HAMMONDS, CARLOS RAY

A COMPARISON OF COLLEGE STUDENTS' ATTITUDES ENROLLED IN REQUIRED OR ELECTIVE PHYSICAL EDUCATION CLASSES

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A COMPARISON OF COLLEGE STUDENTS' ATTITUDES ENROLLED IN REQUIRED OR ELECTIVE PHYSICAL EDUCATION CLASSES

Carlos R. Hammonds

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A COMPARISON OF COLLEGE STUDENTS' ATTITUDES
ENROLLED IN REQUIRED OR ELECTIVE
PHYSICAL EDUCATION CLASSES

APPROVED:

Graduate Committee:

Martha H. Brinley
Major Professor

A. S. Solomon
Committee Member

Wallace R. Maples
Committee Member

Gary D. Perry
Head of the Department of Health, Physical Education, Recreation and Safety

Marvin W. Martin
Dean of the Graduate School

ABSTRACT

A COMPARISON OF COLLEGE STUDENTS' ATTITUDES
ENROLLED IN REQUIRED OR ELECTIVE
PHYSICAL EDUCATION CLASSES

by Carlos R. Hammonds

This study was designed to assess and compare the attitudes toward physical education of male and female undergraduate students taking physical education as a required subject with those taking physical education as an elective subject and to analyze the results in regard to their implications for the East Tennessee State University program.

The subjects for the pretest of this study were 424 male and female undergraduate students enrolled in 25 randomly selected beginning activity classes at East Tennessee State University during the first week of the spring semester, 1981. The 375 undergraduate male and female subjects for the posttest were enrolled in the same 25 randomly selected beginning activity classes at East Tennessee State University during the last week of the spring semester, 1981. The Kneer Attitude Inventory was administered by the investigator of this study. The inventory consisted of twenty negative statements and twenty

positive statements, which were scored 5-4-3-2-1 and 1-2-3-4-5, respectively. A summation of each subject's score on all items was used to determine the subject's attitude toward physical education.

The *t* test was used to determine if there was any significant difference between the students taking physical education as a required course and students taking physical education as an elective course. The .05 level of confidence was used for testing the null hypothesis.

Major findings of this study were that both groups of students had a favorable attitude toward physical education and that there was not a significant difference between the mean scores of the students taking physical education as a required course and students taking physical education as an elective course.

ACKNOWLEDGEMENTS

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Chapter 1

INTRODUCTION

Every professional should be concerned with his or her special field of interest and the attitudes related to that field. Attitudes can affect the progress of initial work of any student. Educators generally agree that favorable attitudinal patterns play an important role in learning.[1] Favorable attitudes usually result in outcomes which are good while unfavorable attitudes usually result in outcomes which are poor. Studies indicate that attitudes can be forces which will either facilitate or inhibit an individual's willingness to learn.[2] Therefore, a favorable attitude toward physical education is important to the physical education instructor and to his program.

An important goal of any educational program should be to develop self-motivated and self-directed individuals. The physical educator strives to attain the aims and

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

[2]Donald E. Campbell, "Student Attitudes Toward Physical Education," Research Quarterly, XXXIX (October, 1968), 457.

objectives of physical education. One of the basic objectives of any physical education program is to have students develop positive attitudes toward participation in physical education, not only for the student's school years but as a carry-over into adult life.[3]

Previous studies indicate that attitudes are not rigid, permanent elements of the personality, and may change through experience and knowledge.[4] So, we, as physical educators, being interested in encouraging participation in physical education throughout life, must recognize the importance of attitudes and how attitudes may be changed. Since physical activity is important for each student, the physical educator should continually strive to do all that is possible to help students develop a positive attitude toward physical education.

STATEMENT OF THE PROBLEM

The purposes of the study were: (1) to assess and compare the attitudes toward physical education of non-physical education majors who are undergraduate male and

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[3]Rosemary McGhee, "Measuring Affective Behavior in Physical Education," Journal of Physical Education and Recreation, XLVIII (November/December, 1977), 29-30.

[4]Barbara Drinkwater, "Development of an Attitude Scale to Measure Attitude of High School Girls Toward Physical Education as a Career for Women," Research Quarterly, XXXI (December, 1960), 575.

female students taking physical education as a required subject with those taking physical education as an elective subject at East Tennessee State University located in Johnson City, Tennessee, and (2) to analyze the results in regard to their implication into the East Tennessee State University program.

SIGNIFICANCE OF THE STUDY

One of the most important objectives of any physical education program should be to have students develop positive attitudes toward active participation in physical education.[5] There is always the need to evaluate the physical education program to determine if the objectives of physical education are being met. When these objectives are achieved, the result is a physically educated person. According to Barrow and McGhee, a physically educated person is described as having sufficient motor skill and knowledge in sports skills, adequate physical fitness, sufficient emotional poise and control, and an appropriate attitude toward sports and exercise.[6]

Undesirable attitudes toward physical education may turn students "off," thus leading them to a life that may

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[5]McGhee, pp. 29-30.

[6]Harold M. Barrow and Rosemary McGhee, A Practical Approach to Measurement in Physical Education (Philadelphia: Lea and Febiger, 1964), p. 64.

include very little or no physical activity. If a student does not experience success in an activity, he may be turned off by that activity. Physical education should be a challenging experience which encourages the student to put forth his ultimate effort to achieve even a small degree of success.[7]

According to Scott,

> Attitudes toward physical education are important general objectives of instruction. To change the direction of attitudes from negative and neutral to positive, one must continue to seek objective and reliable means of measuring this change in direction.[8]

Knowledge by itself is inert, becoming dynamic through motive, purpose, and desire which give it direction. Research into the nature of attitudes, and in their development and measurement, is very important for the better educational achievement and social improvement of the individual. By studying the attitudes of students toward physical education, the evaluation and development of physical education programs may be enhanced. By analyzing the current attitudes toward physical education, important feedback can be provided to instructors and administrators

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[7]Charles D. Smith, "Help Them Turn on Positively," Journal of Health, Physical Education, and Recreation, XLV (June, 1974), 27-28.

[8]M. Glady Scott, Research Methods in Health, Physical Education, Recreation (Washington, D.C.: Research Council, 1965), p. 119.

for use in guiding students and developing curriculum strategies.

DELIMITATIONS

1. The study will be limited to undergraduate male and female students enrolled in a randomly selected sample of twenty-five beginning physical education activity classes at East Tennessee State University during the spring semester of 1981.

2. The study will use only the Kneer Attitude Inventory to measure the attitudes of students toward physical education.

DEFINITIONS OF TERMS

Attitude--a readiness to react toward or against some situation, person, or thing in a particular manner; for example, with agreement or disagreement.[9]

Attitudinal scale--an attitude-measuring instrument, the units of which have been experimentally determined and equated; designed to obtain a quantitative evaluation of an attitude.[10]

Beginning activity class--a class in which basic instruction of that particular activity occurs.

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[9]Carter V. Good, ed., Dictionary of Education (New York: McGraw-Hill Company, 1959), p. 48.

[10]Ibid., p. 507.

BASIC ASSUMPTIONS

1. The Kneer Attitude Inventory is a valid and reliable measure of students' attitudes toward physical education.

2. The students participating in this study will respond to each statement honestly and objectively.

3. Each student enrolled in the physical education class will understand the scope of the statements in the attitude inventory.

NULL HYPOTHESIS

The hypothesis for the study will be that there is no significant difference between the attitude scores of the students taking physical education as a required course and those of students taking physical education as an elective course.

Chapter 2

REVIEW OF RELATED LITERATURE

Vannier and Foster state that attitudes control, shape, and color everything an individual does in life.[1] Developing positive attitudes toward physical education is a major concern of physical educators because positive attitudes toward physical education enhance physical activity during leisure time.[2]

Regarding attitudes toward physical education, Bookwalter stated that:

> An attitude is a relatively constant tendency to act in certain directions and accord with certain mental patterns of beliefs. Attitude is the reflections of a mind set toward or against some object and is acquired by experience.[3]

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[1]Maryhelen Vannier and Mildred Foster, Teaching Physical Educaiton in Elementary Schools (Philadelphia: W. B. Saunders Company, 1968), p. 12.

[2]Rosemary McGhee, "Measuring Affective Behavior in Physical Education," Journal of Physical Education and Recreation, XLVIII (November/December, 1977), 29-30.

