the gymnasium which are directly parallel to those faced in daily life. It is conceivable that measurable attitudes about the physical education program may exist which have been influenced by the transition. The purpose, then, of this study is to compare the attitudes of black and white students toward physical education. The students concerned in this study have been enrolled in their respective schools during the period of transition from the racially segregated to the integrated school; however, the study was designed to include students from a diversity of situations in regard to race relations in the school.

#### STATEMENT OF THE PROBLEM

It is necessary to answer the following questions in interpreting the attitudes of the high school students:

1. What are the attitudes of high school students toward physical education?
2. How do the attitudes toward physical education of black students compare with those of white students in the same school?

3. How do the attitudes toward physical education of students in an integrated school compare to those of students in a private segregated school?

4. How do the attitudes toward physical education of students in an integrated school compare to those of students in a parochial school?

5. How do the attitudes toward physical education of students in a predominantly black school compare to those of students in other schools?

#### DEFINITIONS OF TERMS

The following definitions describe the terms as they are used in this study:

1. attitude: As described by Thurstone, "denotes the sum-total of a man's inclinations and feelings, prejudice, or bias, pre-conceived notions, ideas, fears, threats, and convictions about any specific topic . . ." (8: 6)

2. physical education: The program by that name which the students have had in their experiences in school; in this context, "physical education" refers strictly to the subject in the student's regular courses of study, as opposed to extra-curricular activities.

3. segregated school: An institution whose enrollment is strictly one race.

4. integrated school: An institution whose enrollment

is not determined by race or color; the racial percentage of students in the school is comparable to that of the general community from which the students are drawn.

5. public school: That school in a community which is financed by local, state, and federal tax monies, and which is open to all prospective students from the geographical area which it serves.

6. private school: A school which is supported by monies from an institution other than a governmental agency; a governing board of a private school retains the privilege of accepting or rejecting students' applications for admission.

7. parochial school: A school which is operated by a church, or which is otherwise limited in scope.

#### ASSUMPTIONS UNDERLYING THE RESEARCH

In order that the researcher may carry out the study under consideration, the following points have been assumed to be true:

1. The attitude inventory utilized has validity, reliability, and objectivity.

2. Minor adjustments in the terminology of the items on the survey may be made without altering the validity, reliability, and objectivity of the survey.

3. Students can identify and express their attitudes in regard to the subject under consideration.

4. The subjects' backgrounds in physical education are sufficient for their answering the questions presented.

5. The subjects are capable of understanding and interpreting the questions on the inventory.

6. Education attempts to influence the development of positive attitudes as defined by the society within which it operates.

#### SCOPE OF THE STUDY

The subjects to be used in this study are ninth grade students from physical education classes in the following schools:

1. Amherst County High School, Amherst, Virginia

This school is a public high school with an enrollment of 1400. There are 200 girls and 170 boys in ninth grade physical education classes. White students comprise seventy percent of the total enrollment. Three credits in physical education are required for graduation; these units are taken in the eighth, ninth, and tenth grades. Amherst County High School has been fully integrated since the 1969-70 session, prior to which time there were two county high schools whose enrollments were determined racially.

2. Holy Cross High School, Lynchburg, Virginia

Holy Cross High School has an enrollment of 200 students, of which more than ninety-five percent are white.

This school is supported by the Catholic Church. Three years of physical education are required for graduation; students in the eighth, ninth, and tenth grades are enrolled in these programs. There are 25 girls and 20 boys in the physical education programs for the ninth grade.

3. Seven Hills School, Lynchburg, Virginia

Seven Hills School is a private school emphasizing college preparatory courses in the grades six through twelve. There are 35 girls enrolled in the ninth grade physical education classes. Students at this school are enrolled in physical education classes each year of attendance. The entire enrollment of Seven Hills School is white.

4. Prince Edward County High School, Farmville, Virginia

Prince Edward County High School is a public school in the county in which schools were closed for six years due to racial discord. The current enrollment is almost entirely black; white students in the county generally attend a private school, Prince Edward Academy. There are almost 500 students at Prince Edward County High School, with sixty-five boys and sixty girls enrolled in ninth grade physical education.

SIGNIFICANCE OF THE STUDY

This study will seek to find whether or not there is a difference between the attitudes of black and white

ninth grade students toward physical education. Since the study is being conducted in an area of central Virginia in four differing types of schools, clues to the possible influence of the school's particular physical education program on the students' attitudes may become apparent.

The race situation remains of interest throughout America. This study should be significant in that it will extract one small segment of the physical education experience and its relation to the specific topic of race.

Several reviews of descriptive and using valid and reliable instruments which measure attitudes, there is now a goodly number of citations in studies in which attitude is a significant element.

In the field of physical education, attitude studies have been conducted in varying directions. The meaning, meaning, or clarification of values believed important in physical education has enriched the literature in this area. More investigations involve the measuring of attitudes of students, teachers, or patrons toward the physical education program or toward some aspect of its administration.

Following the verification that particular instruments are indeed valid and reliable tools, researchers have sought to examine the relationship between attitude and some other physical, sociological, or psychological factor. This study utilized this approach, investigating the attitudes of

## CHAPTER II

### REVIEW OF LITERATURE

The measurement of attitudes has been a complex problem, attempted in many fields of endeavor and correlated with many diverse factors. Underlying all of these investigations is the initial difficulty in specifying an operational definition of the term, "attitude". After several decades of developing and using valid and reliable instruments which measure attitudes, there is now a preponderance of literature on studies in which attitude is a significant element.

In the field of physical education, attitude studies have been conducted in varying directions. The measuring, ranking, or clarification of values believed inherent to physical education has enriched the literature in this area. Many investigations involve the ascertaining of attitudes of students, teachers, or patrons toward the physical education program or toward some aspect of its administration.

Following the verification that particular instruments are indeed valid and reliable tools, researchers have sought to examine the relationship between attitude and some other physical, sociological, or psychological factor. This study utilizes this approach, investigating the attitudes of

blacks and whites toward physical education. The literature surveyed has been drawn from the field of physical education, and from specific research involving black subjects, both relating to attitude studies.

According to the literature available from physical education sources, and from the whole scope of education among Negroes, the development of attitude studies within both groups has been parallel. The identical methods of developing and using instruments can be found.

Many studies undertaken by Negroes or including a racial factor involve a measuring of a particular race's or group's attitude toward the Negro. Values among Negroes in relation to other factors about themselves have been examined, as well as their attitudes toward themselves or toward an institution, such as school. Not only have these studies been performed among the one race, but also have been related to performances by other races, particularly the white race.

In physical education, racial factors have been investigated from a physiological perspective, attempting to answer the question of physical similarities or differences between whites and blacks. Performance on various types of motor tests has been measured and compared, using race as a factor.

There is much additional literature concerning the practices and problems in school integration. Writers

have attempted to defend or expose the qualities of either the dual or single school system, to present an historical background to current situations, or to project about the future in education. This type of writing is of a descriptive rather than experimental nature.

The literature surveyed in this study has been organized in the following manner:

1. Physical Education Attitudes Test Construction--an historical perspective of the early development and use of instruments appropriate for attitude research in physical education;
2. Attitudes Toward Physical Education, Toward Physical Activity, or Toward Outgrowths of the Program--a chronological survey of findings of previous attitude research in physical education;
3. Studies Relating Attitude and Other Factors--studies in physical education which have investigated the relationships which might exist between attitudes and various conditions in the program;
4. Physical Education Studies Involving Racial Factors--those studies in physical education which have utilized the race of the subject as a factor in interpreting results;
5. Attitude Studies Among Negroes--those attitude investigations documented in Negro education literature;

6. Other Research by Negroes in Education--a survey of other studies which may be pertinent to the racial issue in education;

7. Historical Perspective of School Desegregation in Virginia--a resume of the historical background of the problem of compliance with federal dictates concerning integration in public school systems.

#### PHYSICAL EDUCATION ATTITUDES TEST CONSTRUCTION

Burnstine (111) noted that the earliest form of attitude inventory utilized was of the questionnaire form. Through the past four decades, scaling methods have been formulated and perfected, and are the most frequently employed. Research methods have become increasingly more sophisticated through the cooperative efforts of both physical educators and psychologists.

One of the earliest studies recorded in physical education literature is that of Driftner (42). This study involved a survey of preferences in activities among high school girls in physical education. The researcher surmised that stature, motor ability, and intelligence may affect the results. Her conclusions included the following points: students display marked individual differences in interests, all students desire some degree of freedom of choice, the subjects' motor ability did not measurably influence their

choice of activities, extreme weight is a limiting factor, and the tallest subjects have more definite dislikes in activities. The methods of collecting data in this instance were relatively primitive in retrospect, using questionnaires and survey compilations to collect information.

Lapp (71) employed the questionnaire method of ascertaining what objectives boys and girls possessed in physical education. He concluded that those who liked physical education seemed to gain more benefits than those who disliked it, boys and girls seemed to expect different results from physical education, the gym class was popular with both sexes, the girls' teachers stressed more social values, while the boys' classes gained these values without direct teaching having occurred, and that students were influenced in their preferences by the habits and attitudes of the teachers.

Concurrent to these early uses of the questionnaire method of collecting data, Thurstone (98) was developing a method of measuring attitude, called the Method of Equal-Appearing Intervals. Judges sorted a wide variety of opinion statements into degrees of favorability or unfavorability toward a specific variable. The final items used were those statements that had low Q-values, and were equally spaced along a continuum. The subject checked the statements with which he agreed, and his attitude rating was the median scale value of the statements he had checked.

The Likert (72) technique of measuring attitudes was called the Method of Summated Ratings. Unlike the Thurstone method, there were no judges' ratings. Each statement was assigned a scale value of one to five by the subject, with five being the most favorable response. The subject was instructed to respond to each statement in the list, from which his total score was derived. Both the Thurstone and the Likert methods of test construction have been used extensively, as evidenced in the literature concerning various types of attitude inventories.

One of the most widely used attitude inventories in physical education is that constructed by Wear (103). Wear constructed an instrument to measure strength and direction of group and individual attitudes toward physical education activity courses. Using the split-halves technique for determining reliability, he produced an instrument with a reliability coefficient of .96. According to Wear, the validity of the instrument "rests largely on logical foundations" (103: 114). He continued to elaborate upon his means of establishing the instrument's validity. Wear then utilized a Short Form of the original document, which was found to be statistically reliable. He concluded that although the instrument was originally designed for use with college men, it could likewise be used by women, and for students at the high school level.

McCue (76) constructed an instrument for evaluating attitudes toward intensive competition in team games by using 145 statements prepared according to criteria of Wang and Thurstone. The Likert procedure for rating responses was used which resulted in an objective and reliable instrument.

Kappes (63) used the Likert technique to devise an inventory about the physical education program and services for college students. Using the corrected split-halves method, the reliability coefficient was established as .94, and by the test re-test method, .90. The survey included points on physical activities, inquiring about the subject's enjoyment of the activity, his instruction in it, and his estimate of skill. Questions concerning services and related aspects of the program, such as course requirements, dress requirements, administrative matters, and social values were also included.

Wear (104) later developed two thirty-statement forms of a scale for measuring attitudes, with the responses based on a one to five rating. The forms were statistically reliable, as the scores on these forms correlated highly with scores on other attitude measures. There existed a very high correlation between his two forms of the scale, which he noted should be most useful in determining attitude change following a specific experience.

Galloway (113) developed a reliable and valid instrument for measuring attitudes of college women toward the sociological, psychological, and spiritual values of physical education. Her subjects included five hundred sophomore women from ten selected colleges and universities. The results showed a generally favorable attitude toward the field, with no significant difference among the categories, sociological, psychological, and spiritual. She concluded that all were being emphasized, in addition to the skill being taught in the particular course.

Drinkwater (43) developed an attitude scale using Likert's technique; this scale was devised to be used with high school girls concerning their attitudes toward physical education as a career for women. She employed statistical procedures to eliminate ambiguity or poor power of discrimination among responses. The researcher concluded that Forms A and B were both reliable instruments for measuring attitudes, and that the similarity in the two forms made possible the use of these forms as before and after tests with an external experimental factor.

Richardson (85) modified the Thurstone method and devised two equivalent forms, with equal-appearing intervals. After refinement, the validity was established at a high degree through authoritative opinion and expert judgment. The reliability was measured at  $.83 \pm .06$ , through the test

re-test method. The parallel forms registered a correlation coefficient of  $.87 \pm .03$ .

Mercer (115) combined the Thurstone and Likert methods in revising and adapting the Galloway Attitude Inventory for use with high school girls. She used 93 subjects on the twelfth grade level, and produced an instrument with a reliability coefficient of .92 and validity of .74. Each category was suitably reliable and valid for separate use. The researcher noted that responses to statements in a general category seemed especially related to the subjects' over-all attitude toward physical education. As a group, the subjects displayed a more favorable than unfavorable attitude toward physical education experiences.

The purpose of Edgington's (44) study was to develop a reliable and valid scale to measure attitudes of freshman boys toward physical education. His scale, based on the Likert method, was submitted to three hundred students. Using the split-halves means, the reliability was measured at .92. A majority of the subjects had a favorable attitude toward physical education.

