

THE EFFECT OF ONE SEMESTER'S INSTRUCTION UPON
THE ATTITUDES OF MALE STUDENTS TOWARD THE
REQUIRED PHYSICAL EDUCATION PROGRAM AT
KANSAS STATE TEACHERS COLLEGE

918

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CHAPTER I

THE PROBLEM AND DEFINITION OF TERMS USED

It has been observed that students with attitudes unfavorable to certain material learn it with greater difficulty than those whose attitudes are favorable. Edwards¹ verified the hypothesis that people select and remember from a speech those items which fit their attitudes, rejecting data which conflict with their views. It is hoped, that attitudes can be taught or changed to aid individuals in the learning environment in school and in the physical education class.

Many studies have been completed in the measurement of student attitudes towards physical education and the factors that relate to these attitudes. This study looked into the realm of the required physical education activity program in an attempt to better understand the nature of student attitudes toward physical education and the attitude changes that take place through particular course instruction.

¹A. L. Edwards, "Political Frames of Reference as a Factor Influencing Recognition," Journal of Abnormal and Social Psychology, 36:34, 1941.

I. THE PROBLEM

Statement of the problem. It was the purpose of this study to determine to what extent the male students' attitudes toward the required physical education program change after a semester of instruction at Kansas State Teachers College, Emporia. The study investigated the following:

1. What were the attitudes of the male students enrolled in the required physical education program at Kansas State Teachers College at the start of the spring semester, 1968?
2. What were the attitudes of the male students at the end of a semester of participation in the required physical education program at Kansas State Teachers College?
3. Is there a relationship between the type of activity (physical fitness, high energy expenditure, medium energy expenditure, and low energy expenditure) and the attitudes of the male students who participated in the required physical education program at Kansas State Teachers College?

Importance of the study. The results of this study may be very useful in curriculum construction and

program planning. If, for example, the physical fitness group should have a significant attitude change in a positive direction, and the other activities do not, then perhaps more physical fitness classes should be scheduled. But, if the other activities have a significant and positive attitude change, and physical fitness does not, then more of the other activities should be scheduled in place of the physical fitness classes. It is hoped, that those activities that develop a positive and significant attitude change will be the activities that are included in the curriculum when planning the program. Those activities that develop a negative attitude should be deleted from the curriculum. It was hoped, that all the activities surveyed in this study develop a high attitude toward physical education, indicating that the present program is desirable.

Limitations of the study. This study was limited to a population of 462 male students from twenty-five required physical education classes at Kansas State Teachers College, Emporia, Kansas. The majority of the men involved were freshmen and sophomores. There were, however, a few juniors and seniors enrolled in these classes. The sample of classes was from the spring semester of the 1967-1968 school year.

The Wear Physical Education Attitude Inventory, short forms A and B, were the instruments used in this study. These inventories are designed to measure only the subject's attitude toward the required physical education program. The equivalent forms were designed specifically to measure attitude change.

Procedures for the study. Form A of the Wear Physical Education Attitude Inventory was administered to 462 men enrolled in twenty-five classes of the required physical education program at Kansas State Teachers College. The inventory was administered during the first week of instruction of the spring semester of the 1967-1968 school year. Each form was administered by the class instructor. Each instructor was briefed in the procedures that he was to follow in administering the inventories. The subjects were assured that the results would not, in any way, affect their course grades.

During the last week of the semester, form B of the Wear Physical Education Attitude Inventory was administered to 427 of these same subjects. The fifty-five men who did not take form B of the inventory were either absent that day, or they had dropped from the course sometime after the first week of the semester.

The next step was to score the inventories and to organize them into groups. Group I was composed of two physical fitness classes. Group II (the high energy expenditure group) consists of one wrestling-weight training class, three swimming classes, one handball class, and two badminton-tennis classes. Group III (the medium energy expenditure group) is composed of one tumbling class, and two bowling classes. Group IV (the low energy expenditure group) consists of two volleyball-softball classes, eight golf classes, and two archery-fencing classes.

The data from form A and form B of the inventories were recorded in the proper group and class and submitted to the Computer Center at Kansas State Teachers College. An I. B. M. 1401 computer was employed to find the mean averages, the difference between the mean averages, and the t-test for each group and class. The null hypothesis was employed to compare the data. The null hypothesis, "attitudes toward physical education can not be changed through course instruction," was employed. It was assumed that there would be no significant difference between the initial and final mean scores of the data. It was also assumed that there would be no significant difference between the initial mean scores of each group or the final mean scores of each group.

II. DEFINITION OF TERMS USED

Attitude. The concept "attitude" will be used here to denote the sum-total of man's inclinations and feelings, prejudice or bias, preconceived notions, ideas, fears, threats, and convictions about physical education.²

Group I. Consists of the two physical fitness classes offered to the male students at the Kansas State Teachers College. One class met at 6:30 a.m. and the other met at 5:00 p.m., Monday through Thursday for a period of nine weeks during the second half of the semester. The students enrolled in these classes were required to wear a regulation physical education uniform (shorts, t-shirt, and gym shoes).

Group II. Consists of one wrestling-weight training class, three swimming classes, one handball-tennis class, one handball class, and two badminton-tennis classes. The activities in this group require a great amount of energy to be spent during participation as the activities are quite vigorous. The students enrolled in these classes

²Louis L. Thurstone and E. J. Chave, The Measurement of Attitude (Chicago, Illinois: The University of Chicago Press, 1929), pp. 6-7.

are required to wear the regulation physical education uniform.

Group III. Consists of one tumbling class and two bowling classes. The activities in this group require a medium amount of energy to be spent during participation as the activities are moderately vigorous. The bowling students are not required to wear the regulation uniform. The tumbling students must suit-up for class.

Group IV. Consists of two volleyball-softball classes, eight golf classes, and two archery-fencing classes. The activities in this group require a small amount of energy to be spent during participation as the activities are only slightly vigorous. The students enrolled in these classes are not required to wear any regulation physical education uniform, except for the two volleyball-softball classes, in which the uniform is required.

Physical Education. That phase of the total process of education which is concerned with muscular and related activities, and with modifications or behavior changes in the individual that result from these activities.³

³John E. Nixon, An Introduction to Physical Education (Philadelphia: W. B. Saunders Company, 1959), pp. 44-45.

Wear Physical Education Attitude Inventory. The

Wear Attitude Inventory is a carefully prepared instrument of forty items which asks subjects to consider physical education only from the standpoint of its place as an activity course taught during a regular class period. A subject indicates the relative strength of his agreement or disagreement on each statement using the following scoring system: 1 - strongly disagree; 2 - disagree; 3 - undecided; 4 - agree; or 5 - strongly agree. Negatively worded items are scores in reverse order from five to one. The score may range from forty (totally negative attitude) to two hundred (totally positive attitude).