[3]Karl E. Bookwalter, Physical Education in the Secondary Schools (Washington: The Center for Applied Research in Education, Inc., 1964), p. 72.

In addition, Johnson and Nelson mentioned several ways in which attitude tests may be utilized in physical education classes. They are as follow:

1. to assist in determining whether objectives are being reached or not.
2. as a means for assembling information in a survey for administrative planning and curriculum development.
3. to evaluate the effectiveness of teaching methods in helping the students enjoy physical education.[4]

Several studies have been conducted involving construction of attitude scales, measurement of attitudes, and the assessing of attitudes toward physical education through attitudinal inventories and checklists. This chapter presents various attitude studies conducted by researchers in physical education and provides the reader with a review of the literature available on the study of attitudes as it is related to physical education.

LITERATURE RELATED TO ATTITUDE STUDIES

In 1962, Keogh conducted a study with 266 men and women to determine if there was a difference in their attitudes toward general benefits or values of physical education. Keogh administered the Wear Attitude Inventory to 136 male and 130 female University of California, Los Angeles, undergraduates enrolled in coeducational

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[4]Barry L. Johnson and Jack K. Nelson, Practical Measurements for Evaluation in Physical Education (Minneapolis: Burgess Publishing Company, 1969), p. 396.

instructional classes. The results of the responses showed the males and females were not different in their stated attitudes toward physical education. Keogh considered the development of positive attitudes toward active participation in physical activity one of the most important concerns in a school is the physical education program.[5]

In a follow-up study, Keogh selected men and women who demonstrated either high or low extreme attitudes toward physical education as determined by the Wear Attitude Inventory. Of the 266 men and women who participated in the earlier study, 69 were chosen for this study because they demonstrated extreme attitudes toward physical education. There were no male-female differences within the extreme groups, and this study demonstrated a stronger acceptance of the values of physical education as they are professionally stated than of the school programs which seek to establish these values.[6]

A study which involved 200 non-physical education female majors at Michigan State University concluded that strength (hand grip, backlift, pull and push) was

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[5]Jack Keogh, "Analysis of General Attitudes Toward Physical Education," Research Quarterly, XXXIII (May, 1962), 239-244.

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

significantly related to attitude toward physical education.[7]

By using the Wear Attitude Inventory and the Kapper Attitude Inventory, Hines determined that students developed a higher esteem for physical education as they advanced from grade ten to grade twelve. The students felt that physical education made a contribution to their physical, mental, social, and emotional development.[8]

Cross used the Wear Attitude Inventory to test male freshmen at the University of Oregon. Cross concluded that 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 years or less.[9]

Brumbach and Cross administered the Wear Attitude Inventory to students entering the University of Oregon to

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[7]Janet Wessell and Richard Nelson, "Relationship Between Strength and Attitude Toward Physical Education Activity Among College Women," Research Quarterly, XXXV (December, 1964), 562-569.

[8]Herman Hines, "A Study to Determine the Attitude of High School Girls Toward Physical Education" (unpublished Master's thesis, North Carolina College, 1964), as cited in Completed Research, VII (1965), 75.

[9]John 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.

determine their attitudes toward physical education and previous athletic experience. Brumbach and Cross concluded from their data that participation in a high school athletic program appeared to have a beneficial effect upon the attitudes toward physical education and that the more years of high school athletics the physical education student had participated in, the better his attitude toward physical education was likely to be.[10]

Moyer, Mitchem, and Bell conducted a study using a modified Wear Attitude Inventory to determine the attitudes of freshmen and junior women toward the required physical education programs at Northern Illinois University as well as to evaluate the physical education offerings in terms of student needs. Their findings indicated a preference for individual sports and a highly favorable attitude toward physical education on the part of both freshmen and juniors. They reported a need for reevaluation of methodology and interpretation of objectives in teaching the required program.[11]

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[10]Wayne B. Brumbach and John A. Cross, "Attitudes Toward Physical Education of Male Students Entering the University of Oregon," Research Quarterly, XXXVI (March, 1965), 10-16.

[11]Lou Jean Moyer, John C. Mitchem, and Mary M. Bell, "Women's Attitude Toward Physical Education in the General Education Program at Northern Illinois University," Research Quarterly, XXXVII (October, 1966), 515-519.

Vincent administered the Wear Attitude Inventory to 188 college women in a variety of physical education activities. She found that the attitudes toward physical education were generally favorable, especially of those students involved in physiological-physical activities such as tennis and gymnastics. Vincent reported a significant relationship between attitude and success in physical education, with a higher degree of success related to subjects expressing more favorable attitudes.[12]

Vincent conducted a study involving 37 college women to determine the relationship between success in physical education and the independent variables of strength, efficiency, and attitude. The study revealed that attitude measures were of highest significance to success in physical education activities. There was a positive relationship between strength and success and a negative relationship between efficiency and success which was significant.[13]

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[12]Marilyn F. Vincent, "Attitudes of College Women Toward Physical Education and Their Relationship to Success in Physical Education," Research Quarterly, XXXVIII (March, 1967), 126-131.

[13]Marilyn F. Vincent, "Prediction of Success in Physical Education Activities from Attitude, Strength, and Efficiency Measurements," Research Quarterly, XXXVIII (October, 1967), 502-506.

By using the Plummer Attitude Inventory, she found that college freshmen who enjoyed their high school physical education had significantly better attitudes toward physical education than those who did not enjoy their high school physical education.[14]

In a study of male students at the University of Oregon, Brumbach concluded that a physical conditioning class for male college students emphasizing personal contact between instructor and students improved both physical fitness and attitude toward physical education.[15]

Campbell used the Wear Attitude Inventory in a study in which responding subjects were classified according to the size of high school attended, the college of matriculation, and the physical education class in which they were currently enrolled. Results showed no significant variations in attitude scores toward physical education within the sub-groups of each of the three classifications. However, the mean scores of the individuals suggested that

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[14]Nancy J. Mista, "Attitudes of College Women Toward Their High School Physical Education Programs," Research Quarterly, XXXIX (March, 1968), 166-174.

[15]Wayne Brumbach, "Effect of Special Conditioning Class Upon wtudents' Attitude Toward Physical Education," Research Quarterly, XXXIX (March, 1968), 211-213.

subjects in this study had a very favorable attitude toward physical education.[16]

Freischlag looked at several considerations in fostering changes in attitudes with implications being drawn for physical education. The results showed interest must be aroused, attention sustained, and learning judged as worthwhile if the physical education class is to have a positive impact on the student. Freischlag concluded that students will have more favorable attitudes by developing desirable personal traits and habits by experiencing success and by being led into discovering supportive attitudes and behaviors.[17]

The attitude of the physical education instructor may, likewise, influence the attitudes of the students. Michaels stated that it was his contention that the most knowledgeable teacher can facilitate learning by improving the learning atmosphere. A teacher should be friendly and helpful, but not imposing and threatening. According to Michaels, skill perfection should be only a secondary goal to enjoyment of an activity. In order to produce the most favorable results, the atmosphere should be uninhibited and

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[16]Donald E. Campbell, "Student Attitudes Toward Physical Education," Research Quarterly, XXXIX (October, 1968), 456-462.

[17]Jerry Freischlag, "Basic Considerations in Changing Attitudes Toward Physical Education-Credibility, Success, Consequences, and Self Discovery," The Physical Educator, XXX (March, 1973), 19-21.

relaxed with a minimum of drilling and a maximum of enjoyment.[18]

Straub and Felock gave the Kenyon Attitudes Toward Physical Activity Inventory to 80 junior high school girls ranging from 14 to 16 years of age. The inventory compared physical activity of delinquent and non-delinquent junior high school girls. The results showed non-delinquent girls valued physical activity as a social experience more than delinquent girls. They determined this difference may be due to past experiences in physical education or to the environment backgrounds in which they resided.[19]

LITERATURE RELATED TO REQUIRED AND ELECTIVE PROGRAMS OF PHYSICAL EDUCATION

In Alden's study, the two most frequent causes of unfavorable attitudes toward the required physical education program had to do with the inconvenience of dressing and undressing. Another dislike was that the secondary schools

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[18]Richard A. Michaels," Improving the Learning Atmosphere in Physical Education," The Physical Educator, XXX (October, 1973), 150-151.