The purpose of Kenyon's (64) study was to construct a model characterizing the nature of physical activity: health and fitness, social, aesthetic, ascetic, catharsis, vertigo. He concluded that his model possessed internal consistency and independence among subdomains, and he

assumed that it possessed a degree of validity. He noted, however, that the model was a "crude beginning" (64: 104) in describing physical activity as a sociopsychological phenomenon.

Kenyon (65) then attempted to develop a scale representing each of the dimensions of a multi-dimensional model for physical activity. The dimensions of physical activity were those enumerated in his aforementioned model. He developed a moderately reliable and valid instrument, except in the area of "physical activity as catharsis" (65: 567).

Johnson (62) developed alternate forms of a sportsmanship attitude scale. Initially, 152 items displaying "descriptions of ethically critical sportsmanship behavior" (62: 312) were used, and the final form was narrowed to 42 items. The final product was a scale concerning baseball, football, and basketball, and it possessed items that discriminated effectively between high and low scores. The reliability was moderately high, and there was a reasonably high coefficient of reproducibility.

Leathem (114) employed the Likert method to develop an inventory to measure psychological, sociological, and spiritual values in physical education. The inventory demonstrated a reliability coefficient of .73, while a thirty-item revision had a reliability of .74. The

conclusions for this study were in a rather negative vein in relation to the success of the study: a larger number of items should have been used, each item should have represented only one value, the multiple choices should not have been similar, and the time element for testing reliability should have been longer than a week. Among the researcher's recommendations, however, was the suggestion that the instrument be used to compare the values of students who were disciplinary problems in school with those of students who were not disciplinary problems.

Sisley (118) devised an instrument for measuring coaches' attitudes toward the conduct of women's intercollegiate athletics by using the situation-response technique. Each item consisted of a brief description of a situation, followed by five distinctive choices of responses. In the situations, all aspects of the athletic program were included, from the philosophical to the technical or administrative. The conclusions indicated that the attitude scale possessed content validity, and its internal consistency was of an acceptable nature.

ATTITUDES TOWARD PHYSICAL EDUCATION, TOWARD PHYSICAL  
ACTIVITY, OR TOWARD OUTGROWTHS OF THE PROGRAM

Since the development of reliable and valid instruments for ascertaining attitudes, physical educators have employed

those techniques to investigate a number of relationships concerning the attitudes of students, teachers, coaches, or patrons toward their physical education programs, toward physical activity in general, or toward intensive competition. Other research of this dimension involves relating the measured attitude to some other measurable factor.

Of the earliest of these types of measurements was a study by Bullock and Alden (32). They distributed a questionnaire among 192 freshman women at the University of Oregon to ascertain facts concerning the subjects' home lives and early play experiences, their high school physical education, and their university physical education situation. Their conclusions noted that a lack of opportunity of playing with other children at an early age correlated with a dislike of physical education, the training of high school physical education teachers influenced the degree of liking the course, and the richness of the high school program influenced the student's liking the program at the university.

Baker (15) studied women subjects between the ages of fifteen and twenty-five years and their participation in a physical education program. The three factors which influenced the greatest number were academic environment, menarcheal age, and chronological age. The major findings of the study were that subjects preferred activities which were not in a physical educational framework--those preferred

in the physical education setting were of the non-competitive, individual, and unsupervised nature; and familiarity with an activity tended to increase participation in that activity.

Nemson (83) observed that compulsory physical education frequently resulted in some degree of resentment by the participants. By using a graduated scale with degrees from one to ten, he surveyed junior and senior boys in a large, semi-rural high school, using statements referring to prospective sources of annoyance. The instructors divided the boys into groups who had good and bad attitudes; this division resulted in expected attitudes, and a difference in the general types of annoyances between those with "good" attitudes and those with "bad" attitudes. While some annoyances could be removed or assuaged, such as lack of cleanliness, poor facilities, etc., many involved the personality and behavior of the other students and teachers.

The purpose of Kretchmar's (69) study was to determine the practices in coeducational activity in college physical education, and the opinions of prominent college physical educators concerning developments in coeducational activity. The primary factor which impeded more rapid development of coeducational programs was the fact of limited facilities. It was concluded from the investigation that college preparation of physical education teachers should be geared toward coeducation, and that progress could be easily

achieved if the leadership and facilities were provided for the program.

Dawley, Troyer, and Shaw (40) investigated the relationship between observed behavior and the results of a situation-response test. "Observed behavior" was reported through the means of anecdotal records which were kept on the subjects. There was little positive relationship between the observed behavior and the responses on the test; all correlations were positive, but low. The authors mentioned that the difference may have been due to a difference in the way a child sees himself reacting to a hypothetical situation, and how he actually does react when faced with a similar situation. The authors speculated that more specificity in the situations may have correlated higher with actual behavior.

Bell, Walters, and others (21) surveyed women college students to ascertain three points of information about each: background, objectives in physical education, and results of the Wear Attitude Inventory. From these results, the following conclusions were drawn: that individual sports were more frequently engaged in than team sports; that outside the physical education class, freshmen spent more time in physical activity than seniors; that freshmen who had high school physical education had more favorable attitudes than those who did not; that a positive relationship

existed between attitude and enjoyment of the physical education course; and that the social, physical, and mental values of physical education were rated high by the subjects.

Broer and Holland (28) used the questionnaire method of ascertaining the needs and interests of women who were taking service classes. The points which were questioned included student objectives, opinion of the requirement and granting of credit, activities which should be taught, the level of instruction desired, interest in coeducational physical education activity, and previous instruction and participation in activities. The primary finding of the study was the appearance of two points on more than ninety percent of the questionnaires: the objectives in participating in physical education were to develop skill in various sports, and to learn activities that could be continued outside school. A decided preference for individual and dual sports was apparent, as well as interest in football and basketball from the point of view of the knowledgeable spectator.

Gruber (52) conducted a study to determine whether or not undergraduate male physical education majors at Purdue University displayed the same personality traits and attitudes toward teaching as successful male physical education teachers who had been trained at Purdue. The instruments used in the study were the Guilford-Zimmerman Temperament Survey, and the Minnesota Teacher Attitude Inventory. The results showed

no significant difference between personality and attitudes of students and teachers. An item analysis showed that "many items were hidden behind personality and attitude mean scores which would significantly discriminate between teachers and students" (52: 434). The researcher projected that the degree of success, training, experience, and level of employment could account for significant differences among the response items among the subjects.

Steger (96) studied the opinions among the cadets of the Air Force Academy toward the physical education program in relation to physical development, development of self-confidence, the time spent in the activity, and course preferences. The results showed that the greatest physical development occurred among those enrolled in gymnastics, that boxing was the least popular but most significant in developing self-confidence, that combative activities were liked less than swimming and gymnastics, and that the ones who enjoyed the activity made the higher grades.

Keogh's (66) study was designed to investigate whether students differed in the beliefs as to the general benefits of physical education, and if men and women differed in their attitudes. He administered the Wear Physical Education Attitude Inventory, Form A, to 136 men and 130 women; this survey resulted in no significant difference between the attitudes of men and of women. The subjects supported the

social, physical, and emotional values of physical education, while they showed conflicting views regarding the relative value of physical education in the school curriculum.

Keogh (67) later analyzed the attitude responses and descriptive information about two groups (men and women) who demonstrated extreme attitudes toward physical education in scores on the Wear Physical Education Attitude Inventory. The descriptive information was obtained through a group interview questionnaire. There was no difference between the males and females in a single group. The low group questioned the value of physical education as a school program. However, there was no evidence that a negative attitude related to non-participation in physical activity.

Brumbach and Cross (30) used the Wear Attitude Inventory, Short Form A, to measure the attitude toward physical education of all male students entering the University of Oregon in 1960. As a group, the subjects had a favorable attitude toward physical education. Within the sub-groups into which the subjects were divided, the results showed that athletes had better attitudes than non-athletes, that those with more years of high school physical education had better attitudes, and that students from small high schools had better attitudes than those from large high schools.

Moyer, Mitchem, and Bell (81) used a modified Wear Attitude Inventory to measure the attitudes of freshman and

junior women toward the required physical education program. The primary outgrowth of this research was an evaluation of their needs from the program. The most significant result was a preference for individual sports, despite most students' backgrounds in team sports from high school. The subjects showed a highly favorable attitude toward physical education.

Rockwood (117) used the Galloway Attitude Inventory to survey freshman and sophomore women in different service areas of physical education. The conclusions were that there were no significant differences in the general attitudes toward physical education, or toward the values encompassed by the survey: psychological, sociological, and spiritual. The students enrolled in four different areas being tested showed no significant difference in attitude.

Mista (79) utilized a revision of the Plummer attitude inventory and an information questionnaire to make an extensive survey of the attitudes of more than one thousand college freshmen in Iowa. From the information questionnaires, she drew a number of conclusions. Significant differences were noted within the groups as follows: those who had earned interscholastic letters and those who had not, those participating in organized physical activity outside of school and those who did not, those from farms and from cities, those from small high schools and those from large, those who chose teaching as a career and those who did not,

those who rated themselves as above average in skills and those who rated themselves below average, and those who enjoyed physical education and those who did not. No significance was found within these groups: those who had physical education in high school and those who did not, those who had women physical education teachers and those who had men, those who took physical fitness tests and those who did not, those from small towns and those from cities, those who attended parochial schools and those who did not, those who had physical education class two hours or less weekly and those who had class four or more hours weekly, and those from Iowa and those who were not.

At the University of Oregon, a special conditioning class was required for entering freshmen who scored low on a test of physical fitness. This class consisted of calisthenics and endurance-running, as well as activities for general conditioning. Brumbach (31) used the members of this class to measure the students' attitudes toward physical education. He concluded that an improved physical fitness score correlated with an improved attitude toward physical activity, and that special emphasis on improving teacher-student rapport may cause significant improvement in the students' attitudes toward physical education.

Campbell (33) utilized the Wear Physical Education Attitude Inventory to measure student attitudes toward

physical education among almost two hundred college males. He subdivided the group according to the high school attended, the college attended, and the type of physical education class in which the subject was enrolled. The results indicated that there was no significant difference among the three sub-groups. However, there was significant variation between physiological and social aspects of the inventory compared with the mental-emotional and general items in the survey.

Campbell (34) used Form A of the Wear Attitude Inventory to survey one seventh, eighth, and ninth grade class of boys from five junior high schools. The results indicated that "the Wear Attitude Inventory was an appropriate instrument to measure attitudes of junior high school boys toward physical education" (34: 888).

O'Bryan and O'Bryan (84) expressed a concern for the nature of the public image of physical education and for a desire that that image be favorable from a professional standpoint. The group of subjects used in their attitudes study was comprised of school boys, teachers, physical education majors, graduate students, and academic staff members. Their conclusions were that an identifiable image of physical education was evident, that there existed different images among the groups, but these images were generally favorable, and that the question of professional status rated less favorably than the overall image. A

concluding remark was that "overall and within the limits of the present sample, there seems no great cause for physical educators to fear that they are unfavorably regarded" (84: 352).

Berger and Layne's (22) research was based on previous similar findings in relation to attitudes and performance. Their study was to ascertain whether the attitude toward physical education could be predicted from muscular strength and motor ability. Conclusions showed a significant relationship between strength and attitude toward physical education, that lack of power and lack of success in some motor activities may contribute to a poor attitude toward physical education, and that attitude can be predicted from muscular strength and motor ability, though the predictive ability is low.

Seaman (88) compared the attitudes of two groups of high school age orthopedically and neurologically handicapped children; one group was in a regular physical education setting, while the other had been placed in an adapted program. The results showed a significant difference in attitudes in the two groups. The more favorable attitudes were noted by those in the regular physical education program, and these students also participated significantly more in physical activity outside school.

Young (109) tested eleventh grade girls from three socioeconomic groups to ascertain whether there was a

significant difference between groups with reference to personal-social adjustment, attitude toward physical education, and physical fitness. The results showed a significant difference between groups in personal-social adjustment, with progressively better results with the higher socioeconomic class. There existed significant positive relationships between physical fitness and attitude, physical fitness and personal adjustment, and attitude and personal-social adjustment.

Anderson (13) grouped high school girls by the results of the McCloy Motor Ability Test, achievement tests, and interests; each subject completed a questionnaire concerning various aspects of physical activities. The results showed a preference for a progressive, well-planned program, with definite teaching and coaching techniques; most subjects indicated motivation resulting from seeing a good performance in an activity. The subjects preferred coeducational activities, and preferred competition against opponents of equal or greater skill than themselves. The subjects indicated that a great amount of time was spent in physical activity.

Moore (80) employed the Gallop Poll procedure for public opinion and the Bues-Remmers Attitude Scale to survey college women on their attitudes toward physical activity as recreation. The general attitude was highly favorable. The

reasons cited for inability to participate extensively were lack of time, lack of play companions, and outside work. Surprisingly, damage to personal appearance, such as caused by the necessity of changing clothes, showering, etc., and lack of skill were not deterrents to participation. The consensus appeared that those questioned enjoyed physical activity during recreational or leisure time, although there was a lack of such time.

