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UNDERGRADUATE STUDENTS

Clara Elizabeth Miller

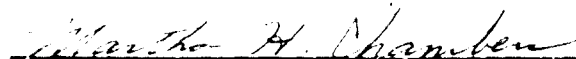
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in partial fulfillment of the requirements
for the degree Doctor of Arts

August, 1974


A COMPARISON OF THE ATTITUDES TOWARD
PHYSICAL EDUCATION OF SELECTED
UNDERGRADUATE STUDENTS

APPROVED:


Graduate Committee:



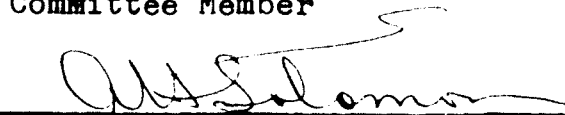
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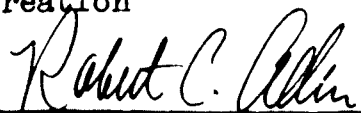
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ABSTRACT

A COMPARISON OF THE ATTITUDES TOWARD PHYSICAL EDUCATION OF SELECTED UNDERGRADUATE STUDENTS

by Clara Elizabeth Miller

The purpose of this study was to gain more information concerning the attitudes toward physical education of selected undergraduate students. More specifically, this study was concerned with the attitudes of non-physical education majors and minors in beginning activity classes.

The subjects were 1,223 university students attending one of eighty-three beginning activity classes at Middle Tennessee State University. The Wear Physical Education Attitude Inventory was administered by the instructor in each class with Form A of the Inventory (the pre-test) being given at the beginning of the semester before any course content was covered. Form B of the Inventory (the post-test) was given at the end of the semester after all course content was covered.

Two-way analysis of variance techniques were used in analyzing the data. A Type I analysis of variance was used

Clara Elizabeth Miller

in comparing the male by female data. The freshman by sophomore by junior by senior data were compared by the Type I analysis of variance. A Type I analysis of variance was also used in comparing those students enrolled in individual and/or dual sports classes against those enrolled in team sports classes. A significance of the difference between two correlated means technique was performed on a random sample of 100 subjects to determine if there were a significant change in attitudes toward physical education from the beginning of the semester to the end of the semester.

Major findings of this study were that there were no significant differences between the aforementioned groups. It was further concluded there was not a significant change in attitudes toward physical education from the beginning of the semester to the end of the semester.

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Chapter 1

INTRODUCTION

Educators generally agree that favorable attitude patterns play an important role in learning.¹ Since the basic learning concepts of physical education are no different from those of general education, it is desirable to have a favorable attitude toward physical education. This is not only to facilitate but also to expedite learning in physical education. Whether or not students in physical education classes have favorable attitudes can only be determined by evaluation.

STATEMENT OF THE PROBLEM

The purpose of this study was to gain more information concerning the attitudes toward physical education of selected undergraduate students. More specifically, this study was concerned with the attitudes of non-physical education majors and minors in beginning activity classes.

¹Janet A. Seaman, "Attitudes of Physically Handicapped Children Toward Physical Education," Research Quarterly, XLI (October, 1970), 439.

SIGNIFICANCE OF THE STUDY

Several studies have been reported concerning the role attitudes play in learning. Such studies have established that the student's learning is motivated by attitudes. It is also acknowledged that attitudes influence the use of skills and knowledge which have been learned.² Barrow and McGee state that attitudes which are acquired concurrently with activity often produce a tremendous influence on performance.³ Thus, attitudes play an important role in determining an individual's willingness to learn.

It has further been noted that selection or avoidance of activities is affected by attitudes.⁴ This fact is of importance when evaluating the effect various types of programs, administrative procedures, and methods of instruction have upon students' attitudes. By studying the attitudes of students toward physical education, the

²Donald E. Campbell, "Student Attitudes Toward Physical Education," Research Quarterly, XXXIX (October, 1968).

³Harold M. Barrow and Rosemary McGee, A Practical Approach to Measurement in Physical Education (Philadelphia: Lea and Febiger, 1971), p. 431.

⁴Nizar M. Al-Talb, "Effects of Consonant and Dissonant Role Playing with High or Low Justification on Attitude Change Toward Physical Education Courses," Research Quarterly, XLI (December, 1970), 467.

evaluation and development of good physical education programs could be enhanced.

Most of the studies which have been reported are concerned with the attitudes of either college men⁵ or college women⁶ toward physical education. However, relatively little attention has been devoted to: (1) the change in attitude toward physical education during selected activities, (2) a comparison of men's and women's attitudes toward physical education, (3) a comparison of the attitude toward physical education of freshmen, sophomores, juniors, and seniors, and (4) a comparison of the attitude toward physical education of students enrolled in an individual and/or dual sport activity class and those enrolled in a team sport activity class.

Are there favorable changes in attitudes during a semester physical education activity course? Are there differences between the attitudes of male and female

⁵Wayne Brumbach and John A. Cross, "Attitudes Toward Physical Education of Male Students Entering the University of Oregon," Research Quarterly, XXXVI (March, 1965), 10-16; Campbell, op. cit., pp. 456-62.

⁶Margaret Bell and Etta C. Walters, "Attitudes of Women at the University of Michigan Toward Physical Education," Research Quarterly, XXIV (December, 1953), 379-91; Marion Broer, Katharine Fox, and Eunice Way, "Attitudes of University of Washington Women Students Toward Physical Education Activity," Research Quarterly, XXVI (December, 1955), 378-84.

students, between freshmen and seniors, between students who choose an individual and/or dual sport class and those who choose a team sport class? It is the answers to these questions that stimulated this study.

LIMITATIONS OF THE STUDY

1. No attempt was made to control the effect of a number of behavioral and situational variables, e.g., emotional upsets prior to taking the attitude inventory, upon the attitude.

2. No attempt was made to generalize the findings of this study to all students at Middle Tennessee State University or to students of other universities.

3. No attempt was made to evaluate the effectiveness of teaching methods in the selected classes.

4. No attempt was made to determine the likes and dislikes of students or instructors with regard to any specific physical education activity.

DEFINITIONS OF TERMS USED

Attitude. Attitude is "an expression of acceptance or rejection toward some object or issue."⁷

⁷Carlos L. Wear, "The Construction and Application of an Instrument for the Evaluation of Attitude Toward Physical Education as an Activity Course" (unpublished Doctoral dissertation, State University of Iowa, 1950), p. 6.

Physical education.