[19]William F. Straub and Thomas Felock, "Attitudes Toward Physical Activity of Delinquent and Non-delinquent Junior High School Age Girls," Research Quarterly, XLV (March, 1974), 21-27.

failed to develop basic skills beyond the beginning level.[20]

Graybeal conducted a study in 1932 in which the attitudes of women students at the University of Minnesota toward a required program versus an elective program were surveyed. She 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. She also found the attitude of students who did not participate in the required program became less favorable during their first two years at the university.[21]

Smith administered a questionnaire to 650 men students concerning their attitudes toward the required physical education program at the University of Minnesota. Results of the study indicated there was a favorable attitude of men students toward the required physical education program.[22]

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[20]Mabel Avis Alden, "The Factors in the Required Physical Education Program that are Least Attractive to the College Girl," Research Quarterly, III (December, 1932), 97-107.

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

[22]W. R. Smith, "A Questionnaire Study in Regard to the Attitude of Men Students Toward the Required Physical Education Program," Research Quarterly, IV (March, 1939), 246-248.

Kane and Hodgson conducted a study to analyze the factors which influenced the selection of physical education by women at the University of California. They found the following factors influenced the selection of physical education as an activity course:

1. participation in extracurricular athletic and non-athletic activities on campus
2. occasional participation in athletic activities during the summer
3. part-time employment
4. participation in regular physical education in high school
5. qualification for sports by the medical examination given at entrance to college.[23]

The following factors were found to be of little influence in the selection or non-selection of physical education:

1. favorable attitude toward physical education in high school
2. participation in athletic activities off campus
3. regular participation in athletic activities during the summer
4. major subject in college
5. whether or not the student commuted to campus.[24]

In 1937, Craig surveyed the sports interests and attitudes of students in the required program at the University of Illinois. He found that, given a broad and and well organized program in sports, the average college

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[23]Isabel Kane and Pauline Hodgson, "A Study of Factors Influencing Participation of College Women in an Elective Program of Physical Education," Research Quarterly, X (March, 1939), 57-66.

[24]Ibid., pp. 57-66.

student would (a) select activities high in carry-over values and would (b) enjoy taking them.[25]

Bender divided the classes used in his study into (1) choice of activities and (2) no choice of activities. He administered the Wear Attitude Inventory and used the *t* test to determine if there was a significant difference between the two groups. The results showed a significant improvement in attitude toward physical education in the groups given some choice in the selection of activities.[26]

Studies by Lewis on student behavior and attitude in physical education classes showed that students enjoy choice and prefer the chance to select an elective program. Lewis felt the reason that so many students find physical education a boring waste of time is because too many physical educators use the traditional approach, using the same activities year after year. Students responded to required activities in a combination of four behavioral patterns: rejection, rebellion, submission, and enthusiasm. Lewis believes renewed and prolonged enthusiasm can occur when students have the opportunity to participate in

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[25]H. 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), 143-149.

[26]Cynthia Bender, "Comparison of Tenth Grade Girls Participating in a Required Physical Education Program" (unpublished Master's thesis, Oklahoma State University, 1969), as cited in Completed Research, XII (1970), 167.

elective physical education programs. This way physical education can be a meaningful learning experience for the students.[27]

Corbin and Chevrette conducted a study administering the Wear Attitude Inventory to 596 male subjects. In their study they investigated whether changes in attitude toward physical education resulted from a required lecture-laboratory physical education course designed to present information concerning exercise and physical activity. The results indicated a significant improvement in attitude accompanying the semester of lecture-laboratory physical education.[28]

LITERATURE RELATED TO THE DEVELOPMENT OF ATTITUDE SCALES

Wear constructed an inventory which provided a valid assessment of individuals' attitudes toward physical education. The following is a description of the Wear Attitude Inventory:

> The reliability of this inventory has been shown to be statistically satisfactory. The validity of the inventory has been established by: (a) the use of certain criteria in the wording of statements; (b) a

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[27]George T. Lewis, "A Rationale for Elective Physical Education," The Physical Educator, XXXI (October, 1974), 127-128.

[28]Charles B. Corbin and John M. Chevrette, "Attitudes of Freshmen Before and After a Lecture-Laboratory Physical Education Course," The Physical Educator, XXXI (October, 1974), 138-139.

comprehensive sampling or tapping of important outcomes; (c) the demonstration of a substantial relationship between scores made on the inventory and certain other data regarding attitudes toward physical education; (d) the demonstration of significant differences between attitudes of certain groups who might differ. An original list of 120 statements was reduced to the forty item inventory, and called the Short Form of the Inventory. Subjects were given the forty statements and asked to respond to each of them by selecting one of five choices: strongly agree, agree, undecided, disagree, strongly disagree. Student responses were scored 5-4-3-2-1, with a high score indicating a favorable attitude toward physical education. The forty item test had a split-halves reliability of .94 when administered to two hundred and seventy-two subjects.[29]

The criteria used to revise and eliminate statements on the attitude inventory were listed by Wear as follows:

(a) An attitude statement must be debatable--not a statement of fact.
(b) All statements should belong to the same attitude variable.
(c) A statement must not be susceptible to more than one interpretation.
(d) Avoid "double-barreled" statements.
(e) Statements should be short.
(f) Each statement should be complete in denoting a definite attitude toward a specific issue.
(g) Each statement should contain only one complete thought.
(h) Avoid grouping two or more complete sentences as one attitude statement.
(i) Statements should be clear-cut and direct.
(j) Use with care and moderation such words as "only," "mere," "just," "merely," etc.
(k) Avoid colorless expressions or statements lacking effect.
(l) Whenever possible, write in the form of a simple sentence.
(m) It is usually better to use active voice than passive.

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[29]Carlos L. Wear, "The Evaluation of Attitude Toward Physical Education as an Activity Course," Research Quarterly, XXII (March, 1951), 114-126.

(n) In general, use of the term of the issue as a subject of the sentence.
(o) Avoid highsounding words, uncommon words or expressions, technical terms not ordinarily understood. . . .[30]

Kappes developed an attitude inventory composed of statements regarding physical education activities and the services offered students by the physical education department.

The inventory was given to 739 women enrolled in the physical education classes at Baylor University. The results showed the inventory to be a valid and reliable forty-item inventory of attitude toward physical education.[31]

Drinkwater constructed an attitude inventory for the purpose of determining the attitudes of high school girls toward physical education as a career for women. The split-half method of determining reliability provided a coefficient of .93.[32]

Adams has developed two alternative sets of twenty-statement Thurstone-Chave-type scales to investigate the

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[30]Wear, pp. 114-126.

[31]Eveline E. Kappes, "Inventory to Determine Attitudes of College Women Toward Physical Education and Student Services of the Physical Education Department," Research Quarterly, XXV (December, 1954), 429-438.

[32]Barbara L. Drinkwater, "Development of an Attitude Inventory to Measure the Attitude of High School Girls Toward Physical Education as a Career for Women," Research Quarterly, XXXI (December, 1960), 575-580.

attitudes of college students toward physical education. Reliability coefficients have been established at .84.[33]

Kenyon developed an approach to the measurement of attitude toward physical activity. An attempt was made to develop attitude scales representing each of the dimensions of a multi-dimensional model for characterizing physical activity. Kenyon used the following dimensions or sub-domains in an attempt to develop an attitude scale: Physical activity preceived as (1) a social experience, (2) health and fitness, (3) pursuit of vertigo, (4) an aesthetic experience, (5) catharsis, and (6) an ascetic experience. A reliable and valid scale consisting of a relatively small number of items was developed for each domain. It was concluded that the use of the scales should be restricted to research purposes.[34]

Edgington made an attempt to develop a reliable attitude scale to measure attitudes of high school freshmen boys toward physical education. The scale consisted of 66 positive and negative statements and used Likert's method of in ternal consistency as a scoring method. The reliability coefficient of the final form of the scale was

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[33]R. S. Adams, "Two Scales for Measuring Attitude Toward Physical Education," Research Quarterly, XXXIV (March, 1963), 91-94.

[34]Gerald S. Kenyon, "Six Scales for Assessing Attitudes Toward Physical Activity," Research Quarterly XXXIX (October, 1968), 566-574.