Broer (27) evaluated a basic skills course which was required for freshmen with low motor ability. The results showed that the course was effective in improving general motor ability, in improving attitude toward physical education, and in increasing knowledge and skill in specific activities.

Broer, Fox, and Way (29) employed the Wear Physical Education Attitude Inventory to ascertain the attitudes of University of Washington women students toward physical education activity. The results showed a majority of the women favoring the program, with those engaged in swimming and tennis scoring more favorably than those enrolled in archery. There were few significant differences between students of different instructors. A high percentage of the subjects acknowledged the contribution of physical education to their social development.

Neale, Sonstroem, and Metz (82) measured the physical fitness, general self-esteem, and attitudes toward physical

activity of 165 adolescent boys. The instruments used in their study were the AAHPER Youth Fitness Test, the Guttman scale to measure self-esteem, a checklist for physical activity, and a Physical Activity Attitude Inventory, developed by Sonstroem. The results did not support a relationship between physical fitness and general self-esteem, and showed no substantial relationship between physical fitness and participation in outside physical activity. However, physical fitness was related to attitudes toward physical activity.

In McPherson and Yuhasz' (78) study, attitude was studied in relation to an exercise program for men. These two researchers studied the psychological effects of exercise on postcardiac and normal adult men by measuring their attitude before and after a twenty-four week program of progressive exercise. In designing the survey, they assembled fifty statements concerning common opinions, beliefs, attitudes, and fallacies toward exercise and physical activity. The reliability of the product measured from .81 to .95. In conclusion, the authors noted that "the attitude inventory is a sensitive instrument for detecting direction and intensities of attitudes which adult men have toward exercise and physical activity" (78: 219).

Alderman (11) examined attitudes toward physical activity in championship athletes, using an instrument devised

with the Likert format, with forty-eight response items from the Kenyon model. The Kenyon model proposed six sub-domains concerning the meaning of physical activity: social experience, catharsis, health and fitness, pursuit of vertigo, aesthetic experience, and ascetic experience. The conclusions indicated a great similarity between male and female respondents, a strong response among males toward physical activity as an aesthetic experience, and a weak response toward physical activity as an ascetic experience.

Straub and Felock (97) used as subjects for their study twenty delinquent girls and sixty nondelinquent girls, from the junior high school level. After collecting statistical data on the subjects from the administration, the investigators measured the subjects' attitudes through the use of the Kenyon Attitudes Toward Physical Activity Inventory. The results showed that nondelinquent girls scored significantly higher on the social aspect of the scale; this information revealed that nondelinquent girls valued physical activity as a social experience. One possible causative factor for this result was mentioned as the fact that overweight was more prevalent among the delinquent girls. Overall, the delinquent and nondelinquent girls differed slightly in their attitudes toward physical activity.

Sonstroem (94) used as subjects in his attitude study 710 high school boys to investigate psychological correlates

of physical activity. His results showed that physical fitness was not significantly related to self-acceptance, that an estimation of physical ability was positively and significantly related to self-acceptance, that an estimation of physical ability was positively and significantly related to physical fitness, height, and athletic experience, and that one's estimation of physical ability had a positive relationship with self-acceptance.

Stalnaker (95) undertook a study of the attitudes of society toward intercollegiate athletics in 1933, one of the earliest of its kind. In using a Thurstone-type scale, he measured attitudes of college and university presidents, faculty members, students, athletes, alumni, high school personnel, parents, persons from the media, and the public. His results showed general favorability, with varying degrees of intensity among the specific groups.

Scott's (87) research on attitudes toward athletic competition in elementary schools was directed toward three groups: parents, teachers, and administrators. She utilized the McCue attitude scale, and found that attitudes toward intensive competition in team games in the elementary school were generally favorable among the three groups questioned. Men were found to have more favorable attitudes than women. Of the three groups tested, administrators were found to have the least favorable attitudes. Although there appeared to be

a general acceptance of intensive competition by both parents and school personnel, it was noted that a concerted effort by physical education teachers would be a requisite for equal emphasis of a sound physical education program and intramural program.

White (108) surveyed a number of colleges and universities to determine practices, policies, and problems prevalent in the conduct of extramural athletic participation by women. A high majority of the respondents reported extramural competition, with 28% reporting competition of the varsity nature. Most reported that the Standards of the National Section of Girls' and Women's Sports were followed.

McGee (77) measured the attitudes held by administrators, teachers, and parents, on the subject of intensive athletic competition for high school girls. The subjects were from regions which supported intensive competition, had no intensive competition, or had non-sanctioned competition. The scoring of a seventy-item attitude scale resulted in the parents' and coaches' support of intensive competition, while teachers and administrators found such competition less favorable. McGee summarized by speculating on the underlying causes of the results; she surmised that the parents and coaches enjoyed the spectacle of the sports, the tournaments, and the championships, while the teachers and administrators saw the program in relation to the whole school program, with its long range effects.

Skubic (90) collected information concerning the attitudes of parents and participants of Little League and Middle League baseball organizations. The questionnaire technique was utilized to collect information. Results showed that boys who were chosen on teams displayed greater achievement in school subjects, they possessed greater motor ability, and were better adjusted socially and emotionally. Both participants and parents approved most highly of the program. The chief criticism was that many boys on the teams did not get a chance to play often.

Lakie (70) studied the degree to which athletes in various sports attested the "win-at-any-cost" attitude, using 288 athletes from six sports in three types of schools. He pointed out that the different types of leadership and environments may have affected the participants' attitudes, and may have caused variations in sportsmanlike behavior.

Harres (55) used both the McGee and the Heck and Smith attitude inventories as a basis for formulating statements to ascertain and analyze attitudes of undergraduate men and women about the desirability of athletic competition for girls and women. A questionnaire was used in conjunction with the attitude inventory with students from the University of California at Santa Barbara. The population demonstrated a favorable attitude, though not highly favorable, with a wide divergence within the range of favorability. There was

no significant difference between the attitudes of men and women.

Baley (16) used a questionnaire with five degrees of ratings to survey thirty University of Connecticut freshmen concerning their attitudes toward isometric exercises. The subjects underwent a progressive program of isometric conditioning, and were tested at the conclusion of the program. The researcher noted that the common assumption that students would dislike isometric exercises seemed faulty, that the majority either "enjoyed greatly" or "enjoyed somewhat", while none disliked the program intensely.

#### STUDIES RELATING ATTITUDES AND OTHER FACTORS

With the availability of valid and reliable instruments for measuring attitude, physical educators have begun to investigate the relationship between an attitude measurement and other factors. Although it is not assumed that one factor is related to the other in a causative manner, implications can be inferred from the results of this type of research.

Carr (37) studied the relationship of the attitudes held by entering freshman girls and their ultimate success in the physical education program. More than three hundred freshman girls were administered an attitude rating scale in the social, personal, and activity-related aspects of

physical education. The results indicated that the initial attitudes held by the entering freshmen did influence their success in physical education. Three factors which were found to be important in determining success were motor ability, attitudes, and intelligence. The subjects were grouped by these criteria, and showed significant differences. It was concluded that teachers should be aware of attitudes held by students, and undesirable obstacles removed where possible, so that learning could be facilitated. The researcher commented that the condition of a student handicapped by poor attitudes was parallel to that of one physically handicapped, and suggested that further study be initiated to determine how changes in attitude might be accomplished.

McAfee (75) used a twenty-item situation-response survey for 857 junior high school boys. The survey was administered twice, with a correlation of .80 between the two administrations of the test. The significant result of the investigation was that the sportsmanship attitude became progressively lower as the boys progressed by grade level.

The purpose of Isenberger's (60) study was to investigate the relationship between attitudes toward self of women physical education major students and of women physical education teachers. The subjects, 277 students and 167 teachers, were administered the "Who am I?" test, a

twenty-statement Test of Self-attitudes. The results showed a significant difference between the self-attitudes of student groups within and between schools, a significant difference between attitudes of the teachers in the study and students from liberal arts colleges or teachers' college of a university, but similar attitudes among physical education teachers and students at a teacher education college.

Isenberger (61) then studied the relationship between self-attitudes of women physical education major students and their measures of interest and success. She further investigated the relationship of the interests of physical education majors to those of physical education teachers. The self-attitudes were measured by the "Who am I?" test, interest by Strong Vocational Interest Blank, success by the Minnesota Teacher Attitude Inventory, the Scott General Motor Ability Test, a teacher trait evaluation sheet, grade in physical education courses, and total grades. The results showed that self-attitude was not significant in relation to interest, that self-attitudes and success were not significantly related, that judges' ratings of teacher traits and self-attitudes were negatively significant, that there was a small positive relationship between motor ability and self-attitude, and that major students scored higher on the interest test than teachers.

The purpose of Wessel and Nelson's (107) study was to determine the relationship between strength and attitude, and to measure strength in relation to performance by two groups which scored extremely high or extremely low. Using the Wear Inventory to measure attitudes, Wessell and Nelson found a significant correlation between strength measurements and attitudes inventory scores. The high group was more physically active, and they valued the importance of physical activity more than the low group.

Smith and Bozymowski (91) attempted to investigate the attitude of college women toward warm-up activities, and relate this attitude to performance in an obstacle race, using 86 subjects. They devised an attitude inventory, using the Likert technique; this inventory indicated a more or less favorable attitude toward the warm-up period. The two groups of subjects participated in an obstacle race, with one group being allowed a three-minute warm-up period, while the other group had none. The results showed that those with a favorable attitude toward the warm-up period performed significantly better after a warm-up period than those with a less favorable attitude. In a point of clarification, the authors stated their feeling that learning did not appear to be a significant factor after repeated trials in the race.

Vincent (101) used thirty-seven college women as subjects in a study which attempted to determine a prediction

factor from attitude, strength, and efficiency measurements. The Wear Attitude Inventory was used to determine the subjects' attitudes, the dynamometer measured strength, and the respirometer measured energy cost and efficiency. Success was measured by the final grades in the physical education courses undertaken at that time. She drew the following conclusions: that success in physical education can be predicted from the items considered, and that attitude measurement is of the highest significance as a predictor of success.

Vincent (100) again used the Wear Attitude Inventory with 188 college women to study the relationship between their attitudes and success in physical education, as indicated by their course grade. Although the attitudes were generally favorable, the subjects acknowledged greater contributions in the physiological-physical values than in the other areas. There was a significant relationship between attitudes and success, with the most favorable attitudes appearing among students in gymnastics and tennis. The researcher did comment, however, that "no conclusion is drawn as to the cause and effect relationship between attitude and success" (100: 130).

Felker (47) tested boys in grades six and nine to study the "relationship between self-concept, body build, and perception of the father's interest in sports" (47: 513).

He concluded that differing body builds differed in self-concept, that there were higher self-concept scores among boys who perceived their fathers as having higher interest in sports, and there was a significant interaction effect between the three variables. He further noted that there appeared to be a change in the self-concept during early adolescence, as indicated by the divergence in scores between the two grade levels used.

Canning and Mayer (36) used a questionnaire to determine their subjects' attitudes toward obesity, food, and physical exercise, and knowledge about weight control. Their group of subjects consisted of 225 adolescent obese girls and 213 control girls. The results showed that knowledge about weight control and positive attitudes toward exercise had little effect on their condition. The authors noted that there existed "an obsession on the part of the obese with their weight, to such an extent that nonrelated areas become involved in the issue" (36: 894).

Antle (110) employed the Mercer Inventory for use with seventh and tenth grade students, and all subjects showed a generally favorable attitude toward values in physical education. She concluded that the Mercer Attitude Inventory was a reliable instrument for measuring attitudes among junior high school girls. There was no significant difference between the attitudes of the seventh and tenth grade students

toward the values in the program; their likes and dislikes focused on activities, teachers, and procedures. Antle summarized her findings in studying attitudes by pointing out that "the student should be able to express and understand her attitudes if she is to learn, understand, accept, and change" (110: 57). She felt that the measurement of the attitude was a preliminary step in enabling the student to gain the utmost from the educational experience.

Campbell (35) used Form A of the Wear Attitude Inventory in conjunction with the 50-yard dash and 600-yard run with 240 subjects from boys' physical education classes from six junior high schools. His data showed no significant relationship between the attitudes toward physical education and the ability to perform selected physical fitness items.

Dotson and Stanley (41) studied an attitude profile of 699 male university students resulting from Kenyon's Attitude Toward Physical Activity Inventory. The results showed the highest perceived values from students in gymnastics, and the lowest among those students in badminton, archery, and bowling. The strongest perceived value was reported as physical activity as vertigo and catharsis, while the lowest rating was attained in physical activity as an aesthetic experience. Other conclusions indicated that achievement in athletics was most highly associated to the perceived value for physical activity as an ascetic experience.

The size of the high school or degree of achievement in non-athletic activities did not relate to the perceived values in physical activity.

#### PHYSICAL EDUCATION STUDIES INVOLVING RACIAL FACTORS

Several studies have been performed in physical education comparing results between racial groups. Most of these investigations have involved the measurement of performance on a physical test. Others have related to a self-concept or success measurement. A very few studies have been reported involving physical education among Negroes.