Wear Physical Education Attitude Inventory, Short Forms A and B. The short forms, A and B, are equivalent forms of the original Wear Physical Education Attitude Inventory. They are made up of thirty statements each, taken from the original inventory. The scoring procedure is the same, with a score range of thirty for a totally negative attitude to 150 for a totally positive attitude. The equivalent forms give a reliable measure of attitude change.

CHAPTER II

REVIEW OF THE LITERATURE

Numerous studies have been conducted in an attempt to gain knowledge and an understanding of the relationships between students' attitudes and the physical education program. The findings of these various studies may indicate what can be expected, and what may not be expected while researching in the area of students' attitudes toward physical education. The studies reviewed were classified into one of the following areas: Student Attitudes Toward Physical Education; Student Attitudes Toward Athletics; Factors Influencing Student Attitudes; Attitude Changes; or The Instrumentation of Attitude Scales. Many of the studies have been classified under more than one of these groups.

I. STUDENT ATTITUDES TOWARD PHYSICAL EDUCATION

Studies at the High School Level. Ecker¹ administered form A of the Wear Attitude Inventory to 727 sophomore and junior girls at Wichita High School South. It was

¹Wanda Lee Ecker, "An Evaluation of the Attitudes Toward Physical Education of Sophomore and Junior Girls of Wichita High School South" (Unpublished Thesis, Kansas State Teachers College, Emporia, 1963), pp. 9-17.

found that both sophomore and junior girls have a good attitude toward physical education. A little more than one-half of the sophomores thought physical education was an important part of the school program.

Studies at the College Level. The responses of 136 men and 130 women on the Wear Physical Education Attitude Inventory (short form A) at the University of California were analyzed by Keogh.² The purpose of this study was to determine if students differed in their attitudes toward the general benefits or values of physical education and if men and women differ in this concept. Men and women were not different in their stated attitudes toward physical education. Subjects endorsed the social, physical, and emotional values of physical education, but conflicted in their opinions regarding the relative values of a physical education program in the school curriculum.

Keogh³ did a follow-up study to analyze stated attitude responses and selected descriptive information

²Jack Keogh, "Analysis of General Attitudes Toward Physical Education," The Research Quarterly, 33:239, May, 1962.

³Jack Keogh, "Extreme Attitudes Toward Physical Education," The Research Quarterly, 34:27, March, 1963.

in relation to two groups of men and women who demonstrated extreme attitudes toward physical education. From the original group of 266 subjects, sixty-nine men and women were selected whose scores on the Wear Physical Education Attitude Inventory were extremes of high or low. Additional data were obtained through a group interview questionnaire. There were no male-female differences within the extreme groups. The low groups offered some minimum support for the outcomes of physical education, but they questioned the value of physical education as a school program. There was no evidence to indicate that negative attitudes were related to non-participation.

Craig⁴ and the National Youth Administration developed a questionnaire to study the attitudes of the University of Illinois students toward the required physical education program. The first part of the questionnaire dealt with finding out what the students thought of courses which they had already taken. The second part dealt with finding out which courses each student would like to be enrolled in. The third part dealt with student attitudes. The results show that, given a broad and well organized program

⁴H. W. Craig, "Sports Interests and Attitudes of Students Enrolled in the Service Curriculum in Physical Education at the University of Illinois," The Research Quarterly, 10:143, May, 1939.

in sports, the average college student will select activities high in carry-over values and will enjoy taking them.

The attitudes of women students toward physical education at the University of Florida were surveyed by Hunter.⁵ A like-dislike statement questionnaire using the Likert scoring procedure was used in this study. Out of the 687 subjects who answered the questionnaire, 142 students expressed a strong favorable attitude and seventy students expressed a strong unfavorable attitude toward physical education. The remainder were neither highly favorable nor rebelliously opposed to the required program.

The purpose of Sluiter's⁶ investigation at South Dakota State College was to determine the attitude of the male students toward the required physical education program. A questionnaire was constructed and tested. It was then distributed to as many physical education students as possible. The questionnaire was designed to gather information so that the attitudes with respect

⁵Sammie Rushing Hunter, "Attitudes of Women Students Toward College Physical Education" (A Dissertation Presented to the Graduate Council of the University of Florida, January, 1956), p. 17. (Microfilm).

⁶Floyd V. Sluiter, "The Attitudes of Men Students Toward the Required Physical Education Program at South Dakota State College" (A Master's Thesis Presented to the Graduate Council of South Dakota State College, August, 1959), pp. 12-18. (Microcard).

to the required program, its value to the students, academic credit, facilities, instruction, educational needs, and the activities most desired by the male students could be studied. The results indicate that: (a) The students at South Dakota State College feel a need for physical education activity as a part of their educational experience; (b) The need for learning skills in recreational type activities is important to the student; (c) Experience in high school physical education has very little influence on attitude; (d) Most students feel that they benefit socially, physically, mentally, and emotionally through physical education activities; (e) The students had a favorable attitude toward the required physical education program; (f) Students were willing to take physical education as an elective; (g) Students feel that physical education should be required; and (h) Students feel that credit should be given for physical education courses.

Studies involving selected kinds of activity.

Moyer, Mitchem, and Bell⁷ used a modified Wear Attitude Inventory to determine the attitude of freshman and junior women toward the required physical education program

⁷Lou Jean Moyer, John C. Mitchem, and Mary Bell, "Women's Attitude Toward Physical Education in the General Education Program at Northern Illinois University," The Research Quarterly, 37:515, December, 1966.

at Northern Illinois University and to evaluate the physical education offerings in terms of student needs. An eleven question multiple choice questionnaire was constructed to gather the additional information that was needed for the study. During final examinations, the inventory was given to 444 freshmen and 382 juniors in ninety-five physical education sections. The findings indicated a preference for individual sports, a highly favorable attitude toward physical education on the part of both freshmen and juniors, and a need for re-evaluation of methodology and interpretation of objectives in teaching the required program.

Broer, Fox, and Way⁸ conducted a study to determine the University of Washington freshman and sophomore women students' attitude toward physical education. The Wear Attitude Inventory was administered to 1,149 women students who were enrolled in physical education activity classes. The great majority of the students expressed a very favorable attitude toward physical education as an activity course. Scores on the inventory indicated the attitude toward physical education was as follows: 200 - totally

⁸Marion R. Broer, Katharine S. Fox, and Eunice Way, "Attitudes of University of Washington Women Students Toward Physical Education Activity," The Research Quarterly, 26:379, December, 1955.

strongly favorable attitude; 160 - totally favorable attitude; 120 - completely neutral attitude; 80 - totally unfavorable attitude; 40 - totally decidedly unfavorable attitude. The mean score for 1,149 students was found to be 150.5. The mean scores of students enrolled in various activities are: swimming 158.83; softball 153.00; tennis 152.82; canoeing 149.99; tap dance 149.61; folk dance 149.57; modern dance 148.95; fencing 148.43; bowling 146.75; golf 146.46; riding 143.00; archery 142.95; and badminton 140.68.