.92, and validity was significant at the .01 level. He found that the majority of freshmen boys tested had a favorable attitude toward physical education.[35]

Simon and Small developed an instrument for assessing attitudes of elementary school children toward physical education. The subjects were 992 fourth-, fifth-, and sixth-grade children, and the results indicated the instrument's appropriateness for group testing of elementary children.[36]

In a study conducted by Calsor and McClellan at Middle Tennessee State University, it was found that the testing environment did have a significant effect upon the score of students taking the Wear Attitude Inventory. The inventory was administered to 752 freshmen students enrolled during the 1971-72 school year with of the students receiving the inventory in Freshman English and mathematics classes, while the remainder received the inventory in tennis and team games classes. Calsor and McClellan concluded that, "when the physical education classroom is

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[35]Charles W. Edgington, "Development of an Attitude Scale to Measure Attitudes of High School Freshmen Boys Toward Physical Education," Research Quarterly, XXXIX (October, 1968), 503-512.

[36]Julie A. Simon and Frank L. Small, "An Instrument for Assessing Children's Attitudes Toward Physical Activity," Research Quarterly, XIV (December, 1974), 407-415.

the setting for test administration, the results are biased toward a higher score."[37]

Johnson and Nelson found several ways in which attitude ratings could be used in physical education. They were as follow:

1. To assist in determining whether objectives are being reached or not in class.
2. To be used as a means for assembling information in a survey for administrative planning and curriculum development.
3. To evaluate the effectiveness of teaching methods in helping the students enrolled in physical education.[38]

SUMMARY OF LITERATURE

The review of related literature revealed that there are many attitudinal inventories that have been constructed for the purpose of assessing attitudes toward physical education. The literature reviewed also showed a concern by many authorities for the physical education program, student attitudes for physical education, and the carry-over values of physical education.

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[37]Marcus Calsor and Powell D. McClellan, "The Objectivity of the Wear Attitude Inventory," Tennessee Journal of Health, Physical Education, and Recreation, XIII (November, 1974), 19-20.

[38]Barry L. Johnson and Jack K. Nelson, Practical Measurements for Evaluation in Physical Education (Minneapolis: Burgess Publishing Company, 1969), p. 396.

Prior to the 1950's, the questionnaire or inventory method was used for assessment, followed soon after by arbitrary rating scales. However, the most widely used inventory was constructed by Carlos Wear in 1951 to evaluate or objectively assess attitudes toward physical education. Most of the studies reviewed found favorable attitudes toward physical education.

Chapter 3

METHODS AND PROCEDURES

The methods and procedures utilized in a study of this nature are determined by the design of the evaluative instrument. The following procedures were used in this study: (1) description of subjects; (2) description of the instrument used; (3) the procedures used to collect the data; and (4) the statistical analysis of the data.

DESCRIPTION OF SUBJECTS

The subjects for the pretest of this study were 424 male and female undergraduate students enrolled in 25 randomly selected beginning activity classes at East Tennessee State University during the first week of the spring semester, 1981. The 375 undergraduate male and female subjects for the posttest were enrolled in the same 25 randomly selected beginning activity classes at East Tennessee State University during the last week of the spring semester, 1981. The Kneer Attitude Inventory was administered by the investigator of this study.

Excluded from the study were those whose major or minor was physical education and those who were involved

with varsity athletics. These students were excluded because it was thought that their attitude toward physical education would be highly positive because they chose physical education as a major or minor or because of their participation in interschool athletics.

INSTRUMENT

Kneer's Attitude Inventory is an adaptation of Wear's Physical Education Attitude Inventory. Kneer's inventory was in an unpublished thesis for a Master of Science Degree in Education at Illinois State Normal University in 1956.[1]

> The scale correlated .84 with the Wear Attitude Inventory serving as the validity criterion and .87 and .89 with graphic self-ratings of attitude. The reliability coefficient was .95.[2]

The Kneer Attitude Inventory consists of twenty negative statements and twenty positive statements. A copy of the physical education inventory appears in Appendix A; a copy of the answer sheet appears in Appendix B.

The statements were scored as follows:

POSITIVE STATEMENTS	VALUE
Strongly Agree	5
Agree	4

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[1] Harold M. Barrow and Rosemary McGhee, A Practical Approach to Measurement in Physical Education (Philadelphia: Lea & Febiger, 1971), p. 435.

[2] Ibid.

Undecided	3
Disagree	2
Strongly Disagree	1

NEGATIVE STATEMENTS	VALUE
Strongly Agree	1
Agree	2
Undecided	3
Disagree	4
Strongly Disagree	5

A 100 percent strongly positive attitude will have a score of 200; a mean positive score will be 160, a mean neutral score will be 120; a mean negative score will be 80, and a mean strongly negative score will be 40.

COLLECTION OF DATA

Permission to give the Kneer Attitude Inventory was obtained from Dr. Robert Rasch, Chairman of the Institutional Review Board at East Tennessee State University. A copy of the letter granting permission appears in Appendix C.

A telephone call was made to Dr. Marion Kneer in Chicago, Illinois, to secure permission to give the Kneer Attitude Inventory. Verbal permission by phone was granted by Dr. Marion Kneer, with later written permission. The letter granting written permission to administer the inventory appears in Appendix D.

The investigator issued a memorandum to the instructors whose classes were used in the study explaining the purpose of the study and when their class was to be

tested. A copy of this memorandum can be found in Appendix E.

The Kneer Attitude Inventory was administered by the investigator in 25 beginning activity classes during the first week of the spring semester of 1981. The inventory was given at the beginning of the semester which was either the first or second class meeting before any course content was covered. Students were given an explanation as to the purpose of the study and informed that participation in this study would not have any influence upon their final grade. The students were then told that this was a voluntary study, and if they did not wish to participate they were excused from the examining room during the testing. The directions for taking the Kneer Attitude Inventory were those recommended by Kneer.

The investigator then issued another memorandum to the instructors, thanking them for their cooperation during the pretest and informing them when their class would be tested for the posttest. The same method which was used for the pretest was also utilized for the posttest. A copy of this memorandum can be found in Appendix F.

STATISTICAL ANALYSIS

There were five possible responses to each inventory item: STRONGLY AGREE, AGREE, UNDECIDED OR NEUTRAL, DISAGREE, AND STRONGLY DISAGREE coded 5, 4, 3, 2, and 1,

respectively. These five responses were coded so that a statistical analysis was possible, and the larger numbers were associated with a desirable response.

A summation of each subject's score on all items was used to determine the subject's attitude toward physical education. The scoring system recommended by Kneer which awards five points for strongly agree, four points for agree, three points for undecided, two points for disagree, and one point for strongly disagree was used for the statements worded positively. Replies to negatively worded statements received five points for strongly disagree, four points for disagree, three points for undecided, two points for agree, and one point for strongly agree.

Each statement on the Kneer Attitude Inventory was analyzed to determine the percentage of favorable, unfavorable, or indecisive responses of the students taking required or elective physical education. A calculator was used to determine the percentage of students who answered with one's, two's, three's, four's, or five's to each statement from the required or elective physical education classes.

The following statistics of the data were calculated: (1) mean score of students taking physical education as an elective course; (2) mean score of students taking physical education as a required course; (3) standard deviation of students taking physical education as a

required course; and (4) standard deviation of students taking physical education as an elective course.

The t test was used to determine if there was any significant difference between the students taking physical education as a required course and students taking physical education as an elective course. The .05 level of confidence was used for testing the null hypothesis.

Chapter 4

ANALYSIS OF DATA

The Kneer Attitude Inventory was used for assessing the attitudes of students taking physical education as a required course in comparison with students taking physical education as an elective course. A total of 424 students participated in the pretest, while 375 students were involved in the posttest. The inventory scores were determined by the scoring system recommended by Kneer.

The t test was used to determine if there was any significant difference between the students taking physical education as a required course and students taking physical education as an elective course.

The percentages for each response showing the degree of favorable, unfavorable, or indecisive attitudes toward physical education were compiled as two separate data items: (1) pretest and (2) posttest.

Table 1, found in Appendix G, shows the percentage of responses for each statement for students participating in the pretest; Table 2, found in Appendix H, shows the percentage of responses for each statement for students participating in the posttest.

The test statements were analyzed with the following results:

Statement 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. The results from the students taking the pretest indicated that 35.84 percent strongly disagreed, 42.92 percent disagreed, 5.66 percent were neutral, 11.08 percent agreed, and 4.48 percent strongly agreed; results from the posttest indicated that 45.07 percent strongly disagreed, 29.60 percent disagreed, 8.53 percent were neutral, 13.07 percent agreed, and 3.73 percent strongly agreed. These percentages are shown in Table 3.