Ellis (45) commented that the emphasis in education in Negro institutions has been toward the academic realm, and that little consideration has been given the health and physical well-being of the students, with the exception of the male athletes. Through the use of a questionnaire, the status of physical education in Negro colleges was rated as being low. Women's programs consistently were of the recreational nature. He concluded that courses needed to be designed to meet the physical needs of the students.

Lloyd-Jones (73) performed a descriptive survey of all children in Los Angeles. The subjects numbered more than 163,000, and were among the groups of white, Mexican, Negro, and Japanese. He organized the data in graphic and chart

form. It is notable that the information collected on age, height, and weight was compared to a standard of the white children tested.

Townes (99) investigated the status of professional education curricula in physical education in Negro colleges. He cited numerous problems in staffing and facilities as being the chief limits in the programs. He noted that emphasis was being placed on the sports program and not on the physical education program. In addition to more personnel and facilities, he felt a need for greater access to literature in the field, and for all personnel to be affiliated with the national organization.

Hipple (57) used thirty black boys and thirty white boys in both experimental and control groups to conduct a study on the racial differences in muscular tension, reaction time, and speed, under a motivational situation. Improvement in speed of reaction and movement was motivated by negative reinforcement of slow times. There was no racial difference before motivation. Results showed that the white experimental group improved significantly, while the Negro group improved slightly, though not significantly.

Espenschade (46) compared results on the Kraus-Weber strength test and on the California Physical Performance Test for fourth grade children. The results were used to investigate significance for race and sex differences. The

results for the portion of the study related to race showed that significantly more black boys and girls and white girls passed the Kraus-Weber test than did white boys, and that, if the flexibility item were omitted, there would be no significant sex or race difference for performance.

Hutinger (59) used as subjects the fourth, fifth, and sixth grade students for measuring performance on the thirty-five-yard dash. Performance was studied in relation to the race of the students. The results showed that Negro children were superior in speed to white students. The author noted that his review of literature showed a faster reflex among Negroes, which could have been a critical factor in sprint races.

Barker and Ponthieus (18) used 633 fifth and sixth grade pupils in Texas to measure the statistically different relationships between race and performance on a physical fitness test. Within the realm of similar socioeconomic situations, the black boys surpassed white boys in results on six of the seven items of the test battery, while black girls outscored the white girls on five of the items.

Berger and Paradis (23) investigated the relationship of physical fitness to socioeconomic level, using groups of thirty white and thirty black boys as subjects. The physical fitness battery used was the AAHPER Youth Fitness Test; in addition, data were gathered concerning age, height, weight,

and socioeconomic level. The members of the two groups were matched according to these criteria. The conclusion was that black male students had a higher physical fitness level than white male students of a comparable socioeconomic level.

Hunt (58) employed the Gordon Personal Profile to investigate differences in four personality traits between black and white athletes and non-athletes. The personality traits were ascendency, responsibility, emotional stability, and sociability. White varsity athletes scored higher with significant differences as compared to black and white non-athletes in ascendency, responsibility, and emotional stability. Black athletes scored higher with a significant difference than black non-athletes in the area of responsibility. There was no significant difference between black and white athletes, between black athletes and white non-athletes, and between black non-athletes and white non-athletes. Athletes, regardless of ethnic background, had different personality traits as compared to non-athletes. White and black athletes had similar traits, as did non-athletes.

Nole (116) used twenty white and twenty black college freshmen as subjects in a study which investigated the racial identification of instructors as related to the students' self-concept and skill performance. The Rogers

battery of seventy-five statements was used to determine self-concept, and two items from a physical fitness test, the shuttle run and the broad jump, were used in the study. There was one black tester and one white tester who switched groups in the second administration of the tests. The results showed no significant difference in either the self-concept or the performance of the students, regardless of the race of the instructor at the time of testing.

Gruber and Kirkendall (58) tested 91 disadvantaged high school pupils with high intelligence to determine if peer group status could be predicted by fitness, coordination, intelligence, and personality. The results showed that coordination and personality were the most powerful predictors for peer group status. Peer acceptance could be predicted more readily in Negro and female groups, while coordination and fitness were the most important factors in predicting Negroes' peer acceptance.

#### ATTITUDE STUDIES AMONG NEGROES

Attitude studies have in a few cases been directed toward the Negroes' attitude toward a particular object, institution, or idea; however, the majority of the studies have related either to the Negro's attitudes toward himself as an individual or race, to an outside group's attitude toward the Negro race, or a comparison of the two.

Attitudes, attitude tests, attitude testers! . . . Imagine trying to find out what a Negro youth thinks 'away down deep in his heart' about the world in which he finds himself! Imagine trying to find out what anyone thinks 'away down deep' about any social issue. That is the very thing we are trying to do, and evidently, it is the faith of hundreds of research workers that it can be done and that it is worth doing. (48: 121)

Ford (48) inaugurated his discussion of the problems of attitude testing with the above passage, written in 1942. He cited the problems of attempting to construct attitudes tests, in analyzing the results through acceptable statistical processes, and in designing appropriate experimental situations. He concluded that "after we identify factors in attitude, we can hope to set up crucial experiments involving these factors. We have a long way to go." (48: 134)

Brawley (26) studied social attitudes and philosophies as related to the dual public school system in Georgia. He noted that unfavorable attitudes resulted in discriminatory practices, as evidenced in the dual educational system. However, efforts to improve relations, such as organized interracial work, exhibited growing favorable attitudes. He felt that there would be a changing attitude regarding Negro children and education in a democracy.

Arnew (14) administered the Illinois Inventory of Teacher Opinion to 75 Negro teachers and 380 Negro pupils

to investigate their attitudes toward the school. The teachers indicated that a strength of the school was a feeling of cooperation among staff members; in their attitudes concerning the students, they felt the students should participate more in activities, and that it was the community's responsibility to make better provisions for schools. A high majority of the students felt satisfied with the school, and felt that they could be gaining more from school if they exerted more effort. Generally, they liked the teachers, and felt a need among themselves to take a greater part in school activities.

Gittell (49) studied black subjects whom she divided regionally and by socioeconomic level, and by family and parental influences. The largest group of parents with low-goal fulfillment for their children was from the South, having low incomes and no college educations. The researcher cited particular evidence of the lack of information on educational opportunities, although the Northern parents had a high degree of interest in college educations for their children.

Smith and Johnson (93) studied 217 college freshmen at an all-black institution, and classified the students academically as honor, average, or on probation. They were attempting to investigate the attitudes of these individuals toward themselves in relation to their work habits, classroom

adjustment, relationships with other people, and personal adjustment. The results showed a positive feeling toward themselves which was proportionate to academic success. In addition, the females had slightly more negative feelings toward themselves than any other single group.

Kraft and Kraft (68) investigated the attitudes held by teachers and disadvantaged rural pupils toward their rural school, using the Illinois Inventory of Pupil Opinion and the Illinois Inventory of Teacher Opinion as testing instruments. The race of the "disadvantaged" pupils was not specified, but the publication of the study in a Negro education journal would seem to indicate that the research had been conducted primarily among Negroes. The results were illustrated by percentages. The majority of the pupils had a favorable opinion of school, but felt a great need for more playground and gym facilities. The major complaint registered by the teachers was of an administrative nature, such as lack of equipment and facilities, need for smaller classes, etc.

Baumgardner's (20) desire was to construct an attitude scale to measure self-respect among Negroes. As a preliminary measure, he used the Likert criteria for developing a "Scale for Attitudes of Negroes Toward Negroes", using five degrees of agreement or disagreement with statements. The statistical study showed a reliability of .71, which was too

low for fine discrimination. He projected that future investigations of that nature should use judges' ratings, and be used with a larger population.

The purpose of Davis' (39) study was to reveal specific attitudes held by Negro children which were distinctively unfavorable to their own race. The Robinson Attitudes Test, which was a collection of statements concerning opinions and common misconceptions on Negroes, was administered to the subjects in the study. The investigator found rather significant evidence of "bad" attitudes to themselves as a race and stated that the "existence of these attitudes among both the youth and the adults of the Negro race is a serious indictment of Negro education" (39: 165). He felt that the failure of blacks to enter fields of endeavor where they could bring about changes was due to their own attitudes about themselves.

Smith's (92) study compared the attitudes of white and Indian students toward the Negro, and of the Negro toward himself, and ascertained that the attitudes of Negro subjects differed in important respects from the other two groups. The black group felt fit and deserving for equality, yet the white and Indian groups disagreed on that point.

Boynton and Mayo (24) used groups of black and white boys and girls from the rural counties of western Tennessee to compare attitudinal responses. They made no attempt to

keep constant the socioeconomic status, IQ, scholastic aptitude, or emotionality of the subjects. Results showed that the attitude differences between the two racial groups were more pronounced with respect to social relations, and that there was no significant difference between attitudes of males and females. The researchers noted that there appeared to be a growing difference between the two races, through a shift in Negro opinion.

Amos' (12) study was "an attempt to compare the accuracy with which Negro and white children can predict the attitudes of white teachers toward Negroes" (12: 125). He constructed a questionnaire using the Likert technique, having five degrees of choice in response. His results showed that white pupils predicted the teachers' attitudes more accurately and that Negroes showed "stronger ego involvement in their responses" (12: 131). The results also showed that the Negroes were more conscious of race in their relations with teachers and that social class seemed more important than race in determining pupils' attitudes toward the teachers.

Banks (17) presented historical perspectives concerning the attitudes toward the Negro in the United States, beginning with their introduction into American society. He cited three forces which he believed elicited changes in attitudes toward the Negro: social, economic, and religious.

Lombardi (74) used a test re-test design to measure changes in attitudes by white students toward black students. The instrument used was "The Attitude Toward the Negro" scale, a survey designed by Hinckley, and edited by Thurstone. The following variables were considered in the study: sex, socioeconomic status, religious preference, intelligence quotient, education of parents, personality traits, interests, and contact with Negroes. There was no significant change in the attitude in the group as a whole; the only significant change related to the educational level of the mother.

Bradley (25) pointed out that the associations in desegregated schools should result in interracial friendships for all concerned. With this thought, she proceeded to study the extent to which Negroes engaged in interracial friendships in the Baltimore area. She collected data through interviews. Her results showed that the majority held their closest friendships with other Negroes; the percentage of black friends far exceeded white, despite the predominantly white enrollment at some of the institutions. She concluded that desegregation had contributed to interracial friendships, but that decidedly more Negroes established close friendships with other Negroes than with whites.

Harris (56) investigated the influence of sex and race, both singly and combined, on self-identities of 50 white and 32 black subjects. Two tests, the "Twenty Statements Test"

and "Reference Group Test", were administered to these subjects. Although no tests of statistical significance were run because of the size of the group, the idea of family identity was noted as being more prevalent among females and whites than within any other group.

Webster and Kroger (106), acknowledging that "research has clearly indicated that Negroes as a group tend to have lower levels of self-esteem than do . . . whites" (106: 55), investigated the differences in attitudes among blacks who had white friends and those who did not. The instrument used was of the questionnaire type. Although the authors recognized no definite cause and effect relationship, the results showed that subjects with white friends had a better self-image and had higher ambitions for themselves than those whose friends were black.

Rowland and DelCampo (86) assessed the aesthetic, economic, social, political, religious, and theoretical values of children in a study to determine if there was any difference between the values of the educationally disadvantaged and the "normal". Again, the presentation of this study in a Negro education publication would tend to indicate that the study was conducted primarily among blacks. The instrument used in measuring these values was the "Elementary School Study of Values"; the results of the two groups on this test were compared for significant differences.

Only one significant difference was found: the disadvantaged males had the lower scores on the theoretical aspect of the test.

#### OTHER RESEARCH BY NEGROES IN EDUCATION

Several other studies or articles concerning the Negro in education are noteworthy. Since the enforcement of legislation related to integration, the position of the Negro in integrated schools has been studied.

Green (50) wrote that although the obvious barriers between Negroes and society were gradually disappearing, one which remained was that of the Negro dialect. He cited colloquial expressions which have meaning only to Negroes, having resulted from segregated living conditions and inadequate provisions for education. Green stated that although society was doing a great deal for the Negro, he must do many things for himself, one of them being an effort to be educated, with specific emphasis on ridding himself of the dialect.

Grossback (51) reviewed several factors which were important in fostering the maximal development of children in an integrated society, from an educational perspective. He concluded that integration must be social as well as educational, that children need explicit mental health adjustment education, and that school systems sometimes

increase the prevalence of disturbances among children. He further noted that the competitive element in education may tend to deter effective integration, that the emotional climate of a school can affect achievement, and that children should be taught in the group discussion setting.

Champagne (38) cited figures that a half of a million students in the South are now attending private schools, most of which have developed since the enforcement of federal laws relating to integration of public schools. He summarized the history of integration in public schools, as well as the plans for massive resistance, specifically in Prince Edward County, Virginia. He felt that the segregated private school was not in compliance with federal law, stating that ". . . hopefully (sic) the South will be brought closer to full compliance with the letter and spirit of the Brown decision" (38: 66).