Physical education, an integral part of the total education process, is a field of endeavor that has as its aim the development of physically, mentally, emotionally, and socially fit citizens through the medium of physical activities that have been selected with a view to realizing these outcomes.⁸

Beginning activity class. "Beginning activity class" refers to a class in which the initial phases of instruction of a particular activity occur. Such a class would precede the intermediate or advanced course of the same activity.

BASIC ASSUMPTIONS

The following assumptions are basic to this investigation:

1. The Wear Physical Education Attitude Inventory⁹ is a valid and reliable measure of student attitudes toward physical education.
2. The subjects taking this inventory responded honestly, thus reflecting their true attitudes.

⁸Charles A. Bucher, Foundations of Physical Education (6th ed.; St. Louis: C. V. Mosby Co., 1972), p. 7.

⁹Carlos L. Wear, "The Evaluation of Attitude Toward Physical Education as an Activity Course," Research Quarterly, XXII (March, 1951), 114-26.

HYPOTHESES

For the purposes of this study, the following hypotheses underlie the research:

H₁: There will be no significant difference in the mean attitude scores of students toward physical education from the beginning of the activity course to the conclusion of the course.

H₂: There will be no significant difference between the mean attitude scores of male students toward physical education and that of female students.

H₃: There will be no significant difference in the mean attitude toward physical education scores of freshmen, sophomores, juniors, or seniors.

H₄: There will be no significant difference between the mean attitude toward physical education scores of students enrolled in individual and/or dual sports classes and those enrolled in team sports classes.

Chapter 2

REVIEW OF RELATED LITERATURE

NATURE OF ATTITUDES

In order to deal with and more thoroughly understand attitudes, it was important that two major factors be considered. The factors considered were attitudes are acquired and attitudes can be changed.

Psychologists indicated that attitudes are acquired rather than innate.^{1,2,3} Attitudes, further, are acquired in a variety of ways. Brownell and Hagman suggested attitudes are acquired by such means as experience and by strong incidences. They further suggested that emulation, in which the attitudes of an admired or accepted individual or institution were assumed as one's own and by association,

¹Otto Klineberg, Social Psychology (rev. ed.; New York: Holt, Rinehart and Winston, 1964), p. 431.

²Howard L. Kingsley, The Nature and Conditions of Learning (New York: Prentice-Hall, Inc., 1949), p. 82.

³L. W. Doob, "The Behavior of Attitudes," Psychological Review, LIV (May, 1947), 135-56.

when like or dislike for one factor conditioned feelings about all things related to that factor, where means by which attitudes were acquired.⁴

Kingsley indicated attitudes may also be acquired through deliberate cultivation and through practice.⁵ Allport suggested that interpersonal experience, particularly with individuals who held a dominant position in the student's life was the deciding factor in the creation of attitudes.⁶

A second major factor was that attitudes could be changed.^{7,8,9} This was closely related to the fact that attitudes are learned or acquired. It should also be understood that, while attitudes may be modified or changed, they also may remain relatively fixed.

⁴Clifford L. Brownell and E. Patricia Hagman, Physical Education--Foundations and Principles (New York: McGraw-Hill Book Co., Inc., 1951), p. 371.

⁵Kingsley, op. cit., p. 337.

⁶G. W. Allport, "Attitudes," A Handbook of Social Psychology, ed. C. Murchison (Worcester: Clark University Press, 1935), p. 242.

⁷Theodore Newcomb, Social Psychology (New York: Dryden Press, 1950), p. 391.

⁸H. H. Remmers, Introduction to Opinion and Attitude Measurement (New York: Harper and Brothers, 1950), p. 263.

⁹Kingsley, op. cit., p. 402.

Sherman stated that only unusual circumstances will usually change attitudes. He further stated an active experience seemed to have the most effect on changing attitude.¹⁰

Klineberg purported the relative ease or difficulty of changing attitudes may depend on the strength or weakness of any or all of its dimensions. He described the dimensions as: direction--whether the attitude was for or against a particular attitude-object; degree--the extent or wideness of range covered by attitude; intensity--how strongly the attitude was held; consistency--whether the attitude was generally held or is limited to one particular instance; and salience--the importance of the attitude to the person or how readily a person would speak out for the particular attitude in question.¹¹

The knowledge that attitudes are acquired, rather than innate, and that attitudes can be changed was important when investigating attitudes. Without the presence of these factors it would be impossible for attitude studies to reveal significant information.

¹⁰Mandel Sherman, Basic Problems of Behavior (New York: Longmans, Green and Co., 1941), p. 263.

¹¹Klineberg, op. cit., pp. 489-90.

ATTITUDE RESEARCH IN PHYSICAL EDUCATION

The attempt to determine student attitudes toward physical education is not a recent development. Attitude research has been in progress for more than forty years. One of the first systematic attempts to analyze attitudes toward physical education was made by Smith in 1930. He sought to ascertain the attitudes toward a new program of informal physical education. His subjects were male students at the University of Minnesota. Smith reported that over 90 percent of the 650 students surveyed enjoyed the course while they were taking it and believed they were benefiting by taking the course. Further, the standard of play in intramural competition was improved and newly acquired recreational skills were used by 63 percent of these students in their spare time.¹²

Graybeal conducted a similar study in 1932. She surveyed women students at the University of Minnesota and found students enrolled in the required physical education program had a more favorable attitude toward physical education than those who were participating in undirected physical activity. The attitude of students who did not

¹²W. R. Smith, "A Questionnaire Study in Regard to the Attitudes of Men Students Toward the Required Physical Education Program," Research Quarterly, IV (March, 1933), 246-49.

participate in the required program became less favorable during their first two years at the University.¹³

Another early study was concerned with the attitudes of women students toward physical education at the University of Oregon. In 1932, Bullock and Alden found only 11 percent of the 192 freshmen women surveyed disliked their college physical education courses. Almost 37 percent of those same students indicated they disliked their high school physical education courses. The subjects listed causes of their dislikes and most were of the type that could be eliminated or improved, such as rapid change of clothes, time of day, and lack of choice in activities.¹⁴

Wiedamann and Howe conducted a further study at Wellesley College concerning activity preferences, benefits received from and attitudes toward the physical education program. They found participation in physical education service courses positively affected the attitudes of undergraduate women toward physical education. Attitudes were found to be most favorable toward rhythmic activities and

¹³Elizabeth Graybeal, "Measurement in Physical Education for Women," Research Quarterly, VII (December, 1936), 60-63.