Statement 2: Students can better understand each other after meeting and playing together in physical education activities. The results from the students taking the pretest indicated that 2.36 percent strongly disagreed, 6.60 percent disagreed, 3.54 percent were neutral, 50.70 percent agreed, and 36.79 percent strongly agreed; results from the posttest indicated that 2.93 percent strongly disagreed, 9.07 percent disagreed, 4.53 percent were neutral, 55.47 percent agreed, and 28.00 percent strongly agreed. These percentages are shown in Table 3.

Statement 3: Physical education activities provide no chance for learning to control strong feelings, such as anger. The results from the students taking the pretest

indicated that 44.10 percent strongly disagreed, 40.80 percent disagreed, 5.90 percent were neutral, 6.60 percent agreed, and 2.59 percent strongly agreed; results from the posttest indicated that 38.13 percent strongly disagreed, 50.13 percent disagreed, 5.07 percent were neutral, 4.53 percent agreed, and 2.13 percent strongly agreed. These percentages are shown in Table 3.

Statement 4: Taking part in lively phyiscal activities gets one interested in using good health habits. The results from the students taking the pretest indicated that 4.00 percent strongly disagreed, 7.31 percent disagreed, 4.72 percent were neutral, 53.54 percent agreed, and 30.42 percent strongly agreed; results from the posttest indicated that 2.93 percent strongly disagreed, 8.53 percent disagreed, 11.20 percent were neutral, 47.20 percent agreed, and 30.13 percent strongly agreed. These percentages are shown in Table 3.

Statement 5: Physical education is one of the more important subjects in helping to teach and practice acceptable rules of behavior with other people. The results from the students taking the pretest indicated that 1.65 percent strongly disagreed, 9.91 percent disagreed, 9.43 percent were neutral, 58.73 percent agreed, and 20.28 percent strongly agreed; results from the posttest indicated that 0.53 percent strongly disagreed, 8.53 percent disagreed, 12.27 percent were neutral, 49.87 percent agreed,

and 28.80 percent strongly agreed. These percentages are shown in Table 3.

Statement 6: Time spent in dressing, showering, and playing in physical education class could be more valuable if spent in other ways. The results from the students taking the pretest indicated that 19.58 percent strongly disagreed, 54.72 percent disagreed, 10.85 percent were neutral, 11.08 percent agreed, and 3.77 percent strongly agreed; results from the posttest indicated that 19.47 percent strongly disagreed, 46.13 percent disagreed, 18.67 percent were neutral, 11.46 percent agreed, and 4.27 percent strongly agreed. These percentages are shown in Table 3.

Statement 7: Very active play works off harmful strong feelings, such as anger. The results from the students taking the pretest indicated that 3.54 percent strongly disagreed, 9.91 percent disagreed, 4.48 percent were neutral, 54.24 percent agreed, and 27.83 percent strongly agreed; results from the posttest indicated that 1.60 percent strongly disagreed, 7.47 percent disagreed, 7.73 percent were neutral, 47.73 percent agreed, and 35.47 percent strongly agreed. These percentages are shown in Table 3.

Statement 8: A person's body usually has all the strength it needs without taking part in physical education activities. The results from the students taking the pre-test indicated that 50.94 percent strongly disagreed, 42.22

percent disagreed, 2.12 percent were neutral, 3.30 percent agreed, and 1.42 percent strongly agreed; results from the posttest indicated that 51.47 percent strongly disagreed, 40.80 percent disagreed, 3.46 percent were neutral, 3.20 percent agreed, and 1.07 percent strongly agreed. These percentages are shown in Table 3.

Statement 9: I would take physical education only if it were required. The results from the students taking the pretest indicated that 44.34 percent strongly disagreed, 39.62 percent disagreed, 2.59 percent were neutral, 7.78 percent agreed, and 5.66 percent strongly agreed; results from the posttest indicated that 36.00 percent strongly disagreed, 39.47 percent disagreed, 9.07 percent were neutral, 11.73 percent agreed, and 3.73 percent strongly agreed. These percentages are shown in Table 3.

Statement 10: Taking part in physical education activities tends to make one more likable and better able to get along with other people. The results from the students taking the pretest indicated that 3.54 percent strongly disagreed, 16.04 percent disagreed, 18.16 percent were neutral, 47.64 percent agreed, and 14.62 percent strongly agreed; results from the posttest indicated that 3.46 percent strongly disagreed, 13.87 percent disagreed, 21.33 percent were neutral, 41.87 percent agreed, and 19.47 percent strongly agreed. These percentages are shown in Table 3.

Statement 11: Taking part in physical education gives no help in developing the ability to feel calm in strange situations. The results from students taking the pretest indicated that 19.34 percent strongly disagreed, 51.65 percent disagreed, 13.21 percent were neutral, 13.21 percent agreed, and 2.59 percent strongly agreed; results from the postest indicated that 17.60 percent strongly disagreed, 49.07 percent disagreed, 16.26 percent were neutral, 13.87 percent agreed, and 3.20 percent strongly agreed. These percentages are shown in Table 3.

Statement 12: Physical education in most schools does not receive the stress that it should. The results from the students taking the pretest indicated that 3.30 percent strongly disagreed, 26.65 percent disagreed, 17.22 percent were neutral, 37.50 percent agreed, and 15.33 percent strongly agreed; results from the posttest indicated that 4.00 percent strongly disagreed, 19.73 percent disagreed, 17.87 percent were neutral, 41.60 percent agreed, and 16.80 percent strongly agreed. These percentages are shown in Table 3.

Statement 13: Because physical skills seem very important in youth, it is necessary that a person be helped to learn and to improve such skills. The results from the students taking the pretest indicated that 2.83 percent strongly disagreed, 7.31 percent disagreed, 6.13 percent were neutral, 45.05 percent agreed, and 38.68 percent

strongly agreed; results from the posttest indicated that 1.87 percent strongly disagreed, 8.27 percent disagreed, 7.20 percent were neutral, 51.73 percent agreed, and 30.93 percent strongly agreed. These percentages are shown in Table 3.

Statement 14: Physical education classes are poor in chances to learn how to get along with other people. The results from the students taking the pretest indicated that 29.48 percent strongly disagreed, 55.42 percent disagreed, 4.48 percent were neutral, 6.13 percent agreed, and 4.48 percent strongly agreed; results from the posttest indicated that 35.20 percent strongly disagreed, 47.47 percent disagreed, 8.53 percent were neutral, 7.20 percent agreed, and 1.60 percent strongly agreed. These percentages are shown in Table 3.

Statement 15: Exercises taken regularly are good for one's general health. The results from the students taking the pretest indicated that 1.89 percent strongly disagreed, 1.41 percent disagreed, 2.83 percent were neutral, 28.30 percent agreed, and 65.57 percent strongly agreed; results from the posttest indicated that 1.60 percent strongly disagreed, 1.33 percent disagreed, 2.40 percent were neutral, 32.53 percent agreed, and 62.13 percent strongly agreed. These percentages are shown in Table 4.

Table 3

Percentage of Pretest and Posttest Student Responses on the Kneer Attitude Inventory

Statement		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	Pretest	35.84%	42.92%	5.66%	11.08%	4.48%
	Posttest	45.07	29.60	8.53	13.07	3.73
2	Pretest	2.36	6.60	3.54	50.70	36.79
	Posttest	2.93	9.07	4.53	55.47	28.00
3	Pretest	44.10	40.80	5.90	6.60	2.59
	Posttest	38.13	50.13	5.07	4.53	2.13
4	Pretest	4.00	7.31	4.72	53.54	30.42
	Posttest	2.93	8.53	11.20	47.20	30.13
5	Pretest	1.65	9.91	9.43	58.73	20.20
	Posttest	0.53	8.53	12.27	49.87	28.80
6	Pretest	19.58	54.72	10.85	11.08	3.77
	Posttest	19.47	46.13	18.67	11.46	4.27
7	Pretest	3.54	9.91	4.48	54.24	27.83
	Posttest	1.60	7.47	7.73	47.73	35.47
8	Pretest	50.94	42.22	2.12	3.30	1.42
	Posttest	51.47	40.80	3.46	3.20	1.07
9	Pretest	44.34	39.62	2.59	7.78	5.66
	Posttest	36.00	39.47	9.07	11.73	3.73
10	Pretest	3.54	16.04	18.16	47.64	14.62
	Posttest	3.46	13.87	21.33	41.87	19.47
11	Pretest	19.34	51.65	13.21	13.21	2.59
	Posttest	17.60	49.07	16.26	13.87	3.20
12	Pretest	3.30	26.65	17.22	37.50	15.33
	Posttest	4.00	19.73	17.87	41.60	16.80
13	Pretest	2.83	7.31	6.13	45.05	38.68
	Posttest	1.87	8.27	7.20	51.73	30.93
14	Pretest	29.48	55.42	4.48	6.13	4.48
	Posttest	35.20	47.47	8.53	7.20	1.60

Statement 16: A person would be better able to control his feelings if he did not take part in physical education. The results from the students taking the pretest indicated that 37.74 percent strongly disagreed, 47.88 percent disagreed, 9.90 percent were neutral, 2.36 percent agreed, and 2.12 percent strongly agreed; results from the posttest indicated that 33.60 percent strongly disagreed, 49.07 percent disagreed, 11.73 percent were neutral, 4.53 percent agreed, and 1.07 percent strongly agreed. These percentages are shown in Table 4.