Hardy and Cull (54) tested black and white high school students from Richmond and Fishersville, Virginia, by using the Gender Association Survey. This survey was designed to determine the gender association of abstract and concrete nouns. The group of subjects was divided by sex and race. The results showed no significant difference between the scores by sexes within the same race; however, a significant difference was registered between races. The researchers concluded that the problem of communication with blacks is

serious and complex, and that teachers and counselors should be made particularly aware of these problems.

#### HISTORICAL PERSPECTIVE OF SCHOOL DESEGREGATION IN VIRGINIA

"No issue in American life today is more important and more urgent than the subject . . . of racism and American education" (5: vii). The preceding comment was made by Averell Harriman in introducing the topic of racism and American education to a Presidential Commission to investigate the problem.

In 1954, the case of Brown versus Board of Education of Topeka brought to national attention the problem of segregated educational opportunities for whites and Negroes. Among the defendants originally involved in that case was Prince Edward County, Virginia. This school system was later to become the source of much controversy during the subsequent decade, resulting in the closing of public schools for a period of five years (2: 439).

In Virginia Governor J. Lindsay Almond's inaugural address in January, 1958, he stated that no integration would be permitted in Virginia. However, before the end of that year, a case in Norfolk brought about the end of such policies as were practiced as a result of "massive resistance" (102). Several Virginia school systems chose

in 1958 to abandon operations to avoid forced integration. However, by 1959, all Virginia municipalities reopened schools under integrated conditions with the exception of Prince Edward County.

Because of this closing of public schools and the subsequent opening of private institutions for white students, it was possible to locate a school which had an all-black student body for the purpose of this study. Prince Edward Academy opened for all white students in that county immediately upon the suspension of the public school operations. However, there existed no schools for blacks for five years, and in 1963, through emergency governmental measures, public schools were reopened; however, from that time to the present, "public school" in Prince Edward County has nevertheless indicated an all-black enrollment (19).

The attitude which caused these events to occur was one of white supremacy, often disguised under the cloak of "tradition"; "tradition" to the Southerner meant "white tradition". Kilpatrick (6) wrote in harsher terms, in attempting to defend the segregated system. He condemned the Negroes' lack of achievement to inherent qualities: "instead of ambition . . . , we have witnessed indolence; instead of skill, ineptitude; instead of talent, an inability to learn" (6: 35). He does not acknowledge the lack of opportunity, as created by the white man's school system, as being a causative factor.

In attempting to make the integrated educational system a viable institution, Howe (5) cited two chief problems: to change attitudes, and to provide good educational opportunities in an integrated setting.

#### SUMMARY OF REVIEW OF LITERATURE

In the period encompassing less than half a century, attitude measurement has become increasingly more sophisticated. The most widely used techniques used in attitude test construction were developed by Thurstone and Likert. Through the efforts of psychologists, physical educators, and others, many valid and reliable instruments are currently available for use in studies of attitudes.

In the field of physical education, attitude research has been conducted in two directions. The first basic type of attitude research was the simple quantification of attitudes toward physical education through the use of various measuring devices. The second phase in attitude research has been the investigation of attitudes toward physical education as it relates to other factors. It is notable that in a high majority of studies of these types, there is extreme consistency in finding attitudes favorable or highly favorable to physical education and physical activity.

In relating attitude toward physical education to other factors, a predominant type of research has dealt with the idea of the relationship of attitude to success in various types of activities. Attitude has been shown to be a strong predictor of success in an activity.

Several studies have been conducted in the field of race and physical education. In several of these, the black subjects have scored consistently higher in physical tests.

Many studies concerning the attitudes of Negroes have been reported in black education journals. Several of these studies have shown that blacks project fairly low opinions of themselves, either individually or as a race. Likewise, in research concerning the attitudes of other races toward Negroes, the results have indicated that an unfavorable attitude has existed. In research directed toward the Negroes' attitude toward school or education, the results have been favorable.

Historically, the treatment of the Negro educationally has been inferior to whites. In the past two decades in Virginia, a tremendous adjustment has been made, going from segregated or dual school systems, to the present integrated systems. However, during the period of adjustment, private schools became very much in vogue among white students, while blacks remained in public schools. The one exception to the integrated public school system emerged in Prince

Edward County, Virginia, where massive resistance to integration resulted in the closing of public schools for five years, followed by their reopening on a segregated basis, with an entirely black enrollment. All of the white students remained in private schools.

Procedures were followed which would permit the following hypotheses to be tested:

1. There is no significant difference between the scores of white students from a nominally-integrated parochial school and of students from an all-black public school.

2. There is no significant difference between the scores of white students from an integrated public school and of students from an all-black public school.

3. There is no significant difference between the scores of black students from an integrated public school and of students from an all-black public school.

4. There is no significant difference between the scores of white students from a segregated private school for girls and an all-black public school.

5. There is no significant difference between the scores of white students from a parochial high school and of white students from a private segregated school for girls.

6. There is no significant difference between the scores of white students from an integrated public school and of white students from a private segregated school for

## CHAPTER III

## PROCEDURES

Procedures were followed which would permit the following hypotheses to be tested:

1. There is no significant difference between the scores of white students from a nominally-integrated parochial school and of students from an all-black public school.
2. There is no significant difference between the scores of white students from an integrated public school and of students from an all-black public school.
3. There is no significant difference between the scores of black students from an integrated public school and of students from an all-black public school.
4. There is no significant difference between the scores of white students from a segregated private school for girls and an all-black public school.
5. There is no significant difference between the scores of white students from a parochial high school and of white students from a private segregated school for girls.
6. There is no significant difference between the scores of white students from an integrated public school and of white students from a private segregated school for

girls.

7. There is no significant difference between the scores of black students from an integrated public school and of white students from a private segregated school for girls.

8. There is no significant difference between the scores of white students from a nominally-integrated parochial school and black students from an integrated public school.

9. There is no significant difference between the scores of white students and black students from the same public high school.

10. There is no significant difference between the scores of white students from a nominally-integrated parochial school and of white students from an integrated public school.

11. There is no significant difference between scores of all white students tested and of all black students tested.

12. There is no significant difference between the scores of students from an integrated public school and of students from a nominally integrated parochial school.

13. There is no significant difference between the scores of students from an integrated public school and of white students from a segregated private school for girls.

14. There is no significant difference between scores of students from an integrated public school and of students

from an all-black public school.

#### SELECTION OF THE MEASURING INSTRUMENT

The instrument used in the study was the Mercer Attitude Inventory, a forty-item inventory designed "to evaluate the attitude of high school girls toward psychological, sociological, and moral and spiritual values of physical education experiences" (3: 431). Although the instrument was initially designed for use with high school girls, its adaptability for use by both sexes has been noted by the designer.

The Mercer Attitude Inventory was developed in 1961 as an adaptation of a similar instrument designed by Galloway for use among college women. A reliability of .92 and validity coefficient of .74, based on a criterion of a self-rating scale, have been established. Although the instrument was developed for use with secondary school girls, it was readily adaptable for use with all high school students, with minor editorial changes.

Of the forty statements on the inventory, sixteen were stated positively and twenty-four negatively, with the subject marking an answer sheet according to his degree of agreement with the statement. In scoring the items, a score of five is recorded for the strongest agreement or disagreement with the statement, depending on the positive

or negative wording of the item. Scores range from five to one on each item, as the subject's response deviates from the most favorable to the most unfavorable. The final score is the sum of points on the entire test, with a total of 200 possible points. A subject registering the most favorable attitude would have a score of 200, while one who is neutral would have a score of 120. Degrees of favorability or unfavorability can be determined in relation to these figures.

The original inventory was revised in two ways: a modernization and clarification of terminology, and an adaptation of pronouns to represent both sexes. However, the utmost care was taken to maintain the exact intent of the original statements. The assistance of two English teachers and two physical education teachers from the region tested was sought to assure the successful attainment of these goals. Miss Emily-Louise Mercer granted permission for the use of her inventory in the aforementioned manner. The forty items from the Mercer Attitude Inventory are listed below, with the editorial revisions, if any, following the original statement.

#### MERCER ATTITUDE INVENTORY

1. Physical education activities are likely to be emotionally upsetting to many girls.

Physical education activities are likely to be emotionally upsetting to many students.

2. The saying, "Rules are made to be broken", is true in highly competitive sports.

3. It would be better to study than to spend time in physical education classes.

4. Physical education contributes nothing toward character development.

Physical education does not contribute to personality development.

5. Girls who are skilled in active games and sports are not popular with boys.

6. Social dancing helps one to improve in grace and poise. Social dancing helps a student gain more self-confidence and to act more relaxed.

7. Competitive activities break down emotional self-controls. Competitive activities cause a person to lose control of his emotions.

8. Physical education classes are not looked forward to with enthusiasm.

Students do not look forward to physical education classes with enthusiasm.

9. Learning to accept situations as they are rather than as they should be is learned through participation in competitive sports.

Participation in competitive sports teaches a student to accept situations as they are rather than as they should be.

10. An appreciation for art and beauty can be learned from physical education.

11. Archery is an activity in which one learns to score honestly.

Keeping your own score in an activity helps a person learn to be honest.

12. Opportunities for making friends are provided more in other classes than in physical education.

13. Feelings of joy and happiness may be expressed through physical activities.

14. Girls who excel in sports are not as intellectual as other girls.

Students who excel in sports are not as smart as other students.

15. A team is composed of individuals each working for her own particular good.

A team is composed of individuals each working for his own good.

16. The spending of money for "exercise" and "play" is unnecessary and wasteful.

17. There is no apparent spiritual basis for physical education.

18. Working together as a team does not reduce the value of human relationships.

Working together as a team strengthens the importance of person-to-person relationships.

19. Being dishonest in calling balls good or bad in tennis is not related to personal integrity and honesty.

Being dishonest in calling balls "in-bounds" or "out-of-bounds" is not related to personal integrity and honesty.

20. Physical education is not related to any other subject in the school program.

21. Learning to play by the rules of the game is not related to learning good moral and spiritual conduct.

22. Participation in competitive games and sports gives an opportunity for self-control.

Participation in competitive games and sports gives an opportunity for developing self-control.

23. Girls who enjoy physical activities are "unfeminine".

Girls who enjoy physical activities are not ladylike.

24. Individual student interests are not considered in physical education classes.

Physical education classes do not consider individual student interests.

25. Accepting defeat graciously is not learned from participation in games and sports.

26. Physical education activities offer many opportunities for emotional expression.

27. Accepting your own capabilities is learned from

participation in physical education.

Participation in physical education teaches a student to accept his own abilities.

28. Physical education activities do not provide opportunities for learning moral and spiritual values of living.

29. Physical education should be required in grades 1-12, and in college.

30. Just playing is not as important as having instruction in physical education.

Having instruction in physical education is more important than just playing the game.

31. A team should play according to the rules regardless of how unfairly the opposing team plays.

32. Associating with others in physical education activities is fun.

33. Physical education should be concerned with the learning of physical skills.

Physical education should be concerned with learning physical skills.

34. Physical activities are embarrassing for girls who are not skilled.

Physical activities are embarrassing for students who are not skilled.

35. Each player on a team should play in every game regardless of her skill.

Each player on a team should play in every game regardless of his skill.

36. Physical education makes important contributions to the mental health of an individual.

Physical education contributes to the mental health of a student.

37. Physical education offers little of importance to the general education of high school girls.

Physical education is not very important in the general education of high school students.

38. No opportunities are offered for students to become leaders in the physical education classes.

Physical education classes do not offer opportunities for students to become leaders.

39. Physical education activities provide no opportunity for learning emotional control.

Physical education activities do not provide opportunity for learning emotional control.

40. Physical education activities develop socially desirable standards of conduct.

Physical education activities develop and encourage better social conduct.

### SELECTION OF SUBJECTS

It was imperative that the subjects for this study be of comparable age and geographical environment, to insure that the scope of the study be kept within the framework of the educational setting. The major difference among the subjects was the racial composition of the school each attended. The subjects chosen were from ninth grade classes in physical education. At the time of testing, the students had completed almost two years in junior high or high school physical education classes, and should have measurable attitudes toward the program.

### PHYSICAL EDUCATION PROGRAMS OF SCHOOLS INVOLVED

#### Amherst County High School

Ninth grade physical education classes at Amherst County High School were grouped heterogeneously and class size ranged from thirty to thirty-five. Classes met three times per week, with the remaining periods devoted to a study of health education.

The course offerings for ninth grade classes for girls were a mixture of both team and individual sports and activities. Team activities included touch football, volleyball, basketball, and softball; individual and dual activities included tumbling, gymnastics, paddle tennis, badminton, horseshoes, and track and field.

The ninth grade program for boys included the following: touch football, basketball, softball, volleyball, wrestling, and track and field.

The interscholastic athletic program for girls was rather limited, offering basketball, volleyball, gymnastics, tennis, and track, all with very limited schedules. The boys' program of interscholastic competition was much more extensive, with ninth grade and junior varsity programs, in addition to the varsity, in almost all sports: cross country, football, basketball, indoor track, wrestling, outdoor track, baseball, and golf. The basketball and baseball teams have gained statewide recognition in recent years.

There was no intramural athletic program at Amherst County High School.