¹⁴Marguerite Bullock and Florence D. Alden, "Some of the Factors Determining Attitude of Freshmen Women at the University of Oregon Toward Required Physical Education," Research Quarterly, IV (December, 1933), 60-70.

individual sports, although gymnastics and physical fitness objectives also received favorable support.¹⁵

A questionnaire study was conducted at the University of Illinois in cooperation with the National Youth Administration. Craig investigated the sports interests and attitudes of students in the two-year required program. Ninety-seven percent of his subjects either expected to use the activities they learned or to get some value out of them. Seventy-one percent of the subjects regarded the two-year requirement as proper. Craig concluded that the attitude toward physical education was highly favorable and that college level students usually made sound activity choices.¹⁶

In 1940, Carr administered an attitude rating scale to 335 freshmen high school girls at Harvey, Illinois. The girls were divided into two groups on the basis of scholastic achievement in previous physical education classes. The results showed a high relationship between success in physical education and favorable attitudes toward

¹⁵Inge Von Lewinski Wiedemann and Eugene Howe, "Undergraduate Attitudes and Interests with Regard to Physical Education Activities at Wellesley College," Research Quarterly, VIII (March, 1937), 15-32.

¹⁶H. W. Craig, "Sports Interests and Attitudes of Students Enrolled in the Service Curriculum in Physical Education at the University of Illinois," Research Quarterly, X (May, 1939), 143-49.

physical education. She concluded the three most important factors in determining success in physical education were motor ability, intelligence and attitude. The investigator thought it advisable for teachers to become aware of student attitudes since undesirable attitudes were obstacles to learning.¹⁷ It stood to reason that the removal of those obstacles would facilitate learning.

A study by Broer and Holland supported the findings of Carr. They reported a lack of success was the major reason for unfavorable attitudes of college women toward physical education. Small class size and individual attention were reported as the main elements in forming favorable attitudes toward physical education.¹⁸

One of the few studies concerning the attitude of students enrolled in individual sports classes as compared with team sports classes was conducted by Hazelton and Piper. The purpose of their study was to determine if there were any differences in the attitudes of the students in respect to some social traits. The subjects were freshmen

¹⁷Martha G. Carr, "Relation Between Success in Physical Education and Selected Attitudes Expressed by High School Girls," Research Quarterly, XVI (October, 1945), 176-91.

¹⁸Marion Broer and Dolly Holland, "Physical Education Interests and Needs of University of Washington Women in Service Classes," Research Quarterly, XXV (December, 1954), 387.

women enrolled in the fall activities of speedball, archery, and tennis at Purdue University. The authors concluded that the speedball group was more aware of itself as a group than the tennis and archery group. A team sport class was found to assist freshmen in adjusting to a large university and in providing opportunities for social development.¹⁹

Wear devised an instrument for the evaluation of attitudes and conducted a study of the attitudes of freshmen men at the State University of Iowa. He evaluated the attitudes of the men before and after one semester of required physical education. Wear found the attitudes at the end of the semester were negative in comparison to attitudes held previous to participation.²⁰

In 1953, Bell and Walters used the Wear Physical Education Attitude Inventory to study the attitudes of freshmen and senior women at the University of Michigan. Freshmen who had physical education in high school evidenced a higher mean attitude toward physical education than

¹⁹Helen Hazelton and Junerose Piper, "A Study of the Social Values of a Team Game and of Two Individual Sports as Judged by the Attitude of Freshmen College Women," Research Quarterly, XI (May, 1940), 54-59.

²⁰Carlos L. Wear, "The Construction and Application of an Instrument for the Evaluation of Attitude Toward Physical Education as an Activity Course" (unpublished Doctoral dissertation, State University of Iowa, 1950), p. 72.

freshmen who did not have physical education in high school. The attitudes of these freshmen were also higher than those of seniors who had physical education in high school. The investigators indicated there was a significant relationship between instructor interest in individual students and the extent of student motivation to continue voluntary participation in physical activities outside of class.²¹

Broer, Fox and Way evaluated the attitudes of women students toward physical education by using the Wear forty-item inventory. They found that 84 percent of the subjects had positive attitudes toward the physical and mental health aspects, while 76 percent had positive attitudes toward the social aspects. The total scores on the inventory disclosed a mean score of 150.5 which was below the total favorable score of 160. A student's attitude was concluded to be influenced by all of her past experiences; however, the most recent physical education experience would be likely to have a strong effect.²²

²¹Margaret Bell and Etta Walters, "Attitudes of Women at the University of Michigan Toward Physical Education," Research Quarterly, XXIV (December, 1953), 379-91.

²²Marion R. Broer, Katharine S. Fox and Eunice Way, "Attitudes of University of Washington Women Students Toward Physical Education Activity," Research Quarterly, XXVI (December, 1955), 383.

This premise was supported by Casady in a study concerning the effects of lectures presented to students in a required physical education program. He presented the following points which were pertinent to this study: (1) most college students had a favorable attitude toward physical education, although some were more favorable than others; (2) a more positive attitude was possessed by students with a background in physical education and sports; and (3) a very important factor in determining the individual's present attitude was the most recent physical education class.²³

Cross used the Wear Attitude Inventory in 1950 when testing male freshmen at the University of Oregon. Students who graduated from small high schools and from schools with four years of required physical education had better attitudes toward physical education than students who attended schools which had physical education required for two or less years.²⁴

²³Donald R. Casady, "The Effect of Lectures Presented in a Required Physical Education Program" (micro-carded Doctoral dissertation, State University of Iowa, 1959), p. 183.

²⁴John A. Cross, "Attitudes Toward Physical Education of Male Students Entering the University of Oregon" (unpublished Master's thesis, University of Oregon, Eugene, 1964), p. 48.

Patton conducted a study using the same subjects as Cross. He compared their attitudes toward physical education upon entering the University with their attitudes after completing the five required terms of physical education. The investigator found no significant relationship between participation in required physical education and changes in the students' attitudes toward physical education. He did report that students who took courses in the activity areas of training and conditioning had significantly higher attitudes after five terms of physical education.²⁵

Campbell investigated the attitudes of 199 college males by using the Wear Inventory. The subjects were grouped according to the size of the high school attended, their area of academic concentration, and the physical education class in which they were currently enrolled. The analyzed data indicated significant variations in attitudes toward physical education could not be predicted by the size of high school attended, the area of academic interest, or the preference of physical activities.²⁶

²⁵Charles Alva Patton, "Attitude Changes in Male Students of the University of Oregon After Five Terms of Required Physical Education" (unpublished Master's thesis, University of Oregon, Eugene, 1965), p. 44.

²⁶Donald E. Campbell, "Student Attitudes Toward Physical Education," Research Quarterly, XXXIX (October, 1968), 456-62.