II. STUDENT ATTITUDES TOWARD ATHLETICS

A study to measure the attitude toward physical education of all male lower division students entering the University of Oregon in September, 1960, was conducted by Brumbach and Cross.⁹ The Wear Attitude Inventory, short form A, was administered to students in groups of thirty during a physical education orientation session. The subjects filled out a brief questionnaire form on which they reported information relative to the high school they had attended, their physical education

⁹Wayne B. Brumbach and John A. Cross, "Attitudes Toward Physical Education of Male Students Entering the University of Oregon," The Research Quarterly, 36:10, March, 1965.

background, and whether or not they had had active duty as a member of the United States Armed Forces. The data was gathered from 938 students. The mean score for the entire group was 119.72. The athletes earned a mean score of 122.01 while the nonathletes had a mean score of 114.32. It was also found that the more years of physical education the student had in high school, and the smaller the high school the student had attended, the higher his inventory score tended to be. The non-veteran group had a higher inventory score than did the veteran group.

Stalnaker¹⁰ conducted a questionnaire study at the University of Minnesota to determine the attitude of the students and faculty toward intercollegiate athletics. The findings show that both groups favored intercollegiate athletics. The athletes had a better attitude than non-athletes, and the students had a better attitude toward intercollegiate athletics than the faculty.

¹⁰John Stalnaker, "Attitudes Toward Intercollegiate Athletics," School and Society, 37:500, April 15, 1933.

III. FACTORS INFLUENCING STUDENT ATTITUDES

Personal background. Fisher¹¹ conducted a study to determine the factors identified with positive and negative attitudes toward physical education. The Wear Attitude Inventory was administered to 474 entering college freshman women at Los Angeles State College. A definite relationship was found between the attitudes expressed and the physical education background the girls possessed.

A study to determine the relationships between selected educational and social background factors and the attitudes of college women toward physical education and certain sports and activities was conducted by Lemen.¹² Inventories were administered by faculty members of twenty colleges and universities to freshmen and sophomores in required physical education classes; 1840 subjects were used in the final tabulations. The subjects expressed their attitudes toward eleven common activities by indicating on a seven degree continuum their reaction to each activity. Attitudes were determined by summing

¹¹Anita Hart Fisher, "Factors Identified with Positive and Negative Attitudes Toward Physical Education," Dissertation Abstracts, 25:1721, September, 1964.

¹²Mildred Gene Lemen, "The Relationship Between Selected Variables and Attitudes of College Women Toward Physical Education and Certain Sports," Dissertation Abstracts, 23:1596, November, 1962.

the values of each response. College women appear to have favorable attitudes toward activities and physical education. Relationships exist between certain social background factors and attitudes toward physical education. The degree to which a person enjoys her physical education program in high school is related to her attitude, to her ability in sports, and to leisure participation in sports. College women prefer to participate in individual sports rather than team sports in their leisure time.

Bullock and Alden¹³ gave a questionnaire to 192 freshman women who were enrolled in physical education courses at the University of Oregon. The three part questionnaire dealt with the home life and the early play experiences of the individual, the high school experiences, and the university physical education situation. The results of this study indicate that some of the factors affecting the attitudes of the freshman women toward the required physical education program were the lack of an opportunity to play with other children in childhood, the training of the physical education teachers the girls had in high school, the richness of the high

¹³Marguerite Bullock and Florence D. Alden, "Some of the Factors Determining the Attitude of Freshman Women at the University of Oregon Toward Required Physical Education," The Research Quarterly, 4:60, September, 1933.

school curriculum, the type and variety in subject matter, the opportunity to select courses, and the element of requirement.

The Wear Attitude Inventory and a background questionnaire were administered to 1,126 college freshman women in private Iowa colleges. Mista¹⁴ found that:

1. Significant differences in attitudes toward physical education existed between the following groups of freshman women: (a) Those earning interscholastic athletic letters in high school had more favorable attitudes than those who did not earn letters; (b) Those who participated in organized extra-school physical activities programs had more favorable attitudes than those who did not participate in such programs; (c) Those who lived on farms had more favorable attitudes than those who did not live on farms; (d) Those who had high school graduating classes less than seventy-five had more favorable attitudes than those from classes larger than 140; (e) Those who chose teaching careers had more favorable attitudes than those who chose nonteaching careers; (f) Those rating themselves above average in skills had higher attitudes than those rating themselves below average in physical skills; and

¹⁴Nancy J. Mista, "Attitudes of College Women Toward Their High School Physical Education Programs," The Research Quarterly, 39:166, March, 1968.

(g) Those who enjoyed their high school physical education had more favorable attitudes than those who did not enjoy their high school physical education

2. Significant differences in attitude toward physical education did not exist between the following groups of college freshman women: (a) Those who had physical education in high school and those who did not; (b) Those who had a woman teacher in high school physical education and those who had a man teacher; (c) Those who took physical fitness tests in high school and those who did not; (e) Those from small communities and those from cities; and (f) Those whose physical education was two hours or less weekly and those who had four or more hours of physical education weekly.

Personality. One hundred and twenty-one items representing annoyances directly or indirectly related to physical education were derived from the Harsh study of "Categories of Annoyances," the results of fifteen interviews, and the Page questionnaire on high school and college physical education participation. Nemson¹⁵ presented these items to 323 junior and senior high school

¹⁵Edward Nemson, "Specific Annoyances in Relation to Student Attitudes in Physical Education Classes," The Research Quarterly, 20:336, October, 1949.

boys in a large semi-rural high school. The subjects expressed their degree of annoyance with respect to each item. These scores were related to a rating of the boy's attitude toward physical education by each physical education instructor. The boys who were rated high in attitude toward physical education indicated that smoking, swearing, and tardiness were the items which annoyed them most. Rebellion against compulsive physical education and various "gripes" included the items most annoying to the poor attitude group. While certain sources of annoyances could be removed (lack of cleanliness and inadequate facilities) most of them are of a nature that involve the personality or behavior of other students or instructors.

Strength. In a study conducted by Wessel and Nelson¹⁶ a random selection of two hundred college women from the nonmajor required program at Michigan State University was obtained by using a table of random numbers. During the first four weeks of the spring all tests were administered by the instructors in the Department of Health and Physical Education: The dynamometric strength measures (hand grip, back lift, push, and pull) were

¹⁶ Janet A. Wessel and Richard Nelson, "Relationships Between Strength and Attitudes Toward Physical Education Activity Among College Women," The Research Quarterly, 35:562, December, 1964.

used in this study. The Wear Attitude Inventory, short form A, was used to measure attitudes toward physical education. Responses to four additional questions were also used. All correlations were significantly greater than zero at the one percent level of confidence; although the relationships found were low. Back strength had a closer relationship to the attitude measures than the other strength measures. The results indicate that there is a relationship between strength and attitudes toward physical education as an activity.