Physical facilities for physical education included two gymnasiums, wrestling and weight room, multi-purpose field, football practice field, and track.

#### Holy Cross High School

Students in grades eight through twelve attend Holy Cross High School, with physical education being a requirement in grades eight through ten. Boys' and girls' classes were offered on alternate days, with class size ranging from twenty to twenty-five.

Physical education activities for girls included soccer, basketball, volleyball, tumbling, gymnastics, softball,

and track. The boys' program is largely the same as the girls', with the addition of touch football for boys.

Holy Cross High School's physical facilities included a gymnasium, soccer field, and track for use by the physical education classes. Their interscholastic program for girls included volleyball and basketball; their teams participate in a statewide Catholic league, allowing them to have an extensive schedule in each sport. The interscholastic program for boys is offered in soccer and basketball. Holy Cross' soccer team has achieved statewide prominence in the Catholic League for many years. Their student body has been noticeably active in its support of both the boys' and girls' interscholastic programs.

#### Prince Edward County High School

The physical education program at Prince Edward County High School consisted of three years of required work. Students were in physical education class three days during the week, with the other days devoted to health instruction.

The ninth grade physical education course was focused on three team sports: basketball, volleyball, and softball; individual sports and activities which were offered included calisthenics, weightlifting (boys), archery, and badminton. The only intramural activity was basketball, available for participation by both boys and girls.

Interscholastic sports for boys included football, basketball, baseball, and track. There were junior varsity teams in football and basketball, in addition to the varsity. The girls' program involved basketball and softball on the varsity level. Prince Edward County High School competed interscholastically with schools of comparable size in the area.

At Prince Edward County High School, the physical education classes were grouped by grade level. The academic level of students in the classes was heterogeneous. There were no coeducational physical education or intramural activities offered to the students. Facilities for use in the physical education program included a football field, baseball field, track, and gymnasium.

#### Seven Hills School

In the physical education program at Seven Hills School, all grade levels were grouped together due to the small total enrollment of the school. The facilities of the school were rather limited, with a very small gymnasium and limited outdoor space. The school had access to two tennis courts at a nearby park in the city.

The physical education program was offered daily, with the exception of a short period during the winter which was devoted to the study of health education. Since the school was a girls' school, there was no "competing" for facilities between boys and girls.

The interscholastic sports program was rather limited, due to an inability to schedule games or matches with other schools. There were few private schools in the area, and the public schools had schedules which were generally filled with league games. Seven Hills competed interscholastically in basketball, volleyball, and tennis, with the greatest success in tennis, probably due to the "country club" background of the participants.

#### ADMINISTRATION OF THE SURVEY

After the initial permission was granted by the administrators of the schools involved for use of the survey, the researcher met with those teachers who would serve as administrators of the survey to their classes. Each was instructed concerning explanations which should be given the students with special emphasis on the marking of the answer sheet. A date for administration of the survey was confirmed with the four schools involved. The researcher delivered and received all materials to be used in the study in person.

Correspondence with the various school administrators appears in the appendix. A sheet containing special instructions for test administrators also is included in the appendix.

#### GATHERING OF DATA

The researcher developed an answer sheet for the forty-item survey, along with a cover sheet on which the subjects would record the following personal information: name, date, school, grade, education of parents, number of brothers and sisters. The only items which were of importance were the name and school which were later used for identification by race. The cover sheet, as well as the answer sheet, can be found in the appendix. The tallying of scores by school, sex, and race was done manually.

#### TREATMENT OF DATA

Data were analyzed to show significance by race, by school, and by racial groups within schools. The t-test was used in comparisons by race and among schools. The analysis of variance was utilized to compare racial groups within schools, with the Scheffe test being employed to locate significance. Favorability of scores was presented by the use of a table of percentages.

#### SUMMARY OF PROCEDURES

This study was designed to investigate the attitudes of ninth grade students toward physical education, and to analyze the results with regard to racial significance.

The instrument selected for use was the Mercer Attitude Inventory, which was designed to measure students' attitudes toward the various values of physical education. The researcher adapted the terminology slightly, with the assistance of English and physical education teachers from one of the schools in the study, to assure meaningful and comprehensible statements at the reading level of the subjects. Revisions were of an editorial nature, attempting to maintain the original intent of the statements.

Four schools with differing student bodies were represented in the study: Amherst County High School, a public high school with an integrated enrollment; Prince Edward County High School, a public high school with an all-black enrollment; Holy Cross High School, a parochial high school with a predominantly white enrollment (the several black students were in the upper grade levels); and Seven Hills School, a segregated private school for white girls.

The inventory was administered to all ninth grade physical education students who were present on the designated day. The teachers who would administer the survey were instructed specifically concerning their duties. Special emphasis was placed on instructing the students about marking the information sheets and answer sheets. This survey was conducted at the four schools during April and May of 1972.

## CHAPTER IV

## ANALYSIS AND INTERPRETATION OF DATA

Three basic types of comparisons were feasible: between the two races, among the racial groups within the schools, and among the four schools. Since three of the four schools were segregated, the comparisons of the last type involved comparing the integrated school as a unit with the other schools. Otherwise, these comparisons would be repetitious of those of the second type.

## COMPARISON BETWEEN THE RACES

Hypothesis to be tested: There is no significant difference between the scores of all white students tested and of all black students tested.

Result: The t-value was significant, therefore the hypothesis was rejected.

Discussion of Results

The results of the comparison of scores on the Mercer Attitude Inventory were significantly higher for the white students who were subjects in the investigation than for the black students who were subjects. The white students represented three schools. One school was integrated while the others were segregated (two white and one black).

Table I

**SUMMARY OF INFORMATION BY RACE  
AND SIGNIFICANCE OF DIFFERENCE**

	White	Black
N	332	192
Median	148	145
Mode	140, 150	145
High Score	190	186
Low Score	101	95
Range	89	91
$\bar{X}$	147.6265	143.9948
$\sigma$	12.9035	14.7032
$S_M$	0.7082	1.0611
t	2.8468*	

\*significance at .01 level = 2.326

Although both groups indicated favorable attitudes toward physical education, both the mean and median for the white group were higher than for the black group. The range of scores was similar, although the white group had the highest score on the inventory.

The hypothesis of no difference between the scores of all white students tested and all black students tested was rejected.

COMPARISONS AMONG THE RACIAL GROUPS  
WITHIN THE SCHOOLS

Hypotheses to be tested:

1. There is no significant difference between the scores of white students from a nominally-integrated parochial school and of students from an all-black public school.
2. There is no significant difference between the scores of white students from an integrated public school and of students from an all-black public school.
3. There is no significant difference between the scores of black students from an integrated public school and of students from an all-black public school.
4. There is no significant difference between the scores of white students from a segregated private school for girls and an all-black public school.
5. There is no significant difference between the scores of

white students from a parochial high school and of white students from a private segregated school for girls.

6. There is no significant difference between the scores of white students from an integrated public school and of white students from a private segregated school for girls.

7. There is no significant difference between the scores of black students from an integrated public school and of white students from a private segregated school for girls.

8. There is no significant difference between the scores of white students from a nominally-integrated parochial school and of black students from an integrated public school.

9. There is no significant difference between the scores of white students and of black students from the same public high school.

10. There is no significant difference between the scores of white students from a nominally-integrated parochial school and of white students from an integrated public school.

Treatment of Data: Analysis of Variance, with Scheffe Test

for Significant Differences

Results: All of the above-listed hypotheses were accepted with the exception of number 1.

#### Discussion of Results

Only one comparison was significant when comparing the scores of the students, divided into racial groups by school. When the scores of the students from Holy Cross High School,

Table II  
 SUMMARY OF STATISTICAL INFORMATION  
 AMONG THE RACIAL GROUPS  
 WITHIN THE SCHOOLS  
 AND ANALYSIS OF VARIANCE

	Holy Cross White	Amherst White	Amherst Black	Seven Hills White	Prince Edward Black
N	43	258	102	31	90
High Score	177	190	186	170	168
Low Score	116	101	110	113	95
Range	61	89	76	57	73
$\bar{X}$	150.7442	147.6899	145.2255	142.7742	142.6000
$\sigma$	11.3055	13.1297	15.9615	11.9595	13.0812
$S_M$	1.7241	0.8174	1.5804	2.1477	1.3789

Sources of Variance	Sum of Squares	Degrees of Freedom	Mean Square
Between Groups	3084.043	4	710.011
Within Groups	94,923.108	519	182.896
$F = 3.882^*$			

\*Significance at .01 level for 4 and 519

degrees of freedom = 3.32

Table III  
SCHEFFE TEST FOR SIGNIFICANT DIFFERENCES

Comparison Mean	Comparison Smallest	Comparison 2nd Smallest	Comparison 3rd Smallest	Comparison 2nd Largest
150.7442	8.1442*	7.9700	5.5187	3.0543
147.6899	5.0899	4.9157	2.4644	
145.2255	2.6255	2.4513		
142.7742	0.1742			
142.6000				

Table IV  
S-VALUE FOR DIFFERENCES

Comparison Mean	Comparison Smallest	Comparison 2nd Smallest	Comparison 3rd Smallest	Comparison 2nd Largest
150.7442	7.712*	9.8008	7.5642	6.8548
147.6899	5.099	7.9115	4.8737	
145.2255	6.0198	8.5338		
142.7742	8.6646			
142.6000				

\*significant at .05 level

having almost an entirely white enrollment (all subjects from this school were white), were compared with those of students from Prince Edward County High School, a public high school having an all-black enrollment, the scores of the Holy Cross students were significantly higher, as is indicated in Tables III and IV.

In the other pairings, comparing students by racial groups between schools and within the one integrated school, the results were not significant, again as shown in the tables immediately preceding.

The mean of scores from Holy Cross High School was highest, while that of Prince Edward County High School was lowest. The integrated public high school, Amherst County High School, showed the widest range of scores among both black and white students. The narrowest range was found in the scores of Seven Hills School. These two schools, Amherst and Seven Hills, had the largest and smallest enrollments, respectively.

Of particular interest to physical educators is the fact that a very high percentage of the subjects indicated rather favorable attitudes toward physical education, as shown in Table V. The score of 200 would represent a "perfect" score, indicating a strongly favorable response to all statements on the inventory. A score of 160 would represent a favorable response to every statement, while a

score of 120 would represent neutrality on every statement. The table below illustrates the percentages of subjects who scored above the score as indicated. For further comparison, the means of the scores in Table II illustrate the fact that the scores were decidedly on the favorable side of neutrality.

Table V  
PERCENTAGES OF FAVORABILITY OF SCORES

School-Race	Above 160	Above 120
Amherst-White	14%	98%
Seven Hills-White	10%	97%
Holy Cross-White	10%	97%
Prince Edward-Black	6%	94%
Amherst-Black	14%	92%
Totals	13%	96%

#### COMPARISONS AMONG SCHOOLS

##### Hypotheses to be tested:

1. There is no significant difference between the scores of students from an integrated public school and of white students from a segregated private school for girls.
2. There is no significant difference between the scores of all students from an integrated public school and of students

from a nominally integrated parochial school.

3. There is no significant difference between scores of students from an integrated public school and of students from an all-black public school.

All other comparisons of this type involved segregated groups of subjects, and were treated in the preceding section dealing with comparisons among racial groups within the schools.

Results: All of the above hypotheses were rejected.

Discussion of results

Of the four schools used in this investigation, three were segregated by race. Therefore, when comparing the results by schools, the only comparisons which needed to be done were those involving the only integrated school, Amherst County High School.

The scores of both white and black students from Amherst were compiled and compared statistically to those of students from the other schools. In all three cases, the results were found to be significant. The subjects from Holy Cross High School scored significantly higher than those from Amherst, while Amherst scored significantly higher than both Seven Hills and Prince Edward County. From the previous investigation of significance by race, it was found that Holy Cross scored significantly higher than Prince Edward County; both of these schools were segregated by race, and therefore the entire group was included in that measure.

Table VI  
t-TESTS FOR TESTING RESULTS  
AMONG SCHOOLS

	Amherst	Holy Cross
N	360	43
$\bar{X}$	146.9917	150.7442
$\sigma$	14.0116	11.3055
$S_M$	0.7385	1.7241

Degrees of Freedom =  
402

t = -2.0007\*

\*significant at .05  
level, table value =  
1.645

	Amherst	Seven Hills
N	360	31
$\bar{X}$	146.9917	142.7742
$\sigma$	14.0116	11.9575
$S_M$	0.7385	2.1477

Degrees of Freedom =  
390

t = 1.8570\*

\*significant at .05  
level, table value =  
1.645

	Amherst	Prince Edward
N	360	90
$\bar{X}$	146.9917	142.6000
$\sigma$	14.0116	13.0812
$S_M$	0.7385	1.3789

Degrees of Freedom =  
449

t = 2.8076\*

\*significant at .05  
level, table value =  
1.645

## SUMMARY OF HYPOTHESES AND RESULTS

1. There is no significant difference between the scores of white students from a nominally-integrated parochial school and of students from an all-black public school.

REJECT (F statistic)

2. There is no significant difference between the scores of white students from an integrated public school and of students from an all-black public school.