In 1963, Keogh administered Short Form A of the Wear Physical Education Attitude Inventory to a group of male and female college students. He split off the high (130 plus) and low (95 minus) scorers. With these people he conducted personal interviews to determine their physical education and athletic background and their self-ratings on attitudes toward physical education. The investigator characterized the high groups as physically active with high personal judgments of their physical skills and of the relative importance of physical activity in their lives. He further reported that the low groups were surprisingly active physically but were very critical of their high school physical education programs and made less favorable personal judgments.²⁷

Moyer, Mitchem and Bell studied the attitudes toward physical education of 786 freshmen and junior women at Northern Illinois University. By using a modified Wear Attitude Inventory and a questionnaire approach, they found 90 percent of the subjects had positive attitudes toward physical education.²⁸

²⁷ Jack Keogh, "Extreme Attitudes Toward Physical Education," Research Quarterly, XXXIV (March, 1963), 27-33.

²⁸ Lou Jean Moyer, John C. Mitchem and Mary Bell, "Women's Attitudes Toward Physical Education in the General Education Program at Northern Illinois University," Research Quarterly, XXXVII (December, 1966), 519.

Brumbach experimented with the effects of a special conditioning class upon students' attitudes toward physical education. He found a significant improvement in the attitude of 168 students in the classes taught by graduate assistants. There was an even greater improvement, however, in the twenty-eight students taught by Brumbach in the special conditioning class. He concluded that a significant improvement in students' attitudes toward physical education may be the result of special actions to improve the teacher-student rapport.²⁹

One of the few studies comparing the attitudes toward physical education of men and women was conducted by Keogh. He used Form A of the Wear Attitude Inventory to determine if students differed in their attitudes toward general benefits or values of physical education and if men and women differed in this respect. The results showed women were more positive than men concerning the importance of physical education. Women, however, were less likely to select an activity program unless it was required. Although both men and women indicated support of the values of

²⁹Wayne B. Brumbach, "Effects of a Special Conditioning Class Upon Students' Attitudes Toward Physical Education," Research Quarterly, XXXIX (March, 1968), 211-13.

physical education, they also questioned the relative value of physical education as a school subject.³⁰

Mista administered an attitude inventory and a background information questionnaire to 1,126 freshmen college women enrolled in the private four-year colleges in Iowa. A significantly higher attitude toward physical education was found in those participating in organized physical activity programs outside of school, those who chose teaching careers, those who rated themselves above average in physical skills, and those who enjoyed their high school physical education programs. Significant differences did not exist between those who had physical education in high school and those who did not, nor between those who had a woman teaching their high school physical education classes and those who had a man, nor those who had physical education two hours or less a week and those who had physical education four hours or more a week.³¹

A study was conducted by Berger and Layne to determine the relationships between attitude toward physical

³⁰Jack Keogh, "Analysis of General Attitudes Toward Physical Education," Research Quarterly, XXXIII (May, 1962), 239.

³¹Nancy J. Mista, "Attitudes of College Women Toward Their High School Physical Education Programs," Research Quarterly, XXXIX (March, 1968), 166-74.

education and the variables of strength and motor ability. They used 152 freshmen and sophomore male college students as subjects. It was concluded from this investigation that attitudes toward physical education were related to strength and motor ability. It was further concluded that attitudes could be predicted from strength and motor ability, although the predictive ability is low.³²

The relationship between scores on the Wear Physical Education Attitude Inventory and scores on selected aspects of physical fitness was studied by Campbell. Form A of the Wear Inventory was used as an attitude measure, while the fifty-yard dash and the 600-yard walk-run were used as measures of physical fitness. There was significant relationship reported between the physical education attitudes and the ability of these eighth-grade male subjects to perform the selected physical fitness items.³³

A recent study by Dotson and Stanley investigated the values of physical activity as perceived by 699 male university students. The purpose of the study was to compare their observed attitudes with the size of high

³²Richard A. Berger and Robert Layne, "Strength and Motor Ability as Factors in Attitude Toward Physical Education," Research Quarterly, IL (October, 1969), 635-37.

³³Donald E. Campbell, "Relationship Between Scores on the Wear Attitude Inventory and Selected Physical Fitness Scores," Research Quarterly, IL (October, 1969), 470-74.

school attended, record of achievements in athletics and non-athletic activities, and the physical activity course elected. By using Kenyon's Attitude Toward Physical Activity Inventory, it was indicated that students of gymnastics expressed the highest positive mean attitude, with students of badminton, bowling, and archery expressing the lowest. No significant variations in attitudes toward physical activity could be explained by the size of the high school attended. Achievements in athletics were most highly related to the perceived value of physical activity as an ascetic experience.³⁴

These studies, for the most part, revealed student attitudes were of major importance in the success or failure of required and elective types of college physical education programs. They indicated that unfavorable student attitudes may serve as obstacles to learning in physical education and lack of success may be a major cause for such attitudes. This was closely associated with the findings which related that attitude toward physical education was significantly related to strength, motor ability, and physical fitness. It also indicated attitudes are subject to change, depending on various factors.

³⁴Charles O. Dotson and W. J. Stanley, "Values of Physical Activity Perceived by Male University Students," Research Quarterly, XLIII (May, 1972), 148-56.

Findings such as these could greatly aid administrators and teachers in establishing more effective physical education programs.

Chapter 3

METHODS AND PROCEDURES

The basic methods and procedures used in this investigation are discussed in this chapter. Included are a description of the instrument used, a description of the subjects, and the procedures used to collect the data.

INSTRUMENT

The Wear Physical Education Attitude Inventory was the evaluative instrument used in this study. The purpose of the Wear Inventory is to enable one to determine the attitude held by students toward physical education as an activity course.¹ The original short form of the Inventory consisted of forty statements to which the subject rated these statements on a five point scale. The degree of agreement or disagreement held by the subject is reflected by this Likert technique.² Wear formulated statements

¹Carlos L. Wear, "The Evaluation of Attitude Toward Physical Education as an Activity Course," Research Quarterly, XXII (March, 1951), 114.

²Rensis Likert, "A Technique for the Measurement of Attitudes," Archives of Psychology, XXII (June, 1932), 5-43.

concerning the desired outcomes of a physical education program. In his initial Inventory the statements concerned themselves with: (1) physical well-being, (2) muscular strength and coordination, (3) total physical and muscular endurance, (4) acquisition of neuromuscular skills, (5) resources for leisure, (6) mental health and emotional control, (7) social relationships, and (8) safety habits. The statements were later classified into the following four categories: (1) physiological-physical, (2) mental-emotional, (3) social, and (4) general.