Statement 17: An average amount of skill in active games or sports is not necessary for leading the fullest kind of life. The results from the students taking the pretest indicated that 14.86 percent strongly disagreed, 39.62 percent disagreed, 14.86 percent were neutral, 23.82 percent agreed, and 6.84 percent strongly agreed; results from the posttest indicated that 18.13 percent strongly disagreed, 46.13 percent disagreed, 14.67 percent were neutral, 17.07 percent agreed, and 4.00 percent strongly agreed. These percentages are shown in Table 4.

Statement 18: It is possible to make physical education a valuable subject if a wide variety of useful activities is offered. The results from the students taking the pretest indicated that 4.72 percent strongly disagreed, 3.77 percent disagreed, 2.83 percent were neutral, 54.72 percent agreed, and 33.96 percent strongly agreed; results

from the posttest indicated that 1.60 percent strongly disagreed, 4.00 percent disagreed, 4.53 percent were neutral, 49.87 percent agreed, and 40.00 percent strongly agreed. These percentages are shown in Table 4.

Statement 19: Physical education does more harm than it does good. The results from students taking the pretest indicated that 68.87 percent strongly disagreed, 27.83 percent disagreed, 1.18 percent were neutral, 1.18 percent agreed, and 0.94 percent strongly agreed; results from the posttest indicated that 61.60 percent strongly disagreed, 30.13 percent disagreed, 3.47 percent were neutral, 3.20 percent agreed, and 1.60 percent strongly agreed. These percentages are shown in Table 4.

Statement 20: Developing a physical skill will relax your mind. The results from students taking the pretest indicated that 2.12 percent strongly disagreed, 6.37 percent disagreed, 6.60 percent were neutral, 54.95 percent agreed, and 29.95 percent strongly agreed; results from the posttest indicated that 1.60 percent strongly disagreed, 5.07 percent disagreed, 9.60 percent were neutral, 51.73 percent agreed, and 32.00 percent strongly agreed. These percentages are shown in Table 4.

Statement 21: Meeting and playing with others in some physical education activity is fun. The results from students taking the pretest indicated that 1.65 percent strongly disagreed, 2.59 percent disagreed, 2.12 percent

were neutral, 43.87 percent agreed, and 49.76 percent strongly agreed; results from the posttest indicated that 1.07 percent strongly disagreed, 3.20 percent disagreed, 2.93 percent were neutral, 43.47 percent agreed, and 49.33 percent strongly agreed. These percentages are shown in Table 4.

Statement 22: Physical education classes provide nothing which will be of value outside class. The results from students taking the pretest indicated that 45.99 percent strongly disagreed, 47.88 percent disagreed, 1.65 percent were neutral, 4.00 percent agreed, and 0.47 percent strongly agreed; results from the posttest indicated that 44.53 percent strongly disagreed, 46.93 percent disagreed, 4.00 percent were neutral, 3.73 percent agreed, and 0.80 percent strongly agreed. These percentages are shown in Table 4.

Statement 23: Physical education classes provide no chances for learning to respect the rights of others which will help one to become a better citizen. The results from the students taking the pretest indicated that 42.22 percent strongly disagreed, 42.22 percent disagreed, 11.32 percent were neutral, 2.83 percent agreed, and 1.41 percent strongly agreed; results from the posttest indicated that 33.87 percent strongly disagreed, 49.33 percent disagreed, 9.06 percent were neutral, 5.07 percent agreed, and 2.67 percent strongly agreed. These percentages are shown in Table 4.

Statement 24: There should not be over two one-hour periods per week given to physical education in schools. The results from students taking the pretest indicated that 32.54 percent strongly disagreed, 36.32 percent disagreed, 16.51 percent were neutral, 11.56 percent agreed, and 3.07 percent strongly agreed; results from the posttest indicated that 23.73 percent strongly disagreed, 35.47 percent disagreed, 20.27 percent were neutral, 14.67 percent agreed, and 5.86 percent strongly agreed. These percentages are shown in Table 4.

Statement 25: Physical education situations are among the poorest for making friends. The results from students taking the pretest indicated that 46.94 percent strongly disagreed, 46.94 percent disagreed, 2.59 percent were neutral, 2.59 percent agreed, and 0.94 percent strongly agreed; results from the posttest indicated that 48.80 percent strongly disagreed, 41.07 percent disagreed, 5.86 percent were neutral, 2.67 percent agreed, and 1.60 percent strongly agreed. These percentages are shown in Table 4.

Statement 26: Belonging to a group, for which opportunity is provided in team activities, is a desirable experience for a person. The results from students taking the pretest indicated that 1.42 percent strongly disagreed, 2.12 percent disagreed, 1.89 percent were neutral, 53.30 percent agreed, and 41.27 percent strongly agreed; results from the posttest indicated that 1.86 percent strongly

disagreed, 4.27 percent disagreed, 5.07 percent were neutral, 41.33 percent agreed, and 47.47 percent strongly agreed. These percentages are shown in Table 4.

Statement 27: Physical education is not valuable enough to make ti worth the time spent. The results from students taking the pretest indicated that 45.52 percent strongly disagreed, 47.64 percent disagreed, 3.07 percent were neutral, 3.30 percent agreed, and 0.47 percent strongly agreed; results from the posttest indicated that 41.33 percent strongly disagreed, 45.60 percent disagreed, 7.47 percent were neutral, 4.80 percent agreed, and 0.80 percent strongly agreed. These percentages are shown in Table 4.

Statement 28: Physical education is an important subject in helping a person gain and keep all around good health. The results from students taking the pretest indicated that 3.30 percent strongly disagreed, 2.59 percent disagreed, 8.96 percent were neutral, 49.29 percent agreed, and 35.85 percent strongly agreed; results from the posttest indicated that 2.13 percent strongly disagreed, 4.80 percent disagreed, 4.00 percent were neutral, 53.07 percent agreed, and 36.00 percent strongly agreed. These percentages are shown in Table 4.

Statement 29: Physical education skills will add to the joy and pleasure of living. The results from students taking the pretest indicated that 1.65 percent strongly disagreed, 4.25 percent disagreed, 7.07 percent were

Table 4

Percentage of Pretest and Posttest Student Responses on the Kneer Attitude Inventory

Statement		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
15	Pretest	1.89%	1.41%	2.83%	28.30%	65.57%
	Posttest	1.60	1.33	2.40	32.53	62.13
16	Pretest	37.74	47.88	9.90	2.36	2.12
	Posttest	33.60	49.07	11.73	4.53	1.07
17	Pretest	14.86	39.62	14.86	23.82	6.84
	Posttest	18.13	46.13	14.67	17.07	4.00
18	Pretest	4.72	3.77	2.83	54.72	33.96
	Posttest	1.60	4.00	4.53	49.87	40.00
19	Pretest	68.87	27.83	1.18	1.18	0.94
	Posttest	61.60	30.13	3.47	3.20	1.60
20	Pretest	2.12	6.37	6.60	54.95	29.95
	Posttest	1.60	5.07	9.60	51.73	32.00
21	Pretest	1.65	2.59	2.12	43.87	49.76
	Posttest	1.07	3.20	2.93	43.47	49.33
22	Pretest	45.99	47.88	1.65	4.00	0.47
	Posttest	44.53	46.93	4.00	3.73	0.80
23	Pretest	42.22	42.22	11.32	2.83	1.41
	Posttest	33.87	49.33	9.06	5.07	2.67
24	Pretest	32.54	36.32	16.51	11.56	3.07
	Posttest	23.73	35.47	20.27	14.67	5.86
25	Pretest	46.94	46.94	2.59	2.59	0.94
	Posttest	48.80	41.07	5.86	2.67	1.60
26	Pretest	1.42	2.12	1.89	53.30	41.27
	Posttest	1.86	4.27	5.07	41.33	47.47
27	Pretest	45.52	47.64	3.07	3.30	0.47
	Posttest	41.33	45.60	7.47	4.80	0.80
28	Pretest	3.30	2.59	8.96	49.29	35.85
	Posttest	2.13	4.80	4.00	53.07	36.00

neutral, 57.08 percent agreed, and 29.95 percent strongly agreed; results from the posttest indicated that 0.80 percent strongly disagreed, 3.47 percent disagreed, 9.86 percent were neutral, 52.80 percent agreed, and 33.07 percent strongly agreed. These percentages are shown in Table 5.