ACCEPT (F statistic)

3. There is no significant difference between scores of black students from an integrated public school and of students from an all-black public school.

ACCEPT (F statistic)

4. There is no significant difference between the scores of white students from a segregated private school for girls and an all-black public school.

ACCEPT (F statistic)

5. There is no significant difference between the scores of white students from a parochial high school and of white students from a private segregated school for girls.

ACCEPT (F statistic)

6. There is no significant difference between the scores of white students from an integrated public school and of white students from a private segregated school for girls.

ACCEPT (F statistic)

7. There is no significant difference between the scores of black students from an integrated public school and of white students from a private segregated school for girls.

ACCEPT (F statistic)

8. There is no significant difference between the scores of white students from a nominally-integrated parochial school and black students from an integrated public school.

ACCEPT (F statistic)

9. There is no significant difference between the scores of white students and black students from the same public high school.

ACCEPT (F statistic)

10. There is no significant difference between the scores of white students from a nominally-integrated parochial school and of white students from an integrated public school.

ACCEPT (F statistic)

11. There is no significant difference between scores of all white students tested and of all black students tested.

REJECT (t-test)

12. There is no significant difference between the scores of students from an integrated public school and of students from a nominally-integrated parochial school.

REJECT (t-test)

13. There is no significant difference between the scores of students from an integrated public school and of white

students from a segregated private school for girls.

REJECT (t-test)

14. There is no significant difference between scores of students from an integrated public school and of students from an all-black public school.

REJECT (t-test)

#### STUDY OF SIGNIFICANT DIFFERENCES

When approached purely as a racial comparison, the white students scored significantly higher on the inventory than the black students, although a high majority of the subjects registered relatively favorable scores. Possible causes for this result could be the backgrounds of the students over their entire scholastic experience. Until the time of full compliance with integration laws, the school systems in Virginia tended to ignore the blacks. If their opportunities had been previously limited, the blacks perhaps tended to reply in a manner more unfavorable than the white students.

When considered strictly as racial groups within schools, the only significance was between Holy Cross High School and Prince Edward County High School, white and black segregated schools, respectively. The scores of the Holy Cross students were significantly higher. Here again, the backgrounds of the students, possibly both scholastically and

culturally, could indicate a causative factor. The Prince Edward students are drawn from a very rural area where there are few opportunities outside the school for sport or play activities, or for physical activity other than farming. The Holy Cross students probably engage in other activities related to physical education experiences outside of the school environment.

The results, considered in terms of schools, showed several significant differences: students at Holy Cross scored significantly higher than Prince Edward and Amherst, and Amherst students scored significantly higher than those attending Seven Hills and Prince Edward. The descriptions of the physical education programs offered by the various schools are not appreciably different to indicate any relationship from that factor. It would be difficult, therefore, to speculate on the reasons for significant differences in the attitudes of students from several schools.

## CHAPTER V

## SUMMARY AND CONCLUSIONS

The academic lives of many students have changed markedly within the past two decades as a result of nationwide desegregation of public schools. Varying types of adjustments were made in school systems, the most radical of which was the idea of "massive resistance". Several Virginia school systems practiced this strategy, closing public schools in protest of forced integration. All systems with one exception resumed operations promptly; that exception was in Prince Edward County, Virginia, where public schools remained closed for five years. During that period, white students continued their education at a private school; black students had no such opportunity.

Physical educators have long acknowledged that students experience in physical education class situations which reflect life-like situations. The measurement of attitudes toward physical education expressed by these students who have been subjected to the transitional period in racial relations in schools should be meaningful. It was the purpose of this study to compare the attitudes toward physical education of black and white ninth grade students.

The review of literature revealed rather extensive research in the area of attitudes toward physical education. There was also considerable attitude research specifically related to the Negro race. However, the comparison of attitudes toward physical education by black and white students had not been previously reported. There had also not been a preponderance of literature comparing attitudes of blacks and whites to any particular institution, especially during the period since the enforcement of integration in the public schools.

This investigation was conceived to compare black and white ninth grade students' attitudes toward physical education. The students involved in the study represented four types of schools: an integrated public school, an all-black public school, a nominally-integrated parochial school, and an all-white private school for girls. All of these schools were located within fifty miles of Lynchburg, Virginia; the public schools were in rural areas, while the private and parochial schools were in the city (population 60,000). The researcher felt that it might be possible to infer meaningful conclusions from an analysis of attitude measurements of the students at these schools.

The Mercer Attitude Inventory, with forty items relating to psychological, sociological, and moral and spiritual values in physical education, was chosen as the

survey instrument. The researcher, feeling that subjects might encounter slight difficulty in interpreting some of the terminology, revised the items, being supremely conscientious to maintain the exact intent of the original statement. Otherwise, the content of the statements seemed very applicable to the experiences the subjects were known to have encountered. The statistical background of this inventory was satisfactory to assure accurate analysis and interpretation of the data.

Physical education programs at the four schools were not conspicuously different. Each school had both indoor and outdoor facilities, with Amherst having the most extensive and Seven Hills being the most limited. A variety of typical team games and individual activities was offered at each school. None of the schools offered an extensive intramural program, while all engaged in interscholastic athletics. Boys' interscholastic athletic programs and schedules were more extensive than girls'.

Individual physical education teachers at the four schools were prepared and instructed concerning their responsibilities in administering the attitude inventory. The surveys were administered to the ninth grade students as a part of their regular physical education program in the spring of 1972.

After the initial marking of the individual scoresheets, results were tallied and analyzed in three manners: comparison of all blacks with all whites, comparisons of each racial group within the schools with each other group, and comparison of each school with each other school as a whole unit. In the over-all comparison between the two races, the t-test showed that the scores of the whites were significantly higher than those of the blacks.

In comparing each individual racial group with the others, the only significant difference was registered between the scores of the all-black school, Prince Edward County High School, and the nominally-integrated parochial school, Holy Cross High School. The students at Holy Cross scored significantly higher. The analysis of variance was used to find significance in this comparison, with the Scheffe test for significant differences used to locate the specific significance.

Due to the fact that all except one of the schools were segregated, the comparison of the final type, that of comparing each school with each other school, was required in three cases. The results of the integrated public school, Amherst County High School, were compiled as a unit, and compared with the other schools (which were identical to the results of the racial groups, since the groups were segregated racially). Amherst County High School as a whole

scored significantly higher than the private girls' school, Seven Hills School, and the all-black school, Prince Edward County High School. Holy Cross scored significantly higher than Amherst. These comparisons were made by use of the t-test for significance.

In all cases, the mean and median scores were noticeably within the favorable range, a point which should be noteworthy to the physical education departments in the schools involved.

#### CONCLUSIONS

It would be difficult to ennumerate specific causes or reasons for the outcomes of the study. Although the white group's scores were significantly higher than the black group's, the racial groups did not separate themselves entirely. The highest score was made by the white students at the parochial, while the lowest score was achieved at the all-black school. The all-white private school for girls scored between the two black groups.

This low result by the all-black student body could be either a direct or indirect reaction to deep-rooted bitterness toward the concept of formal education, or could conceivably reflect some other type of antipathy. However, such harsh condemnation would seem extreme, due to the overall favorable attitude toward physical education.

It can be further assumed that the backgrounds of the students, beyond that of the school environment, could possibly be a factor in the results. The all-black school's location was very rural, with few opportunities for activity beyond the school or home. The other schools had more immediate access to the opportunities available in a larger municipality. The school facilities of Seven Hills School were the most limited, a possible factor in the fact that those students' mean score was quite similar to those of the all-black school.

#### IMPLICATIONS FOR FURTHER STUDY

The results of this study could possibly be more meaningful if other studies of a similar nature were conducted:

1. The same type of study as described herein could be performed in a different geographical area where the racial issue was not a particularly controversial one;
2. A similar study in the same schools as investigated here could be conducted after an extended period of time;
3. The same type of study could be conducted in two geographically or ideologically different regions, such as a northern and a southern area, or an urban and rural area;
4. The same type of study could be conducted in a large metropolitan area, or in an inner-city setting;

5. A similar study could be conducted in schools which are known to have conspicuous differences in the types of physical education programs offered;

6. A similar study could be conducted, incorporating additional factors, such as academic success or disciplinary background.

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## APPENDIX

DIRECTIONS TO ADMINISTRATORS  
FOR USE OF ATTITUDE INVENTORY

1. Distribute sheets containing statements to each student in ninth-grade sections of physical education.
2. Distribute personal information and answer sheets to each student.
3. Have students fill in the information requested. Assure them that their names will not be connected with any choices they make on the answer sheet. This survey is strictly for the purpose of research by an individual not connected with the school.
4. Explain to students how to mark answer sheet. Read directions aloud to them.
5. Have students tear off top sheet and pass them to you.
6. Answer any questions which you feel you are equipped to answer.
7. During their taking the test, you may answer questions by defining a term or statement. Please do not offer an opinion on any of the statements.
8. When students have completed the tests, collect answer sheets and statement sheets separately.
9. The same statement sheets will be used for several classes.
10. If possible, it would be tremendously helpful if you or a student could arrange the answer sheets and

**APPENDIX**

DIRECTIONS TO ADMINISTRATORS  
OF ATTITUDES INVENTORY

1. Distribute sheets containing statements to each student in ninth grade sections of physical education.
2. Distribute personal information and answer sheets to each student.
3. Have students fill in the information requested. Assure them that their names will not be connected with any choices they make on the answer sheet. This survey is strictly for the purpose of research by an individual not connected with the school.
4. Explain to students how to mark answer sheet. Read directions aloud to them.
5. Have students tear off top sheet and pass them to you.
6. Answer any questions which you feel you are equipped to answer.
7. During their taking the test, you may answer questions by defining a term or statement. Please do not offer an opinion on any of the statements.
8. When students have completed the tests, collect answer sheets and statement sheets separately.
9. The same statement sheets will be used for several classes.
10. If possible, it would be tremendously helpful if you or a student could arrange the answer sheets and

personal information sheets in numerical order.

11. Keep the stack of materials in a safe place until collected personally by me.

THANK YOU VERY MUCH.

SCHOOL \_\_\_\_\_

PHYSICAL EDUCATION TEACHER \_\_\_\_\_

FRIEND OF CHILDREN IN YOUR FAMILY \_\_\_\_\_

MOTHER'S EDUCATION \_\_\_\_\_

WOMEN'S EDUCATION \_\_\_\_\_

Directions for Test:

These 40 statements concern your feelings about physical education. You are asked to read each statement, decide how you feel about it, then mark your choice on the answer sheet. The choices for your feelings on each statement are:

- |    |                        |
|----|------------------------|
| SD | strongly disagree      |
| B  | disagree               |
| M  | neutral (or undecided) |
| A  | agree                  |
| SA | strongly agree         |

Example:

Statement: I would take physical education only if it were required.

You read the statement and feel that you disagree with it. You feel that you probably would take physical education even if it were not required. You would then mark "disagree" on the answer sheet, but not "strongly disagree", because you feel there is a possibility that you might not take the class.

Mark the answer sheet by drawing an X through the answer you choose.

Example: SD  B  A  SA

## SUBJECT INFORMATION SHEET

NAME \_\_\_\_\_

GRADE \_\_\_\_\_

SCHOOL \_\_\_\_\_

PHYSICAL EDUCATION TEACHER \_\_\_\_\_

NUMBER OF CHILDREN IN YOUR FAMILY \_\_\_\_\_

FATHER'S EDUCATION \_\_\_\_\_

MOTHER'S EDUCATION \_\_\_\_\_

Directions for Test:

These 40 statements concern your feelings about physical education. You are asked to read each statement, decide how you feel about it, then mark your choice on the answer sheet. The choices for your feelings on each statement are:

SD strongly disagree

D disagree

N neutral (or undecided)

A agree

SA strongly agree

Example:

Statement: I would take physical education only if it were required.

You read the statement and feel that you disagree with it. You feel that you probably would take physical education even if it were not required. You would then mark "disagree" on the answer sheet, but not "strongly disagree", because you feel there is a possibility that you might not take the class.

Mark the answer sheet by drawing an X through the answer you choose.

Example: SD  N A SA

## MERCER ATTITUDE INVENTORY

1. Physical education activities are likely to be emotionally upsetting to many students.
2. The saying, "Rules are made to be broken", is true in highly competitive sports.
3. It would be better to study than to spend time in physical education classes.
4. Physical education does not contribute to personality development.
5. Girls who are skilled in active games and sports are not popular with boys.
6. Social dancing helps a student gain more self-confidence and to act more relaxed.
7. Competitive activities cause a person to lose control of his emotions.
8. Students do not look forward to physical education classes with enthusiasm.
9. Participation in competitive sports teaches a student to accept situations as they are rather than as they should be.
10. An appreciation for art and beauty can be learned from physical education.
11. Keeping his own score helps a person learn to be honest.
12. Opportunities for making friends are provided more in other classes than in physical education.
13. Feelings of joy and happiness may be expressed through physical education.
14. Students who excel in sports are not as smart as other students.
15. A team is composed of individuals each working for himself.
16. The spending of money for "exercise" and "play" is unnecessary and wasteful.