The Wear Inventory was first developed by Carlos Wear in 1951; however, a need was seen for the development of equivalent forms of this scale and Wear completed these forms in 1955. An example of this need stated by Wear is that physical educators

. . . should be interested in knowing what happened to attitudes as a result of participation in a semester of physical education having certain content or having certain methods of instructions employed.³

The equivalent forms were used in this study because of the pre-test and post-test procedure.

To establish validity Wear utilized the external criterion of graphic self-ratings of general attitude toward

³Carlos L. Wear, "Construction of Equivalent Forms of an Attitude Scale," Research Quarterly, XXVI (March, 1955), 113.

physical education. The validity coefficient occurring was .80. The mean of the scores on Form A was 114.59 with a standard deviation of 17.25 and the mean of Form B was 114.45 with a standard deviation of 17.67. The reliability of Form A, calculated by the use of the Spearman-Brown Formula, was 0.94. The reliability of Form B was 0.96. The product moment correlation between scores on the two forms was 0.96.⁴

Scoring of the Inventory is based on the five possible responses to each item: strongly agree, agree, undecided, disagree, and strongly disagree. The response considered most favorable to physical education receives a score of five. Thus, the responses are scored 5-4-3-2-1 or 1-2-3-4-5, depending on whether the item is worded positively or negatively. A subject's score on the Inventory is the sum of the scores made on the individual items.⁵ This scoring scale allowed for a maximum of 150 points to reflect a highly favorable attitude toward physical education, while a person with a highly unfavorable attitude could score as few as thirty points. If a student

⁴Wear, "Construction of Equivalent Forms," op. cit., p. 115.

⁵Wear, "Evaluation of Attitude," op. cit., p. 126.

adopted a neutral position in response to the Inventory and answered all statements by marking "undecided," he would score ninety points.

DESCRIPTION OF SAMPLE

The sample was selected from the beginning activity classes at Middle Tennessee State University during the spring semester, 1974. Form A of the Wear Physical Education Attitude Inventory was administered by twenty-three instructors in eighty-three beginning activity classes. Each of the classes met twice a week for the duration of the semester. The classes consisted of:

1. four team games and conditioning classes for women
2. five team games and conditioning classes for men
3. nine folk and square dance classes
4. five social dance classes
5. one jazz dance class
6. one tap dance class
7. twelve archery and badminton classes
8. eleven tennis classes
9. one circuit training for women class
10. one circuit training for men class
11. three bowling classes

12. three karate classes
13. one bait casting class
14. two wrestling classes
15. two modern dance classes
16. eight golf classes
17. two tumbling for women classes
18. one tumbling for men class
19. four swimming classes
20. six handball for men classes
21. one handball for women class.

Of the twenty-three instructors whose students participated in this study, eight were full-time faculty members and fifteen were graduate assistants at the University. These instructors were advised to teach the classes in their usual manner, not attempting to change the attitudes of their students by altering teaching procedures.

The Inventory was administered in the selected classes to a total of 2,013 undergraduate students. The 194 physical education majors and minors who took the Inventory were excluded since it was thought that their attitude toward physical education was highly positive because they had selected physical education as a major or minor. Also omitted from the study were the nineteen juniors and seniors enrolled in the team games and conditioning classes. This was done because at the time these students entered the

the University the team games and conditioning class was a requirement for graduation. The course's being required could possibly have affected the attitude of the student. Three hundred fifty-six subjects were further eliminated due to incorrect or incomplete marking on the answer card. The 1,447 remaining subjects served as the total pre-test group.

The post-test was administered in the same aforementioned classes. Students who had marked the answer card incompletely or who were absent from class on the day the post-test was given were excluded from the study. Those students who had taken the pre-test but withdrew from the course prior to the post-test were also dropped from the study. This resulted in a further loss of 224 subjects. Thus, the final number of subjects used in the study was 1,223.

A further analysis of the subjects with divisions pertinent to this study indicated that there were 535 males and 688 females; 574 freshmen, 409 sophomores, 143 juniors, and 93 seniors; and 784 enrolled in an individual and/or dual sports class and 143 enrolled in a team sports class.

It should be noted that, when dividing the subjects into university classification, four subjects did not indicate this information on the personal information sheet. They were, therefore, excluded from this particular analysis.

After consulting authorities in the field of physical education, it was determined that the dance classes should be excluded from the analysis concerning the individual and/or dual sports classes as compared with the individual sports classes. It was the consensus that dance is an art form rather than a sport. As a result, the subjects for this particular comparison were lowered by 296.

COLLECTION OF DATA

Form A of the Wear Physical Education Attitude Inventory was administered by twenty-three instructors in eighty-three beginning activity classes. The Inventory was given at the beginning of the semester before any course content was covered. This was either the first or second class meeting in all of the selected classes.

Form B of the Inventory was administered by the instructors at the end of the semester after all course content was covered. This was done during the last week of class with the specific day dependent upon the instructor's completion of the course content.

The directions used for the Inventory were those recommended by Wear⁶ except that an IBM answer card was used instead of an answer sheet. An explanation for marking the

⁶Wear, "Evaluation of Attitude," op. cit., p. 123.

desired responses on the card was included in the directions.⁷

When Form A was administered, the students also completed a personal information sheet. This can be found in Appendix C. It consisted of name, social security number, university classification, sex and call number of the course in which presently enrolled. This information was then key punched on the completed IBM answer cards. These same data were duplicated on blank answer cards. These cards were then sorted by call number and later distributed to the instructor teaching the respective class. This enabled the instructor to distribute the post-test answer cards only to those students whose name appeared on the card. This procedure assured that only those students who took Form A of the Inventory would take Form B of the Inventory. The students who entered the class after the administration of the pre-test did not participate in this study.

STATISTICAL ANALYSIS

Two-way analysis of variance techniques were used in analyzing the data. A Type I analysis of variance technique⁸

⁷Directions can be found in Appendix B.

⁸E. F. Lindquist, Design and Analysis of Experiments in Psychology and Education (Boston: Houghton Mifflin Company, 1953), pp. 267-73.

was used in comparing the male by female data. The freshman by sophomore by junior by senior data were compared by the Type I analysis of variance. A Type I analysis of variance was also used in comparing those students enrolled in individual and/or dual sports classes against those enrolled in team sports classes. Significance at the .05 level of confidence was regarded as acceptable for this investigation. This determined if there were a significant difference between the groups on the pre- and post-test and of the total group from pre- to post-test as well as a unique group by Pre-Post change.