Vincent¹⁷ conducted a study to determine the roles of strength, efficiency, and expressed attitudes toward physical education in the prediction of success in physical education activity courses. The Wear Attitude Inventory was administered to 192 students enrolled in eight selected physical education classes at the University of Georgia. Strength was evaluated by performance with dynamometers and included the following measurements: right and left grips, push, pull, and back and leg strength. Efficiency was measured through the calculation of oxygen consumption, using an indirect, closed circuit calorimetric technique.

¹⁷Marilyn F. Vincent, "Prediction of Success in Physical Education Activities from Attitude, Strength, and Efficiency Measurements," The Research Quarterly, 38:502, October, 1967.

The success factor was taken as the final grade received in the physical education activity course enrolled in for that quarter. The correlations of the factors showed that the relationships between success and strength and attitude were significant and positive. The relationships between success and efficiency and strength and efficiency were negative. The efficiency-attitude correlation was positive but not significant.

Success. Vincent¹⁸ had conducted an earlier study at the University of Georgia that involved 188 women in a variety of physical education activities and the Wear Attitude Inventory. The final grade received for the activity course was used as the success factor. Attitudes were analyzed both as to values and as to activity groups and correlations were computed between attitudes and success. There was a significant positive relationship between attitude and success.

The purpose of Isenberger's¹⁹ study was to determine the relationship between the self-attitudes (self rated

¹⁸Marilyn F. Vincent, "Attitudes of College Women Toward Physical Education and Their Relationship to Success in Physical Education," The Research Quarterly, 38:126, March, 1967.

¹⁹Wilma Isenberger, "Self-Attitudes of Women Physical Education Major Students as Related to Measures of Interest and Success," The Research Quarterly, 30:167, May, 1959.

attitudes toward physical education) of women physical education major students and measures of interest and success. A second purpose of this study was to determine the relationship between the interests of women physical education major students and those of women physical education teachers. Two hundred seventy-seven women physical education major students from three institutions and 115 women physical education teachers participated in the various phases of the study. The "Who Am I?" test was used as a measure of self-attitudes. Interest was measured by the Strong Vocational Interest Blank. Success was measured by the Minnesota Teacher Attitude Inventory, The Scott General Motor Ability Test, a teacher trait evaluation sheet, semester grades in physical education and theory and skill courses, and total university semester grades. The results of this study indicated that self-attitudes are not significantly related. A negative, but significant relationship between semester grades and self-attitudes, and between physical education skill grades and self-attitudes was significant for one of the student groups. A relationship between motor ability and self-attitudes was indicated. Women physical education major students scored significantly higher on the Strong Vocational Interest Blank than did the teachers of physical education.

School and program quality. Campbell²⁰ conducted a study to determine if students differ in their attitudes toward physical education as a result of the size of high school attended, the program of physical education experienced, or the nature of academic interest. The Wear Attitude Inventory, short form A, was administered to 199 lower division male students who were enrolled in the required program at the University of Texas at Austin. The students also completed a brief information questionnaire on which they reported information relative to age, years of high school physical education, size of high school attended, college within the university in which they were enrolled, and class of required physical education in which they were enrolled. No significant variation in attitude scores toward physical education was found within the subgroups. The findings suggest that attitudes concerning physical education cannot be predicted by size of high school attended, by academic interest, or by preference of physical activities.

²⁰Donald E. Campbell, "Students' Attitudes Toward Physical Education," Abstracts of Research Papers 1968, (1968), p. 3.

Turner²¹ employed a modified Wear Attitude Inventory to determine the relationship between the quality of three high school physical education programs for girls in Iowa City, Iowa, and the attitudes expressed by senior girls toward their respective classes. This study found no significant relationship between the quality of the physical education program and the attitude held by students toward these programs.

Costello²² selected the schools and divided them into three groups by enrollment: 0-199, 200-399, and 400-up. Similarly, all schools were placed in categories based on town population: 0-2,999, 3,000-5,999, and 6,000-up. The La Porte Score Card Number II was used in this study to evaluate the school programs. The Wear Physical Education Attitude Inventory was used to evaluate the students' attitudes. Out of a possible 2,217 senior boys in the fifty high schools, 1,806 were actually tested. This is eighty-one percent of the total. Comparisons were made between the different sizes of schools and the

²¹Mary Ann Turner, "Senior Girls' Attitudes Toward High School Physical Education and Their Relationship to Program Quality and Other Factors," Dissertation Abstracts, 26:3747, January, 1966.

²²Richard A. Costello, "The Relationship of Attitudes Held by Senior Boys and Rated Physical Education Programs in Selected High Schools in Maine" (Thesis, Springfield College, June, 1965), pp. 8-14. (Microcard).

different sizes of towns on both the La Porte and Wear Inventories. It was found that physical education programs were of a higher quality as school size increased, physical education programs were of a higher quality as town size increased, accredited schools had better rated programs than non-accredited schools, attitudes were not influenced by school enrollment, town size did not affect the attitude, and that attitudes as measured by the Wear Inventory were not related to the program as measured by the La Porte Score Card.

A similar study by Squires²³ used thirty-nine Connecticut high schools. Again, the Wear Attitude Inventory and the La Porte Score Card were the instruments used. The senior boys used in the study were also given personal interviews. To establish the relationship between the status of the physical education program, the mean scores of the Wear Attitude Inventory and the total La Porte Score Card scores were correlated. The factors influencing favorable attitudes toward physical education of the senior high school boys scoring high on the Wear Attitude Inventory were: outside opportunities in sports

²³John Y. Squires, "Factors Influencing Attitudes of High School Senior Boys Toward Physical Education" (Thesis, Springfield College, June, 1956), pp. 10-14. (Microcard).

(parks, playgrounds, camps, and leagues); opportunities in sports in grammar school; appreciation of physical education; level of skills; parents' attitudes and example; Teachers' attitudes and interest; and the influence of friends. The factors influencing unfavorable attitudes toward physical education of the boys scoring lowest on the Wear Attitude Inventory were a negative appreciation of physical education activities, a negative appreciation of the organization and administration of physical education, and the level of skill.

IV. ATTITUDE CHANGE

Measuring attitude change. Davis²⁴ conducted a study to determine if there was a change in the attitude toward physical education of college freshman boys during one semester of participation in a physical education activity course. The Wear Attitude Inventory was administered to 265 freshmen and the results indicate that participation had little effect in altering attitudes toward physical education, either more favorable or less favorable.

²⁴Leon Glenn Davis, "Changes in the Attitudes of College Freshmen Toward Physical Education Participation," Dissertation Abstracts, 25:7063-7064, June, 1965.

Form A of the Wear Attitude Inventory was administered to 115 male and female subjects enrolled in summer session classes at the Kansas State Teachers College in July, 1966. This same inventory was administered to eighty male and female high school students enrolled in physical education classes at the Clearwater High School, Clearwater, Kansas. Vierthaler²⁵ found that as the level of education increased, there was also an improvement in attitude toward physical education. It was also found that there was no significant difference in attitudes toward physical education between male and female subjects.