Statement 30: No definite good results come from taking part in physical education activities. The results from students taking the pretest indicated that 43.16 percent strongly disagreed, 48.58 percent disagreed, 5.20 percent were neutral, 2.59 percent agreed, and 0.47 percent strongly agreed; results from the posttest indicated that 44.80 percent strongly disagreed, 45.07 percent disagreed, 5.06 percent were neutral, 4.27 percent agreed, and 0.80 percent strongly agreed. These percentages are shown in Table 5.

Statement 31: People get all the physical exercise they need in just taking care of their daily work. The results from students taking the pretest indicated that 44.10 percent strongly disagreed, 47.64 percent disagreed, 3.07 percent were neutral, 4.25 percent agreed, and 0.94 percent strongly agreed; results from the posttest indicated that 38.67 percent strongly disagreed, 49.33 percent disagreed, 6.67 percent were neutral, 4.80 percent agreed, and 0.53 percent strongly agreed. These percentages are shown in Table 5.

Statement 32: Taking part in team sports during physical education is helpful in learning how to get along with people and how to make friends. The results from students taking the pretest indicated that 0.94 percent strongly disagreed, 2.36 percent disagreed, 7.31 percent were neutral, 54.95 percent agreed, and 34.43 percent strongly agreed; results from the posttest indicated that 1.33 percent strongly disagreed, 2.93 percent disagreed, 4.80 percent were neutral, 58.13 percent agreed, and 32.80 percent strongly agreed. These percentages are shown in Table 5.

Statement 33: All who are physically able will profit from an hour of physical education each day. The results from students taking the pretest indicated that 1.18 percent strongly disagreed, 4.48 percent disagreed, 4.01 percent were neutral, 58.96 percent agreed, and 31.37 percent strongly agreed; results from the posttest indicated that 1.60 percent strongly disagreed, 5.33 percent disagreed, 11.73 percent were neutral, 48.00 percent agreed, and 33.33 percent strongly agreed. These percentages are shown in Table 5.

Statement 34: Physical education activities tend to upset a person's feelings--for example, make him angry. The results from students taking the pretest indicated that 23.82 percent strongly disagreed, 54.25 percent disagreed, 12.50 percent were neutral, 8.49 percent agreed, and 0.94

percent strongly agreed; results from the posttest indicated that 27.20 percent strongly disagreed, 45.87 percent disagreed, 15.46 percent were neutral, 10.67 percent agreed, and 0.80 percent strongly agreed. These percentages are shown in Table 5.

Statement 35: Physical education is helpful in building up enough extra strength and in improving the ability to keep going for daily living. The results from students taking the pretest indicated that 1.42 percent strongly disagreed, 5.66 percent disagreed, 7.08 percent were neutral, 65.09 percent agreed, and 20.75 percent strongly agreed; results from the posttest indicated that 1.86 percent strongly disagreed, 5.60 percent disagreed, 8.00 percent were neutral, 57.07 percent agreed, and 27.47 percent strongly agreed. These percentages are shown in Table 5.

Statement 36: Physical education should be included in the program of every school because it helps a person to think better and to control strong feelings, such as anger. The results from students taking the pretest indicated that 0.94 percent strongly disagreed, 7.31 percent disagreed, 9.43 percent were neutral, 58.49 percent agreed, and 23.82 percent strongly agreed; results from the posttest indicated that 2.93 percent strongly disagreed, 8.00 percent disagreed, 10.93 percent were neutral, 50.40 percent agreed, and 27.73

percent strongly agreed. These percentages are shown in Table 5.

Statement 37: Physical education makes one less friendly by encouraging people to be better than others in many of the activities. The results from students taking the pretest indicated that 24.53 percent strongly disagreed, 52.36 percent disagreed, 6.37 percent were neutral, 11.08 percent agreed, and 5.66 percent strongly agreed; results from the posttest indicated that 28.27 percent were neutral, 7.20 percent agreed, and 2.40 percent strongly agreed. These percentages are shown in Table 5.

Statement 38: I would advise anyone who is able to take physical education. The results from students taking the pretest indicated that 0.20 percent strongly disagreed, 3.55 percent disagreed, 6.14 percent were neutral, 50.00 percent agreed, and 40.10 percent strongly agreed; results from the posttest indicated that 1.33 percent strongly disagreed, 4.53 percent disagreed, 7.73 percent were neutral, 45.87 percent agreed, and 40.53 percent strongly agreed. These percentages are shown in Table 5.

Statement 39: Taking part in sports, games, and dances makes for a better understanding of life and increases the enjoyment of it. The results from students taking the pretest indicated that 0.47 percent strongly disagreed, 4.72 percent disagreed, 8.96 percent were neutral, 53.77 percent agreed, and 32.08 percent strongly

Table 5

Percentage of Pretest and Posttest Student Responses on the Kneer Attitude Inventory

Statement		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
29	Pretest	1.65%	4.25%	7.07%	57.08%	29.95%
	Posttest	0.80	3.47	9.86	52.80	33.07
30	Pretest	43.16	48.48	5.20	2.59	0.47
	Posttest	44.80	45.07	5.06	4.27	0.80
31	Pretest	44.10	47.64	3.07	4.24	0.94
	Posttest	38.67	49.33	6.67	4.80	0.53
32	Pretest	0.94	2.36	7.31	54.95	34.43
	Posttest	1.33	2.93	4.80	58.13	32.80
33	Pretest	1.18	4.48	4.01	58.96	31.37
	Posttest	1.60	5.33	11.73	48.00	33.33
34	Pretest	23.82	54.25	12.50	8.49	0.94
	Posttest	27.20	45.87	15.46	10.67	0.80
35	Pretest	1.42	5.66	7.08	65.09	20.75
	Posttest	1.86	5.60	8.00	57.07	27.47
36	Pretest	0.94	7.31	9.43	58.49	23.82
	Posttest	2.93	8.00	10.93	50.40	27.73
37	Pretest	24.53	52.36	6.37	11.08	5.66
	Posttest	28.27	52.53	9.60	7.20	2.40
38	Pretest	0.20	3.55	6.14	50.00	40.10
	Posttest	1.33	4.53	7.73	45.87	40.53
39	Pretest	0.47	4.72	8.96	53.77	32.08
	Posttest	1.33	4.27	7.20	53.33	33.87
40	Pretest	53.30	41.51	3.30	1.42	0.47
	Posttest	61.87	31.47	3.30	2.66	0.80

agreed; results from the posttest indicated that 1.33 percent strongly disagreed, 4.27 percent disagreed, 7.20 percent were neutral, 53.33 percent agreed, and 33.87 percent strongly agreed. These percentages are shown in Table 5.

Statement 40: Physical education class is a waste of time in improving health. The results from students taking the pretest indicated that 53.30 percent strongly disagreed, 41.51 percent disagreed, 3.30 percent were neutral, 1.42 percent agreed, and 0.47 percent strongly agreed; results from the posttest indicated that 61.87 percent strongly disagreed, 31.47 percent disagreed, 3.20 percent were neutral, 2.66 percent agreed, and 0.80 percent strongly agreed. These percentages are shown in Table 5.