A random sample of 100 subjects was selected to determine if there were a change in the total group from pre-test to post-test. This data were treated by using the significance of the difference between two correlated means.⁹ A random sample of 100 was taken due to a limitation of this particular computer program to 100 subjects. Significance at the .05 level of confidence was regarded as acceptable for this investigation.

⁹Henry E. Garrett, Statistics in Psychology and Education (New York: David McKay Company, Inc., 1967), p. 226.

Chapter 4

ANALYSIS OF DATA

Two-way analysis of variance techniques were used in analyzing the data. A Type I analysis of variance technique¹ was used in comparing the male by female data. The freshman by sophomore by junior by senior data were compared by the Type I analysis of variance. A Type I analysis of variance was also used in comparing those students enrolled in individual and/or dual sports classes against those enrolled in team sports classes.

The significance of the difference between two correlated means technique² was used to determine if there were a significant difference between the pre-test scores and the post-test scores. Due to the limitation of the computer program to 100 subjects, a random sample of 100 was taken for this analysis. Significance at the .05 level of confidence was regarded as acceptable in all cases.

¹E. F. Lindquist, Design and Analysis of Experiments in Psychology and Education (Boston: Houghton Mifflin Company, 1953), pp. 267-73.

²Henry E. Garrett, Statistics in Psychology and Education (New York: David McKay Company, Inc., 1967), p. 226.

ANALYSIS OF MALE AND FEMALE DATA

The analysis of the Wear Physical Education Attitude Inventory for male and female subjects by pre-test and post-test, as well as a unique group by Pre-Post change, is shown in Table 1. The male group did not differ significantly in terms of attitude from the female group. The Pre-Post test main effect reflected a significant increase from the first of the semester to the end of the semester. Overall, both groups increased in terms of more favorable attitude toward physical education ($F = 13.11$, $df = 1/1,221$, $p < .001$). It should also be noted, as shown in Figure 1, that there was a small increase in the Pre-Post test mean from 114.12 to 115.95.

ANALYSIS OF FRESHMAN, SOPHOMORE, JUNIOR, AND SENIOR DATA

The analysis of the Wear Physical Education Attitude Inventory for freshman, sophomore, junior, and senior subjects by pre-test and post-test as well as a unique group by Pre-Post change is shown in Table 2. The four university classifications did not differ significantly in terms of attitude from each other. The Pre-Post test main effect reflected a significant increase from the first of the semester to the end of the semester. Overall, all four

Table 1

Analysis of Variance of the Wear Attitude
Inventory for Male and
Female Subjects

Source	SS	df	MS	F
<u>Between--Ss</u>	533997.33	1222	436.98	
Male vs. Female	42.62	1	42.62	.09
error (b)	533954.70	1221	437.30	
<u>Within--Ss</u>	191855.76	1223	156.87	
Pre-Post test	2038.54	1	2038.54	13.11*
Male vs. Female x Pre-Post	72.63	1	72.63	.46
error (w)	189744.58	1221	155.40	
Total	725853.09	2445	296.87	

*Significant at the .001 level of confidence

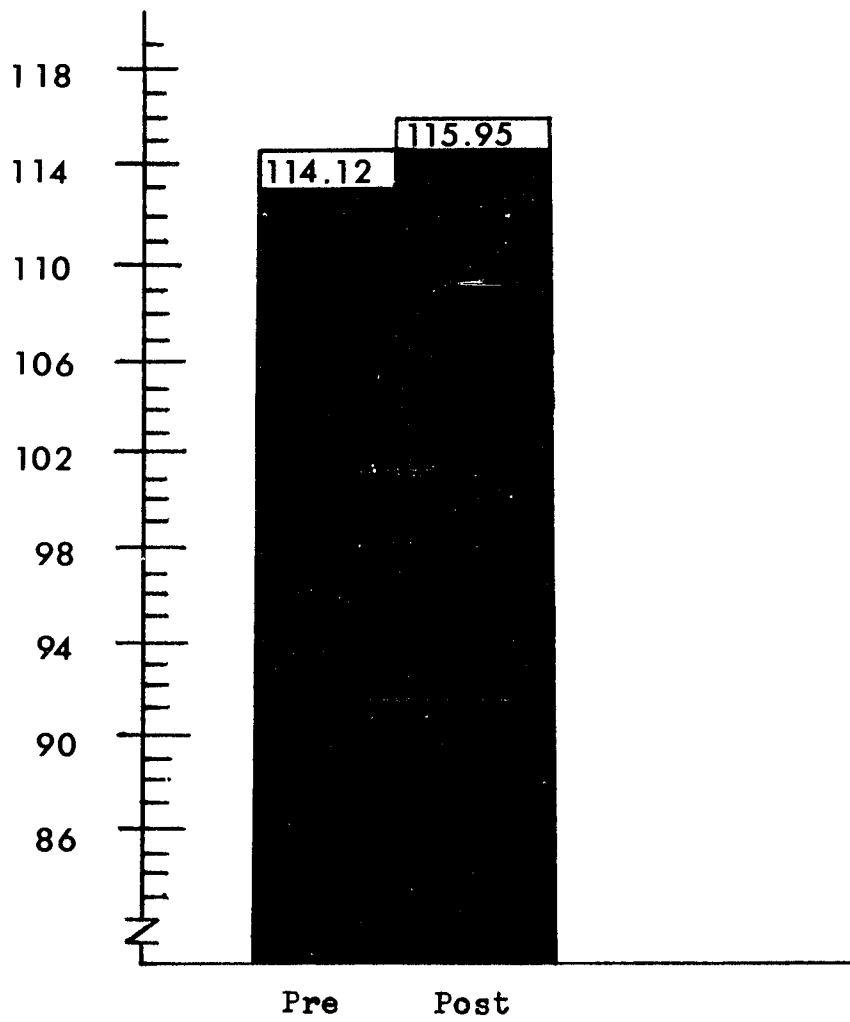


Figure 1

Combination of Male and Female Pre-Post
Test Mean Scores on the Wear
Attitude Inventory

Table 2

Analysis of Variance of the Wear Attitude
Inventory for Freshmen, Sophomores,
Juniors, and Seniors

Source	SS	df	MS	F
<u>Between--Ss</u>	533300.87	1218	437.84	
Freshmen vs. Sophomores vs. Juniors vs. Seniors	2316.23	3	772.07	1.76
error (b)	530984.64	1215	437.02	
<u>Within--Ss</u>	191459.29	1219	157.06	
Pre-Post test	2028.78	1	2028.78	13.09*
Freshmen vs. Sophomores vs. Juniors vs. Seniors x Pre- Post	1131.58	3	377.19	2.43
error (w)	188298.92	1215	154.97	
Total	724760.17	2437	297.39	

*Significant at the .001 level of confidence

groups increased in terms of more favorable attitude toward physical education ($F = 13.09$, $df = 1/1,215$, $p < .001$).