Bell and Walters²⁶ studied the attitudes of college women at the University of Michigan in an attempt to help evaluate the physical education program. All freshmen who were taking physical education, and seniors who had taken the required physical education classes were studied. A questionnaire consisting of three parts was devised to study the attitudes. Part I was a checklist response

²⁵Larry J. Vierthaler, "A Study of Attitudes Held by High School and College Students Toward Physical Education" (Unpublished Master's Thesis, Kansas State Teachers College, Emporia, January, 1967), pp. 15-17.

²⁶Margaret C. Bell and Etta Walters, "Attitudes of Women at the University of Michigan Toward Physical Education," The Research Quarterly, 24:379, December, 1953.

to find the needed information on the background of the subjects. Part II consisted of questions based on the objectives of physical education, and Part III was the Wear Attitude Inventory. It was found that individual sports are the physical activities outside of the physical education class most frequently engaged in by freshmen and seniors. Group activities run second. Freshman women spend more time outside of class engaged in physical activities than do senior women. Freshmen who have had physical education in high school have a higher mean attitude toward physical education as an activity course than freshmen who have had no physical education in high school.

Developing attitude change. The first phase of Sheehan's²⁷ study was to construct a teaching model which theoretically would develop group attitude modifications toward a social object. The second phase was the experimental manipulation of the teaching model within selected physical education instructional units. The social attitude object which was chosen for the study was cooperation. One hundred forty-five college male freshmen were used

²⁷Thomas J. Sheehan, "The Construction and Experimental Evaluation of a Teaching Model for Attitude Formation and Change Through Physical Education Activities," Abstracts of Research Papers 1968, (1968), p. 27.

in the experiment. The students were randomly distributed into five groups. The experimental group was involved in learning the game of soccer as a physical education activity. The experimental group also was subjected to the teaching model designed for attitude modification. Two control groups were placed in separate soccer instructional units. The remaining two control groups were engaged in separate tennis instructional units. All groups participated for thirty-six sessions. The findings of this study indicate that it was possible to construct an attitude-modifying teaching model and that this model, when employed in the selected physical education activity, will significantly alter the group's attitude toward the social object contained in the model.

Brumbach²⁸ conducted a study that involved 168 students who were enrolled in six different physical fitness classes at the University of Oregon. The Wear Attitude Inventory was administered at the beginning and at the end of the semester. It was found that the subjects' mean score went up from 113.3 to 115.5 which was a significant improvement. A class of twenty-eight students were involved in a physical fitness course in

²⁸Wayne B. Brumbach, "Effects of a Special Conditioning Class Upon Students' Attitudes Toward Physical Education," The Research Quarterly, 39:211, March, 1968.

which the instructor gave a more individual and personal type of instruction with a more relaxed atmosphere. It was found that the class' mean score at the start of the semester was 119.00 and had risen to 129.70 by the end of the semester. Again, the attitude change was significant.

V. THE INSTRUMENTATION OF ATTITUDE SCALES

Selected scales. An attitude inventory was developed for the purpose of determining the attitude of high school girls toward physical education as a career for women. Likert's techniques of scale construction was selected for use in Drinkwater's²⁹ study. Statements covering aspects of the physical education profession as they apply to women were prepared according to recommended criteria. Each statement was subjected to statistical analysis in order to eliminate those which were ambiguous or which had poor discriminatory power. Following the use of the split-half method of determining reliability, the statements were divided into two equivalent forms. The split-half method of determining reliability provided a reliability coefficient of .93 indicating that a reliable attitude inventory has been constructed.

²⁹Barbara L. Drinkwater, "Development of an Attitude Inventory to Measure the Attitude of High School Girls Toward Physical Education as a Career for Women," The Research Quarterly, 31:575, December, 1960.

Moawad³⁰ adopted the situation-response technique of item construction in an attempt to develop a valid and reliable instrument which could be employed to measure the attitudes of the sophomore high school boys toward physical education. A situation was described and was followed by five possible ways of reacting to the specific situation. The student was asked to select the alternative which was closest to what his actual response would have been. About two hundred items were originally constructed, but only ninety-five items proved themselves to be useful after being tested. The ninety-five items were organized into two equal preliminary forms. Each form was administered to 352 sophomore boys in fifteen Indiana high schools. The split-half method was used and established a reliability coefficient of .915. The final form was found to be a valid and reliable measure of attitudes toward physical education of the sophomore high school boys in the state of Indiana.

Edgington³¹ developed a 125 item scale for the purpose of finding a reliable and valid scale to measure

³⁰Sayed Hassan Moawad, "A Situation-Response Physical Education Attitude Scale for Sophomore High School Boys," Dissertation Abstracts, 21:1834, January, 1961.

³¹Charles Wendell Edgington, "Development of an Attitude Scale to Measure Attitudes of High School Freshman Boys Toward Physical Education," Dissertation Abstracts, 26:5210, March, 1966.

the attitude of high school freshman boys toward physical education. The scale was administered to thirty freshman boys. The results showed that a reliable and valid scale had been developed, it is possible to measure attitudes with a carefully constructed scale, and the majority of freshman boys have a favorable attitude toward physical education.

The Wear Attitude Inventory. The purpose of Wear's³² study was to attempt to develop an instrument which would enable one to make a reliable and a valid assessment of the direction and intensity of individual and group attitudes toward physical education as an activity course. It was decided to attempt an evaluation of attitudes by presenting statements to subjects using the Likert scoring system. Subjects were asked to respond to each statement by selecting one of five choices: strongly agree, agree, undecided, disagree, or strongly disagree. Responses were secured from 472 men, most of whom were college freshmen. The reliability of the inventory as determined by the split-half technique was .96 for the 472 cases, thus indicating that the Wear Attitude Inventory

³²Carlos L. Wear, "The Evaluation of Attitudes Toward Physical Education as an Activity Course," The Research Quarterly, 22:115, March, 1951.

is a reliable measure of individual and group attitudes toward physical education.

Wear³³ then went on to develop two equivalent forms of his physical education attitude scale. Statements making up the two forms were taken from the list of 120 statements used in the earlier study. Four principles or standards were set up for making the forms equivalent: (a) statements are to be matched on the basis of discrimination indices; (b) statements are to be matched on the basis of favorableness indices; (c) statements which seem to be quite similar are to be placed on different forms; and (d) statements of the two forms are to tap approximately the same expected objectives or outcomes of physical education. A very high correlation exists between scores on the two forms of thirty statements each. On the basis of this evidence, these two forms, the Wear Physical Education Attitude Inventory, short form A, and the Wear Physical Education Attitude Inventory, short form B, may be employed wherever the use of equivalent forms is desired. They should be useful in determining attitude changes resulting from such brief experiences as listening

³³Carlos L. Wear, "Construction of Equivalent Forms of an Attitude Scale," The Research Quarterly, 26:113, March, 1955.

to a talk, watching a demonstration, viewing a film, or taking part in some activity.