17. There is no apparent spiritual basis for physical education.
18. Working together as a team strengthens the importance of person-to-person relationships.
19. Being dishonest in calling balls "in-bounds" or "out-of-bounds" is not related to personal integrity and honesty.
20. Physical education is not related to any other subject in the school program.
21. Learning to play by the rules of the game is not related to learning good moral and spiritual conduct.
22. Participation in competitive games and sports gives an opportunity for developing self-control.
23. Girls who enjoy physical activities are not ladylike.
24. Physical education classes do not consider individual student interests.
25. Accepting defeat graciously is not learned from participation in games and sports.
26. Physical education activities offer many opportunities for emotional expression.
27. Participation in physical education teaches a student to accept his own abilities.
28. Physical education activities do not provide opportunities for learning moral and spiritual values of living.
29. Physical education should be required in grades 1-12, and in college.
30. Having instruction in physical education is more important than playing the game.
31. A team should play according to the rules regardless of how unfairly the opposing team plays.
32. Associating with others in physical education activities is fun.
33. Physical education should be concerned with learning physical skills.

34. Physical activities are embarrassing for students who are not skilled.
35. Each player on a team should play in every game regardless of his skill.
36. Physical education contributes to the mental health of a student.
37. Physical education is not very important in the general education of high school students.
38. Physical education classes do not offer opportunities for students to become leaders.
39. Physical education activities do not provide opportunity for learning emotional control.
40. Physical education activities develop and encourage better social conduct.

## ANSWER SHEET

119

SD      strongly disagree  
D      disagree  
N      neutral (undecided)  
A      agree  
SA      strongly agree

1.	SD	D	N	A	SA	21.	SD	D	N	A	SA
2.	SD	D	N	A	SA	22.	SD	D	N	A	SA
3.	SD	D	N	A	SA	23.	SD	D	N	A	SA
4.	SD	D	N	A	SA	24.	SD	D	N	A	SA
5.	SD	D	N	A	SA	25.	SD	D	N	A	SA
6.	SD	D	N	A	SA	26.	SD	D	N	A	SA
7.	SD	D	N	A	SA	27.	SD	D	N	A	SA
8.	SD	D	N	A	SA	28.	SD	D	N	A	SA
9.	SD	D	N	A	SA	29.	SD	D	N	A	SA
10.	SD	D	N	A	SA	30.	SD	D	N	A	SA
11.	SD	D	N	A	SA	31.	SD	D	N	A	SA
12.	SD	D	N	A	SA	32.	SD	D	N	A	SA
13.	SD	D	N	A	SA	33.	SD	D	N	A	SA
14.	SD	D	N	A	SA	34.	SD	D	N	A	SA
15.	SD	D	N	A	SA	35.	SD	D	N	A	SA
16.	SD	D	N	A	SA	36.	SD	D	N	A	SA
17.	SD	D	N	A	SA	37.	SD	D	N	A	SA
18.	SD	D	N	A	SA	38.	SD	D	N	A	SA
19.	SD	D	N	A	SA	39.	SD	D	N	A	SA
20.	SD	D	N	A	SA	40.	SD	D	N	A	SA

## QUESTIONNAIRE CONCERNING PHYSICAL EDUCATION PROGRAM

Name of School \_\_\_\_\_

Is physical education required for graduation? yes no

If "yes", how many credits? \_\_\_\_\_

How many days each week are the students in physical education class? \_\_\_\_\_

What types of activities are generally offered in the ninth grade physical education classes?

\_\_\_\_ team sports; please list \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_ individual sports; please list \_\_\_\_\_  
\_\_\_\_\_

What interscholastic sports are available for boys? \_\_\_\_\_  
\_\_\_\_\_

What interscholastic sports are available for girls? \_\_\_\_\_  
\_\_\_\_\_

What intramural activities are available for boys? \_\_\_\_\_  
\_\_\_\_\_

What intramural activities are available for girls? \_\_\_\_\_  
\_\_\_\_\_

What type of grouping is used in scheduling physical education classes? \_\_\_\_\_

Are there any coeducational physical education or intramural activities? \_\_\_\_\_

What physical facilities are used in physical education classes? \_\_\_\_\_

Box 6513  
U.N.C.-G.  
Greensboro, NC 27412  
March 29, 1972

Miss Emily-Louise Mercer  
Rt. 1, Box 343-D  
Codfish Falls Rd.  
Storrs, Conn. 06268

Dear Miss Mercer:

I am preparing a study for the degree of Master of Science in Physical Education at the University of North Carolina at Greensboro. My study involves the surveying of the attitudes toward physical education of students in several high schools in central Virginia, with emphasis on racial significance. Use of the Mercer Attitude Inventory has been recommended to me.

I am therefore seeking your permission for the use of this instrument with approximately 600 subjects for this particular study; I would also like to make several "editorial" changes in terminology for clarification.

Thank you very much for your cooperation.

Sincerely,

Leah W. Settle

April 5, 1972

Dear Miss Settle,

In answer to your letter dated March 28<sup>th</sup> requesting permission to use my athletic inventory for your study, please know permission granted.

If by any chance Miss Harris is your thesis advisor, please give her my warmest regards.

I hope your study is successful and that it provides a rewarding experience for you.

Sincerely,

John L. Moore

Box 6513  
U.N.C.-G.  
Greensboro, NC 27412  
March 29, 1972

Principal  
Prince Edward County High School  
Farmville, Virginia 23901

Dear Sir:

I am preparing a study for my thesis as a part of the requirements for the degree of master of science in physical education. My thesis in particular will focus on students in central Virginia; subjects are being drawn from three other schools in that area.

This survey involves the use of an attitudes (toward physical education) inventory, to be administered to ninth grade students.

I would appreciate your permission to make arrangements through your physical education department to administer this survey sometime in April or early May.

I can send you any additional information you wish concerning the survey. Perhaps I could make an appointment to discuss the matter with you. If this is desirable, please suggest a convenient date and time, preferably on a Friday.

Thank you very much for your cooperation.

Sincerely,

Leah W. Settle

Box 6513  
U.N.C.-G.  
Greensboro, NC 27412  
March 29, 1972

Principal  
Holy Cross High School  
Langhorne Road  
Lynchburg, Virginia

Dear Sir:

I am preparing a study for my thesis as a part of the requirements for the degree of master of science in physical education. My thesis in particular will focus on students in central Virginia; subjects are being drawn from three other schools in that area.

This survey involves the use of an attitudes (toward physical education) inventory, to be administered to ninth grade students.

I would appreciate your permission to make arrangements through your physical education department to administer this survey sometime in April or early May.

I can send you any additional information you wish concerning the survey. Perhaps I could make an appointment to discuss the matter with you. If this is desirable, please suggest a convenient date and time, preferably on a Friday.

Thank you very much for your cooperation.

Sincerely,

Leah W. Settle

Box 6513  
U.N.C.-G.  
Greensboro, NC 27412  
March 29, 1972

Mrs. Evelyn Harvey  
Girls' Physical Education Department  
Amherst County High School  
Amherst, Virginia 24521

Dear Evelyn,

The enclosed statements are items that I am going to use in research for my thesis (which will be conducted in four schools in the Lynchburg area). Ninth grade physical education students will react to the statements in one of the following manners: strongly agree, agree, neutral, disagree, or strongly disagree.

I need some "expert" opinions of experienced educators as to whether or not you think the statements can be understood (vocabulary and implications) by ninth grade students. Where two statements are listed, the first is the original, and the second is my revision which I think will be more understandable. Please review the items and make any notations or changes which you think will be beneficial.

Thank you very much. The enclosed envelope is for your convenience.

Sincerely,

Leah W. Settle

PRINCE EDWARD COUNTY HIGH SCHOOL

ROUTE 3, BOX 385

FARMVILLE, VIRGINIA 23901

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April 6, 1972

OFFICE OF THE PRINCIPAL

Miss Leah W. Settle  
Box 6513  
UNC-6  
Greensboro, North Carolina

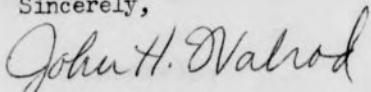
Dear Miss Settle:

I can give you a tentative approval to administer your survey. However, I would appreciate it if you would come to school at any time on Friday, April 14, so that we can establish a time and so that I can see the detail and nature of the questions. Please call me if you cannot be here on April 14.

You could give the survey on any Monday, Wednesday, or Friday. However, we will encounter a serious problem if the time element is more than 50 minutes. Ninth grade Phy Ed meets daily from 10:50 to 11:45.

We look forward to hearing from you.

Sincerely,



John H. Walrod  
Assistant Principal

JHW/b

Box 6513  
U.N.C.-G.  
Greensboro, NC 27412  
April 9, 1972

Mr. John H. Walrod  
Assistant Principal  
Prince Edward County High School  
Route 3, Box 385  
Farmville, Virginia 23901

Dear Mr. Walrod:

Enclosed you will find the survey which I wish to administer to your ninth grade physical education students. I hope that you will find the items satisfactory.

I regret my not being able to keep the appointment Friday; as I mentioned on the telephone, my schedule is now being seriously limited due to comprehensive examinations this month. Therefore, I hope we can solve any problems through the mail. We can finalize the date of administration in the near future. It will probably be a Friday early in May.

Thank you very much for your cooperation in this project.

Sincerely,

Leah W. Settle

## RAW SCORES BY SCHOOL AND RACE

SCHOOL: Amherst County High School

RACE: White

NUMBER OF SUBJECTS: 258

147	155	156	155	140	140	158	157	153
124	130	144	163	131	164	128	140	147
140	172	149	182	162	117	190	165	149
146	148	158	156	131	138	161	148	144
141	158	140	149	150	124	161	148	135
147	155	163	150	149	149	152	143	134
160	139	130	137	159	143	162	151	143
134	140	160	126	157	154	137	132	167
142	152	160	156	150	131	157	150	156
130	158	109	154	131	140	147	132	139
148	139	137	161	146	148	174	142	133
142	173	169	184	144	132	149	156	152
146	158	159	187	142	156	138	150	149
144	151	155	150	126	162	139	158	150
153	158	143	155	142	161	139	148	142
140	140	128	166	160	151	135	147	156
146	134	101	142	134	148	145	152	148
151	156	156	164	144	133	169	140	149
162	141	152	114	179	147	146	159	144
160	138	144	138	154	144	148	132	135

## RAW SCORES BY SCHOOL AND RACE

SCHOOL: Amherst County High School, continued

RACE: White

NUMBER OF SUBJECTS: 258

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142	140	133	122	130	134
138	154	149	162	150	129
133	130	119	145	163	
162	145	155	143	132	
125	156	147	143	146	
133	125	122	161	135	
153	149	162	155	165	
114	178	163	144	159	
137	145	153	159	163	
169	144	151	156	175	
163	157	170	156	166	
150	146	149	154	161	
127	142	159	150	166	
147	139	145	140	166	
143	146	142	152	164	
145	169	159	152	159	
143	161	156	149	157	
135	169	144	131	155	
150	152	140	139	157	
144	142	147	133	156	

## RAW SCORES BY SCHOOL AND RACE

SCHOOL: Amherst County High School

RACE: Black

NUMBER OF SUBJECTS: 102

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148	159	136	153	110	154
179	179	139	136	159	123
157	158	182	145	168	
179	171	153	135	142	
142	161	129	174	141	
130	186	132	120	135	
113	146	139	122	144	
112	150	127	120	159	
147	139	149	135	143	
155	134	113	115	125	
151	145	142	155	166	
143	163	147	131	141	
145	139	143	145	166	
136	143	155	157	144	
137	161	137	116	144	
154	144	145	147	154	
140	136	148	146	157	
154	146	134	142	155	
160	162	158	139	153	
152	123	131	123	156	

## RAW SCORES BY SCHOOL AND RACE

SCHOOL: Prince Edward County High School

RACE: Black

NUMBER OF SUBJECTS: 90

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155	135	156	157	143
95	125	142	159	149
150	141	152	158	158
157	134	130	143	135
139	132	141	138	158
164	119	119	150	151
148	125	147	142	153
119	150	140	136	155
127	126	135	145	163
137	151	138	152	148
143	134	128	164	
152	145	136	154	
106	158	152	161	
133	145	160	140	
168	133	147	149	
134	137	143	155	
124	128	136	149	
130	149	151	145	
137	128	138	152	
147	128	145	148	

## RAW SCORES BY SCHOOL AND RACE

SCHOOL: Holy Cross High School

RACE: White

NUMBER OF SUBJECTS: 43

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154	147	149
149	148	151
170	156	146
165	155	
149	160	
144	153	
165	135	
161	146	
152	153	
147	154	
148	149	
154	153	
163	143	
146	136	
150	116	
149	168	
150	151	
177	143	
117	155	
148	157	

## RAW SCORES BY SCHOOL AND RACE

SCHOOL: Seven Hills School

RACE: White

NUMBER OF SUBJECTS: 31

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170	134
139	132
129	148
138	140
148	166
139	154
145	134
134	132
150	161
140	150
150	158
141	
132	
133	
136	
149	
139	
155	
113	
137	