ANALYSIS OF INDIVIDUAL AND/OR DUAL SPORTS
CLASSES AND TEAM SPORTS
CLASSES DATA

The analysis of the Wear Physical Education Attitude Inventory for those enrolled in individual and/or dual sports classes and those enrolled in team sports classes by pre-test and post-test as well as a unique group by Pre-Post change is shown in Table 3. The individual and/or dual sports classes did not differ significantly in terms of attitude from the team sports classes. The Pre-Post test main effect reflected a significant increase from the first of the semester to the end of the semester. Overall, both groups increased in terms of more favorable attitude toward physical education ($F = 16.12$, $df = 1/925$, $p < .001$).

ANALYSIS OF TOTAL GROUP PRE-POST TEST

The significance of the difference between two means was used in the analysis of the Wear Physical Education Attitude Inventory for the random sample group. As shown in Table 4, there was no significant difference from pre-test to post-test.

Table 3

Analysis of Variance of the Wear Attitude
Inventory for Individual and/or Dual
Sports Classes and Team
Sports Classes

Source	SS	df	MS	F
<u>Between--Ss</u>	396708.51	926	428.41	
Individual vs. Team	8.85	1	8.85	.02
error (b)	396699.66	925	428.86	
<u>Within--Ss</u>	142347.37	927	153.55	
Pre-Post test	2435.61	1	2435.61	16.12*
Individual vs. Team	209.51	1	209.51	1.38
error (w)	139702.24	925	151.02	
Total	539055.89	1853	290.90	

*Significant at the .001 level of confidence

Table 4

Comparison of Wear Attitude Inventory
Scores from Pre- to Post-test

	Mean	S. D.	Diff.	SE _{Diff.}	<u>t</u>
Pre-test	114.27	16.61	1.35	2.41	.90
Post-test	112.92	17.58			

Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

The literature revealed that attitudes play an important role in determining an individual's willingness to learn.¹ It was further noted that attitudes held by students readily affected their selection or avoidance of activities.² It was thought these and other reported studies justified an investigation of attitudes toward physical education at Middle Tennessee State University. The purpose of this study, therefore, was to gain more information concerning the attitudes toward physical education of selected undergraduate students. More specifically, this study was concerned with the attitudes of non-physical education majors and minors in beginning activity classes.

¹Harold M. Barrow and Rosemary McGee, A Practical Approach to Measurement in Physical Education (Philadelphia: Lea and Febiger, 1971), p. 431.

²Nizar M. Al-Talb, "Effects of Consonant and Dissonant Role Playing with High or Low Justification on Attitude Change Toward Physical Education Courses," Research Quarterly, XLI (December, 1970), 467.

It was recognized that relatively little attention had been devoted to:

1. the change in attitudes toward physical education from the beginning of the semester to the end of the semester
2. a comparison of men's and women's attitudes toward physical education
3. a comparison of the attitudes toward physical education of freshmen, sophomores, juniors, and seniors
4. a comparison of the attitudes toward physical education of students enrolled in an individual and/or dual sport activity class and those enrolled in a team sport activity class.

The Wear Physical Education Attitude Inventory was administered by the instructors to eighty-three beginning activity classes. Form A of the Inventory (the pre-test was given at the beginning of the semester before any course content was covered. Form B of the Inventory (the post-test) was given at the end of the semester after all course content was completed.

A total of 2,013 undergraduate students participated in the pre-test of the Inventory. After excluding physical education majors and minors, juniors and seniors in team games and conditioning classes, and those who either incompletely or incorrectly marked the answer card, the final pre-test sample numbered 1,447.

The post-test was administered in the same classes as the pre-test. After eliminating those subjects who had

taken the pre-test and had withdrawn from the course, those who were absent when the Inventory was given, and those who incorrectly or incompletely marked the answer card, the final number of subjects used in this study was 1,223.

Two-way analysis of variance techniques were used to analyze the data. A Type I analysis of variance was used to test the hypothesis that there will be no significant difference between the mean attitude scores of male students toward physical education and that of female students. The hypothesis that there will be no significant difference in the mean attitude toward physical scores of freshmen, sophomores, juniors, or seniors was tested by a Type I analysis of variance. A Type I analysis of variance was also used to test the hypothesis that there will be no significant difference between the mean attitude toward physical education scores of students enrolled in individual and/or dual sports classes and those enrolled in team sports classes. The obtained values for the groups in each analysis failed to meet the levels required for significance. This indicated the hypotheses could not be rejected. It was found in each analysis, however, that there was a significant difference from pre- to post-test of the total group.

The significance of the difference between means technique was used to test the hypothesis that there will be

no significant difference in the mean attitude scores of students toward physical education from the beginning of the activity course to the conclusion of the course. Due to a limitation of the computer program, a random sample of 100 subjects was used for this analysis. The obtained values did not reach the .05 level of confidence. This indicated there was not a significant change in the subjects' attitudes toward physical education from the beginning of the semester to the end of the semester.

CONCLUSIONS

Based on the findings of this study, it can be concluded that there was no difference in the attitudes toward physical education of males and females, freshmen, sophomores, juniors, and seniors, and those students taking an individual and/or dual sport class and those students taking a team sport class. This implies that instructors generally do not need to devote special attention or treat these groups differently in regard to attitude formation or change.

It can be seen in Table 1, page 35, Table 2, page 37, and Table 3, page 39, that the Pre-Post test main effect in all instances reflected a significant increase ($p < .001$) from the first of the semester to the end of the semester. This is contrary to the results found when the significance

of the difference between means was performed on the random sample of 100 group. This test indicated there was not a significant difference from the beginning of the semester to the end of the semester. This is shown in Table 4, page 40.

An explanation of this occurrence has been reported by Nunnally. He states

. . . experience shows that when large numbers of subjects are used in studies, nearly all comparisons of means are "significantly" different and all correlations are "significantly" different from zero.³

Nunnally further relates that in a study of public opinion he utilized 700 subjects. After a factor analysis of the results, the factors were correlated with individual-difference variables such as amount of education, age, income, sex, and others. He noted that

. . . nearly all correlations were significant, including ones that made little sense. Many of the "significant" correlations were of no theoretical or practical importance.⁴

Nunnally further states

. . . if the null hypothesis is not rejected, it usually is because the N is too small. If enough data is gathered, the hypothesis will generally be rejected.