VI. SUMMARY

The studies reviewed indicate that there is a large number of factors that may influence an individual's attitude toward physical education. Seven studies indicated that opportunity is the one factor that seemed most prevalent in its relationship to attitudes toward physical education. Those individuals who had the opportunity to participate in organized or unorganized activities, whether it was recreation, physical education, or athletics, generally developed a positive attitude toward physical education. The individuals who lacked these opportunities generally developed a more negative attitude toward physical education.

Eleven studies indicated that the attitude in general seemed to be more positive than negative. The two studies that compared male-female attitudes found that sex has no effect upon the attitudes toward physical education.

The studies conducted by Davis, Vierthaler, and Bell and Walters indicated that attitude can and does change. Sheehan and Brumbach have shown in their studies that attitude can be intentionally changed or taught in

the classroom situation, when the curriculum is properly designed and treated.

Many instruments for measuring students' attitudes toward physical education have been developed. Of these, the Wear Attitude Inventory is most reliable and efficient. The single form may be used to measure attitude extensively, or the equivalent forms may be employed to measure attitude change.

CHAPTER III

ANALYSIS OF DATA

Form A of the Wear Physical Education Attitude Inventory was administered to 462 men enrolled in twenty-five classes of the required physical education program at Kansas State Teachers College, Emporia. The inventory was administered during the first week of class instruction of the spring semester in the 1967-1968 school year. Due to a faculty answer form, 156 inventories could not be used. This left 306 inventories to determine the initial attitudes of the men enrolled in the required physical education program.

Form B of the Wear Physical Education Attitude Inventory was administered to these same classes at the conclusion of the semester. Of the 427 inventories administered, thirty-nine were eliminated due to erroneous answers, leaving 388 to establish the attitudes of the men at the termination of class participation.

I. ANALYSIS OF TOTAL GROUPS

Group I, the Physical Fitness Group. The initial attitude held by forty-eight men enrolled in the two physical fitness classes established a mean score of 118.90 on form A of the Wear Inventory. Form B, or the

second administration of the inventory, found thirty-seven men establishing a mean score of 119.58. The difference between the mean scores yielded a small mean gain of .68. The t of .30, was positive but not significant. With eighty-four degrees of freedom, a t test of 1.99 was necessary to be significant at the .05 level of confidence. Table I, page 40, presents the data for the four groups.

Group II, the High Energy Expenditure Group. A total of eighty-seven men from Group II established an initial attitude mean score of 119.43 employing form A of the Wear Inventory, while 124 men established a final attitude mean score of 121.79 employing form B of the Wear Inventory. The difference yielded a mean gain of 2.36. The t of 1.34, indicates that the mean gain was positive but not significant as a t of 1.97 at 210 degrees of freedom was necessary for confidence to be at the .05 level.

Group III, the Medium Energy Expenditure Group. The initial attitude held by fifty-one men in Group III, as determined by form A of the Wear Inventory, established a mean score of 115.79. The final attitude held by the sixty men enrolled in Group III classes at the conclusion of the semester, as determined by form B of the Wear

TABLE I

THE GROUP ATTITUDES OF MALE STUDENTS ENROLLED
IN THE REQUIRED PHYSICAL EDUCATION PROGRAM

	Form	N	Mean Score	Mean Diff	t	P
Group I	A	48	118.90	+ .68	.34	---
	B	37	119.43			
Group II	A	87	119.43	+ 2.36	1.34	---
	B	124	121.79			
Group III	A	51	115.79	+ 1.14	.40	---
	B	60	116.93			
Group IV	A	120	111.49	+ 7.44	4.13	.01
	B	167	118.93			

For 90 DF, $t=1.99$ at $P=.05$ and $t=2.63$ at $P=.01$.

For 100 DF, $t=1.98$ at $P=.05$ and $t=2.63$ at $P=.01$.

For 200 DF, $t=1.97$ at $P=.05$ and $t=2.60$ at $P=.01$.

For 300 DF, $t=1.97$ at $P=.05$ and $t=2.59$ at $P=.01$.

Inventory, established a mean score of 116.93. A small mean gain of 1.14 resulted yielding a nonsignificant t of .40. A t of 1.98 was necessary, at 110 degrees of freedom, to establish confidence at the .05 level.

Group IV, the Low Energy Expenditure Group. The administration of form A of the Wear Inventory to 120 men enrolled in the low energy expenditure classes established an initial mean score of 111.49. The 167 men, to whom form B of the Wear Inventory was administered at the completion of the semester, established a final mean score of 118.93. The initial and final mean scores yielded a mean difference of 7.44. With 286 degrees of freedom, a t of 1.97 was necessary for confidence to have been at the .05 level, and a t of 2.60 was necessary for confidence to have been at the .01 level. The t of 4.13 indicates that the increase was both positive and significant at the .01 level of confidence.

II. A COMPARISON OF THE GROUPS

The men enrolled in the high energy expenditure classes, Group II, had the highest initial mean score (form A, 119.43) and the highest final mean score (form B, 121.79). The physical fitness classes, Group I, ranked second at the start of the semester with an initial mean

score of 118.90 and ranked second again at the conclusion of the semester with a final mean score of 119.58. For the initial inventory, Group III ranked third with a mean score of 115.79 as determined by form A of the Wear Inventory. Group III, for the final inventory, found itself ranked last with a mean score of 116.93 as determined by form B of the Wear Inventory. Group IV, the low energy expenditure classes, was initially ranked last with a mean score of 111.49 on form A of the Wear Inventory. The second administration of the Wear Inventory, form B, established a mean score of 118.93 for Group IV. Group IV made a large enough attitude gain that it ranked third at the completion of the semester. Group IV was the only group that had a significant improvement in attitude toward physical education.

III. CLASS EXAMPLES FROM THE GROUPS

Group I. Group I, consisting of two physical fitness classes, had a very small (0.68) increase in the attitudes of the men toward physical education. The 6:30 a.m. class had a negative mean difference of -3.35 between the initial and final forms of the Wear Inventory. The 5:00 p.m. class had a positive increase in attitude of 3.00 between the initial and final mean scores of the Wear Inventory. The 6:30 a.m. class had

an initial mean score of 118.21 and a final mean score of 114.86 while the 5:00 p.m. class had an initial mean score of 119.33 and a final mean score of 122.33. Neither class had a significant attitude change. Table II, page 44, presents the data of Group I according to class.

Group II. Group II consisting of eight high energy expenditure classes, five of which had positive differences between the initial and final mean scores, and three of which had negative differences between the initial and final mean scores. Two of the three swimming classes along with the one wrestling-weight training class had negative attitude changes. None of the classes in Group II had significant attitude changes. Table III, page 45, presents the data of Group II according to class.

Group III. Two of the three medium energy expenditure classes in Group III had negative differences between the initial and final mean scores. One bowling class and the tumbling class had the positive change in attitude. However, none of the changes were significant. Table IV, page 46, presents the data of Group III according to class.

Group IV. Of the twelve low energy expenditure classes making up Group IV, only two had negative attitude

TABLE II
THE CLASS ATTITUDES OF GROUP I

Class	Form	N	Mean Score	Mean Diff	t	P
Phys Fit 6:30 a.m.	A	18	118.21	- 3.35	-1.17	---
	B	13	114.86			
Phys Fit 5:00 p.m.	A	29	119.33	+ 3.00	.95	---
	B	23	122.33			

For 30 DF, $t=2.04$ at $P=.05$ and $t=2.75$ at $P=.01$.

For 51 DF, $t=2.01$ at $P=.05$ and $t=2.68$ at $P=.01$.

TABLE III

THE CLASS ATTITUDES OF GROUP II

Class	Form	N	Mean Score	Mean Diff	t	P
Badminton-Tennis	A	17	116.83	+ 4.22	1.01	---
	B	19	121.05			
Badminton-Handball	A	4	112.20	+ 9.72	1.56	---
	B	11	121.92			
Handball	A	7	117.38	+ 6.62	1.45	---
	B	11	124.00			
Handball-Tennis	A	5	107.17	+10.72	1.46	---
	B	18	117.89			
Swimming 7:30	A	13	117.93	+ 4.45	.87	---
	B	14	122.47			
Swimming 12:30	A	9	121.20	- .64	- .12	---
	B	15	120.56			
Swimming 11:30	A	6	127.57	- 4.99	-1.21	---
	B	11	122.58			
Wrestling- Weight Training	A	19	125.40	- .90	- .25	---
	B	17	124.50			

For 15 DF, $t=2.13$ at $P=.05$ and $t=2.95$ at $P=.01$.
 For 20 DF, $t=2.09$ at $P=.05$ and $t=2.84$ at $P=.01$.
 For 25 DF, $t=2.06$ at $P=.05$ and $t=2.79$ at $P=.01$.
 For 30 DF, $t=2.04$ at $P=.05$ and $t=2.75$ at $P=.01$.
 For 35 DF, $t=2.03$ at $P=.05$ and $t=2.72$ at $P=.01$.

TABLE IV

THE CLASS ATTITUDES OF GROUP III

Class	Form	N	Mean Score	Mean Diff	t	P
Bowling 8:30	A	29	115.17	- .39	- .10	---
	B	31	114.78			
Bowling 12:30	A	16	113.29	+ 3.60	.65	---
	B	17	116.89			
Tumbling	A	4	128.00	- 4.77	- .76	---
	B	10	123.27			

For 15 DF, $t=2.13$ at $P=.05$ and $t=2.95$ at $P=.01$.

For 35 DF, $t=2.03$ at $P=.05$ and $t=2.72$ at $P=.01$.

For 60 DF, $t=2.00$ at $P=.05$ and $t=2.66$ at $P=.01$.

changes. Both were golf classes. One golf class had a difference of -0.33 between the initial and final mean scores, and the other golf class had a difference of -0.83 between the mean scores, both of which were extremely small.

Two classes had positive and significant differences between the initial and final mean scores of the Wear Inventory. One golf class had an initial mean score of 106.18 and a final mean score of 122.12. The mean gain yielded was 15.94, the largest mean gain in the twenty-five classes used in this study. The t test, with a t of 2.39 indicates that the difference was significant at the .05 level of confidence as a t of 2.06 was necessary at this level, with twenty-five degrees of freedom. But, a t of 2.79 was necessary for confidence to be at the .01 level. A volleyball-softball class, with an initial form A mean score of 112.92 and a final form B mean score of 125.00, yielded a mean gain of 12.08. With twenty-six degrees of freedom, a t of 2.36 was large enough for confidence to be at the .05 level. Again, a t of 2.06 was all that was necessary for confidence to be at the .05 level. A t of 2.78 was necessary for confidence to be at the .01 level. Table V, page 48, presents the data of Group IV according to class.

TABLE V

THE CLASS ATTITUDES OF GROUP IV

Class	Form	N	Mean Score	Mean Diff	t	P
Arch-Fenc 9:30	A	9	113.10	+ 3.90	1.00	---
	B	24	117.00			
Arch-Fenc 2:30	A	4	109.20	+ 2.80	.40	---
	B	15	112.00			
Golf 8:30 MW	A	6	115.00	+ 5.33	.94	---
	B	11	120.33			
Golf 8:30 TT	A	10	107.36	+ 8.26	1.31	---
	B	12	115.62			
Golf 2:30 TT	A	10	109.00	+14.56	1.85	---
	B	8	123.56			
Golf 1:30	A	10	106.18	+15.94	2.39	.05
	B	16	122.12			
Golf 2:30 WF	A	9	108.30	+ 4.20	.63	---
	B	11	112.50			
Golf 9:30 TT	A	7	113.00	- .33	- .03	---
	B	8	112.67			
Golf 11:30	A	14	109.47	+ 5.10	.96	---
	B	6	116.57			
Golf 9:30 MW	A	3	120.00	- .83	- .01	---
	B	5	119.17			
Vol-Softball 9:30	A	11	112.92	+12.08	2.36	.05
	B	16	125.00			
Vol-Softball 11:30	A	16	117.41	+ 4.19	1.00	---
	B	22	121.60			

For 15 DF, $t=2.13$ at $P=.05$ and $t=2.95$ at $P=.01$.
 For 20 DF, $t=2.09$ at $P=.05$ and $t=2.84$ at $P=.01$.
 For 30 DF, $t=2.04$ at $P=.05$ and $t=2.75$ at $P=.01$.
 For 40 DF, $t=2.02$ at $P=.05$ and $t=2.71$ at $P=.01$.

IV. SUMMARY OF ANALYSIS

Of the four groups of classes, only one, Group IV, the Low Energy Expenditure Group, had a significant positive change in attitude. However, all the groups did have a positive change in attitude toward the required physical education program. Eight of the twenty-five classes used in this study had negative attitude changes. Two classes, both from Group IV, had positive and significant attitude changes at the .05 level of confidence. The remaining twenty-three classes did not have significant changes in attitude, either positive or negative.

CHAPTER IV

THE FINDINGS AND CONCLUSIONS

I. SUMMARY

The purpose of this study was to determine the male students' attitudes toward the required physical education program at the beginning of the spring semester, at the end of the semester, and to compare these attitudes to determine if course instruction or class participation had any effect upon these attitudes. Form A of the Wear Physical Education Attitude Inventory was administered to the male students enrolled in twenty-five physical education classes. This was completed during the first week of instruction of the 1968 spring semester. Form B of the same inventory was administered to the male students during the last week of instruction. The same twenty-five classes were employed.