³Jim Nunnally, "The Place of Statistics in Psychology," Educational and Psychological Measurement, XX (1960), 643.

⁴Ibid.

⁵Ibid.

Since rejection of the null hypothesis is not the real intention in experimentation, large numbers of subjects should not be utilized for this purpose.

Meehl concurs with the findings of Nunnally. He states

. . . in psychological and sociological investigations involving very large numbers of subjects, it is regularly found that almost all correlations of differences between means are statistically significant.⁶

Meehl further relates:

Data currently being analyzed by Dr. David Lykken and myself, derived from a huge sample of over 55,000 Minnesota high school seniors, reveal statistically significant relationships in 91% of pairwise associations among a congeries of 45 miscellaneous variables such as sex, birth order, religious preference, number of siblings, vocational choices, club membership, college choice, mother's education, dancing, interest in woodworking, liking for school, and the like. The 9% of non-significant associations are heavily concentrated among a small minority of arbitrary groupings of non-homogeneous or non-monotonic sub-categories. The majority of variables exhibited significant relationships with all but three of the others at a very high confidence level ($p < 10^{-6}$).⁷

In accordance with this information, it is thought the analysis of the random sample group produced more reliable information than that of the total group. This is

⁶Paul E. Meehl, "Theory-Testing in Psychology and Physics: A Methodological Paradox," Philosophy of Science, XXXIV (June, 1967), 109.

⁷Ibid.

further supported when, after an omega square analysis,⁸ it was determined that less than 1 percent (.99 percent) of the variance was accounted for in the analysis of the total group. Therefore, greater variance around the mean is accounted for in the random sample group.

Based on these findings it is concluded there was not a significant change in attitude toward physical education from the beginning of the semester to the end of the semester. This investigator suggests that, although this study was conducted over a relatively short period of time, perhaps a greater effort on the part of the instructors may be warranted. As indicated in the review of literature, attitudes toward physical education were significantly improved in a special conditioning class in which the instructor utilized special actions to improve the teacher-student rapport.

RECOMMENDATIONS

Based on the data obtained from this study, the following recommendations are made:

1. Additional research is needed concerning the attitudes toward physical education of students enrolled in

⁸Roger E. Kirk, Experimental Design: Procedures for the Behavior Roger E. Kirk, Experimental Design: Procedures for Company, 1961 Behavioral Sciences (Belmont: Brooks/Cole Publishing

specific activity classes: i.e., tennis vs. bowling, etc.

2. A repetition of this study is needed using a research design involving control groups. This would involve an additional group of students who took only the pre-test and one who took only the post-test.

3. A repetition of this study is also needed over a longer period of time.

4. There is a need for the comparison of attitudes toward physical education between the students in classes of regular faculty members and those in classes of graduate assistants.

5. Observation of this study leads the investigator to believe that a comparison of attitudes toward physical education between students in an institution which has discontinued the physical education requirement for graduation and students in an institution that still maintains the requirement would be of value.

APPENDIXES

APPENDIX A

LETTERS

DeVille Apts., H-7
Murfreesboro, Tenn.
January 1, 1974

Dr. Carlos L. Wear
Department of Physical Education
University of Nebraska
Lincoln, Nebraska

Dear Dr. Wear:

As part of my doctoral program in physical education I am conducting a study concerning attitudes toward physical education at Middle Tennessee State University. With your approval, I would like to use the Wear Physical Education Attitude Inventory found in the March, 1955, Research Quarterly.

If it is agreeable for me to use this inventory, I would appreciate your conveying to me item number 26, Form B. This item was omitted in the Research Quarterly article and I have found a contradiction in trying to locate it.

Thank you very much. I look forward to hearing from you at your earliest convenience.

Sincerely yours,

/s/

Beth Miller

January 9, 1974

Miss Beth Miller
DeVile Apts., H-7
Murfreesboro, Tenn.

Dear Miss Miller:

You have my permission to use my attitude inventory.

Item #26 of Form B was unintentionally omitted from the RQ article. It reads as follows: "By the time a person has acquired a skill he has less emotional control than before."

I have retired and now live at the address given below. If I can be of any further assistance, please write.

Sincerely,

/s/

C. L. Wear
912 S. 16th St.
Rogers, Ar. 72756

APPENDIX B

WEAR PHYSICAL EDUCATION ATTITUDE
INVENTORY

WEAR PHYSICAL EDUCATION ATTITUDE INVENTORY

Forms A and B

Directions

Please read carefully: Below you will find some statements about physical education. We would like to know how you feel about each statement. You are asked to consider physical education only from the standpoint of its place as an activity course taught during a regular class period. No reference is intended in any statement to interscholastic or intramural athletics. People differ widely in the way they feel about each statement. There are no right or wrong answers.

You have been provided with a separate answer card for recording your reaction to each statement. (a) Read each statement carefully, (b) go to the answer card, and (c) opposite the number of the statement make a heavy black mark, filling in the bracket with the same letter which best expresses your feeling about the statement. The five choices for your responses are as follows:

- A - strongly agree
- B - agree
- C - undecided
- D - disagree
- E - strongly disagree

After reading a statement you will know at once, in most cases, whether you agree or disagree with the statement. If you agree, then decide whether to mark "agree" or "strongly agree." If you disagree, then decide whether to mark "disagree" or "strongly disagree." In case you are undecided (or neutral) concerning your feeling about the statement, then mark "undecided." Try to avoid marking "undecided" in very many instances.

Wherever possible, let your own personal experience determine your answer. Work rapidly, do not spend much time on any statement. This is not a test, but is simply a survey to determine how people feel about physical education. Your answers will in no way affect your grade in any course. In fact, we are not interested in connecting any person with any answer card--so please answer each statement as you actually feel about it. Be sure to answer every statement.

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 the 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 in 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 an adequate reserve 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 physical 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 well-being 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.

Wear Physical Education Attitude Inventory

Form B

1. Associations in physical education activities give 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. By the time a person has acquired a skill he has less emotional control than before.
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.

APPENDIX C

PERSONAL INFORMATION SHEET

Personal Information Sheet

Class call no. _____

1. Name _____
(Last) (First) (Middle)

2. Social Security No. _____

3. Sex: _____ Female
_____ Male

4. University Classification:

_____ Freshman
_____ Sophomore
_____ Junior
_____ Senior
_____ Graduate

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BIBLIOGRAPHY

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