The data were divided into four groups: Group I, the physical fitness classes; Group II, the high energy expenditure classes; Group III, the medium energy expenditure classes; and Group IV, the low energy expenditure classes. The data for each group and class were classified according to form; form A, the initial attitude; and form B, the final attitude. The data were presented to the Computer Center at Kansas State Teachers College where an I. B. M. 1401 computer was employed to compile the mean scores

for each class and group at the beginning of the semester, and at the end of the semester. The initial and final mean scores were subjected to the t test to find the value of t in order to determine if there was or was not a significant attitude change in each class or group resulting from one semester of class participation.

II. FINDINGS

The findings of this study, the attitudes of the male students enrolled in twenty-five activity classes of the required physical education program during the spring semester, 1968, at Kansas State Teachers College, are:

1. The attitude of all four groups, and all twenty-five classes, was positive when the semester commenced.
2. The attitude of all four groups, and all twenty-five classes, was positive when the semester terminated.
3. All four groups improved the attitude with only Group IV having a significant attitude change. Group IV is the Low Energy Expenditure Group.
4. Seventeen classes had an increase in attitude. Two classes, both from the Low Energy Expenditure

Group, had significant increases at the .05 level of confidence.

5. Eight classes had decreases in attitude, none of which were significant.

III. CONCLUSIONS

Within the limits of this study, the following conclusions can be drawn:

1. Participation in the required physical education program does, to some extent, improve the individual's attitude toward the program.
2. The level of attitude and the level of energy expenditure seem to be related at the time the students begin participation in the class. The students with the higher attitudes chose the physical fitness and high energy expenditure classes. The students at the lower attitude level chose the low energy expenditure classes.
3. The individual with a low attitude toward the required physical education program can bring his attitude to a significantly higher level through participation in a low energy expenditure class.

IV. DISCUSSION

The findings of the studies discussed in Chapter II and the findings of this study agree that attitudes toward the required physical education program are generally positive, that attitudes can and do change, usually in a positive direction, and that some activities have greater effects than others upon the attitude. It seems to be that the students lowest in attitude choose the activities that require the least amount of energy to be spent in participation. The students at the high attitude level choose activities that are vigorous and require high energy expenditure while participating in the class. The results of this study indicate that the required physical education program at Kansas State Teachers College is good in that attitudes are high and that attitude changes are in a positive direction.

V. RECOMMENDATIONS FOR FUTURE STUDY

The findings of this study shed some light in understanding attitudes and attitude changes of male students toward a required physical education program. However, further study should be conducted in the following related areas:

1. A study should be conducted to determine the effect of the instructor upon the attitude and attitude change that may take place through a semester of class participation by a student.
2. A study should be conducted to determine if students should or should not be assigned to a particular activity according to his initial attitude.
3. A survey should be conducted to determine the relationship between the attitude toward the required physical education program and the attitude toward participation in physical activity as a recreation or exercise program for the individual's own enjoyment.

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APPENDIX

THE WEAR PHYSICAL EDUCATION ATTITUDE INVENTORY, FORM A

1. If for any reason a few subjects have to be dropped from the school program, physical education should be one of the subjects dropped.
2. Physical education activities provide no opportunities for learning to control emotions.
3. Physical education is one of the more important subjects in helping to establish and maintain desirable social standards.
4. Vigorous physical activity works off harmful emotional tensions.
5. I would take physical education only if it were required.
6. Participation in physical education makes no contribution to the development of poise.
7. Because physical skills loom large in importance in youth, it is essential that a person be helped to acquire and improve such skills.
8. Calisthenics taken regularly are good for one's general health.
9. Skill in active games or sports is not necessary for leading the fullest kind of life.
10. Physical education does more harm physically than it does good.
11. Associating with others in some physical education activity is fun.
12. Physical education classes provide situations for the formation of attitudes which will make one a better citizen.
13. Physical education situations are among the poorest for making friends.
14. There is not enough value coming from physical education to justify the time consumed.

15. Physical education skills make worthwhile contributions to the enrichment of living.
16. People get all the physical exercise they need just taking care of their daily work.
17. All who are physically able will profit from an hour of physical education each day.
18. Physical education makes a valuable contribution toward building up adequate reserves of strength and endurance for everyday living.
19. Physical education tears down sociability by encouraging people to attempt to surpass each other in many of the activities.
20. Participation in physical education activities makes for a more wholesome outlook on life.
21. Physical education adds nothing to the improvement of social behavior.
22. Physical education class activities will help to relieve and relax tensions.
23. Participation in physical education activities helps a person to maintain a healthful emotional life.
24. Physical education is one of the more important subjects in the school program.
25. There is little value in physical education as far as physical wellbeing is concerned.
26. Physical education should be included in the program of every school.
27. Skills learned in a physical education class do not benefit a person.
28. Physical education provides situations for developing desirable character qualities.
29. Physical education makes for more enjoyable living.
30. Physical education has no place in modern education.

THE WEAR PHYSICAL EDUCATION ATTITUDE INVENTORY, FORM B

1. Association in physical education activities gives people a better understanding of each other.
2. Engaging in vigorous physical activity gets one interested in practicing good health habits.
3. The time spent in getting ready for and engaging in a physical education class could be more profitably spent in other ways.
4. A person's body usually has all the strength it needs without participation in physical education activities.
5. Participation in physical education activities tends to make one a more socially desirable person.
6. Physical education in schools does not receive the emphasis it should.
7. Physical education classes are poor in opportunities for worthwhile social experiences.
8. A person would be better off emotionally if he did not participate in physical education.
9. It is possible to make physical education a valuable subject by proper selection of activities.
10. Developing a physical skill brings mental relaxation and relief.
11. Physical education classes provide nothing which will be of value outside the class.
12. There should not be over two one-hour periods per week devoted to physical education in schools.
13. Belonging to a group, for which opportunity is provided in team activities, is a desirable experience for a person.
14. Physical education is an important subject in helping a person gain and maintain all-round good health.
15. No definite beneficial results come from participation in physical education activities.

16. Engaging in group physical education activities is desirable for proper personality development.
17. Physical education activities tend to upset a person emotionally.
18. For its contributions to mental and emotional well-being, physical education should be included in the program of every school.
19. I would advise anyone who is physically able to take physical education.
20. As far as improving physical health is concerned a physical education class is a waste of time.
21. Participation in physical education class activities tends to develop a wholesome interest in the functioning of one's body.
22. Physical education classes give a person an opportunity to have a good time.
23. The final mastering of a certain movement or skill in a physical education class brings a pleasurable feeling that one seldom experiences elsewhere.
24. Physical education contributes little toward the improvement of social behavior.
25. Physical education classes provide values which are useful in other parts of daily living.
26. Participation in physical education makes no contribution to the development of poise.
27. Physical education should be required of all who are physically able to participate.
28. The time devoted to physical education in schools could be more profitably used in study.
29. The skills learned in a physical education class do not add anything of value to a person's life.
30. Physical education does more harm socially than good.