ANALYSIS OF THE PRETEST

Means and standard deviations for students taking physical education as a required course and those students taking physical education as an elective course were compared in the pretest and are shown in Table 6. The composite mean score for the students taking physical education as a required course was 164.12; the composite mean score for the students taking physical education as an elective course was 167.01. The mean scores indicated that both groups of students had a favorable attitude toward physical education in that a mean positive score is 160.

Table 6

Comparison of Kneer Attitude Inventory Scores for Required and Elective in Pretest

	Mean	Stand. Dev.	F Value	$\underline{t}$
Required	164.12	16.85	1.20	-1.60
Elective	167.01	18.44		

The standard deviation for students taking physical education as a required course was 16.85; the standard deviation for the students taking physical education as an elective course was 18.44.

The $\underline{t}$ test was used to test the hypothesis that there was no significant difference between the attitude scores of students taking physical education as a required course and students taking physical education as an elective course.

The result from the $\underline{t}$ test was: $\underline{t} = -1.60$. The .05 level of confidence was used in the study. With the finding of $\underline{t}$ as -1.60 and at the .05 level of confidence, there is no significant difference between the mean scores on the Kneer Attitude Inventory between the students who took physical education as a required course and students who

took physical education as an elective course in the pretest.

ANALYSIS OF THE POSTTEST

Means and standard deviations for students taking physical education as a required course and those students taking physical education as an elective course were compared in the posttest and are shown in Table 7. The composite mean score for the students taking physical education as a required course was 161.96; the composite mean score for the students taking physical education as an elective course was 164.19. The mean scores indicated that both groups of students had a favorable attitude toward physical education in that a mean positive score is 160.

Table 7

Comparison of Kneer Attitude Inventory Scores for Required and Elective in Posttest

Required	Mean 161.96	Stand. Dev. 19.09	F Value	t
			1.48	-0.98
Elective	164.19	23.20		

The standard deviation for the students taking physical education as a required course was 19.09; the standard deviation for the students taking physical education as an elective course was 23.20.

The *t* test was used to test the hypothesis that there was no significant difference between the attitude scores of students taking physical education as a required course and students taking physical education as an elective course.

The result from the *t* test was: *t* = -0.98. The .05 level of confidence was used in the study. With the finding of *t* as -0.98 and at the .05 level of confidence, there is no significant difference between the mean scores on the Kneer Attitude Inventory between the students who took physical education as a required course and students who took physical education as an elective course in the posttest.

ANALYSIS OF STUDENTS TAKING PHYSICAL EDUCATION AS A REQUIRED COURSE

Means and standard deviations for students taking physical education as a required course in the pretest and those students taking physical education as a required course in the posttest were compared and are shown in Table 8. The composite mean score for students taking physical education as a required course in the pretest was 164.12; the composite mean score for the students taking

physical education as a required course in the posttest was 161.96. The mean scores indicated that both groups of students had a favorable attitude toward physical education in that a mean positive score is 160.

Table 8

Comparison of Kneer Attitude Inventory Scores for Students Taking Physical Education as a Required Course

	Mean	Stand. Dev.	F Value	t
Pretest	164.96	16.85	1.28	1.31
Posttest	161.96	19.09		

The standard deviation for the students taking physical education as a required course in the pretest was 16.85; the standard deviation for the students taking physical education as a required course in the posttest was 19.09.

The t test was used to test whether or not there was a significant difference between the attitude scores of students taking physical education as a required course in the pretest and students taking physical education as a required course in the posttest.

The result from the t test was: t = 1.31. The .05 level of confidence was used in the study. With the finding of t as 1.31 and at the .05 level of confidence, there is no significant attitudinal difference between the mean scores on the Kneer Attitude Inventory between the students who took physical education as a required course in the pretest and students who took physical education as a required course in the posttest.

ANALYSIS OF STUDENTS TAKING PHYSICAL EDUCATION AS AN ELECTIVE COURSE

Means and standard deviations for students taking physical education as an elective course in the pretest and those students taking physical education as an elective course in the postest were compared and are shown in Table 9. The composite mean score for students taking physical education as an elective course in the pretest was 167.01; the composite mean score for the students taking physical education as an elective course in the posttest was 164.19. The mean scores indicated that both groups of students had a favorable attitude toward physical education in that a mean positive score is 160.

The standard deviation for the students taking physical education as an elective course in the pretest was 18.44; the standard deviation for the students taking physical education as an elective course in the postest was 23.20.

Table 9

Comparison of Kneer Attitude Inventory Scores for Students Taking Physical Education as an Elective Course

	Mean	Stand. Dev.	F Value	t
Pretest	167.01	18.44	1.58	1.18
Posttest	164.19	23.20		

The result from the t test was: t = 1.18. The .05 level of confidence was used in the study. With the finding of t as 1.18 and at the .05 level of confidence, there is no significant difference between the mean scores on the Kneer Attitude Inventory between the students who took physical education as an elective course in the pretest and students who took physical education as an elective course in the posttest.

Chapter 5

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY

The purposes of the study were: (1) to assess and compare the attitudes toward physical education of non-physical education majors who are undergraduate male and female students taking physical education as a required subject with those taking physical education as an elective subject at East Tennessee State University located in Johnson City, Tennessee, and (2) to analyze the results in regard to their implication for the East Tennessee State University program.

The subjects for the pretest of this study were 424 male and female undergraduate students enrolled in 25 randomly selected beginning activity classes at East Tennessee State University during the first week of the spring semester, 1981. The 375 undergraduate male and female subjects for the posttest were enrolled in 25 randomly selected beginning activity classes at East Tennessee State University during the last week of the

spring semester, 1981. The Kneer Attitude Inventory was the instrument used by the investigator of this study.

The t test was used to determine if there was any significant difference between the students taking physical education as a required course and students taking physical education as an elective course. The .05 level of confidence was selected for determining statistical significance. The obtained values for the groups in each analysis failed to meet the levels required for significance. This indicated the null hypothesis could not be rejected.

FINDINGS AND CONCLUSIONS

The analysis of the data revealed the following findings and conclusions:

1. The students at East Tennessee State University located in Johnson City, Tennessee, taking physical education as a required course had a favorable attitude toward physical education.

2. The students at East Tennessee State University located in Johnson City, Tennessee, taking physical education as an elective course had a favorable attitude toward physical education.

3. There was no significant difference between the mean scores on the Kneer Attitude Inventory between the students taking physical education as a required course and students taking physical education as an elective course.

4. That 90 percent of the students at East Tennessee State University taking physical education feel that:

(a) Physical education classes are not a waste of time in improving health.

(b) A person's body does not have all the strength it needs without taking part in physical education activities.

(c) Exercises taken regularly are good for one's general health.

(d) It is possible to make physical education a valuable subject if a wide variety of useful activities are offered.

(e) Physical education does more good than harm.

(f) Physical education classes provide something which will be of value outside of class.

(g) Physical education is valuable enough to make it worth the time spent.

(h) Definite good results come from taking part in physical education.

(i) People do not get all the physical exercise they need in just taking care of their daily work.

(j) They would advise everyone who is able to take physical education.

(k) Meeting and playing with others in some physical education activity is fun.

(l) Physical education situations are among the best for making friends.

(m) Belonging to a group, for which opportunity is provided in team activities, is a desirable experience for a person.

(n) Taking part in team sports during physical education is helpful in learning how to get along with people and how to make friends.

RECOMMENDATIONS

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

1. Further extensive research needs to be done in the areas of attitude and physical education.

2. A repetition of this study be done in five years.

3. Additional research be done comparing the difference in attitudes of students taking team sports and those taking individual sports.

4. Additional research be done comparing the difference in attitudes by sex.

5. Additional research be done comparing the difference in attitudes by race (Caucasian, black, Indian, etc.).

6. Additional research be done comparing the difference in attitudes by classification (freshman, sophomore, junior, and senior).

7. Additional research be done to determine the attitude of faculty members (outside of physical education faculty) toward the physical education program.

8. Additional research be done which compares the attitudes toward physical education between students in a university which requires physical education and students in a university where physical education is an elective.

APPENDIXES

APPENDIX A

KNEER ATTITUDE INVENTORY

KNEER ATTITUDE INVENTORY

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 sheet for recording your reaction to each statement. (a) Read each statement carefully, (b) go to the answer sheet, and (c) opposite the number of the statement place an "x" in the square which is under the word (or words) which best expresses your feeling about the statement. 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 place an "x" under "agree" or "strongly agree." If you disagree, then decide whether to place the "x" under "disagree" or "strongly disagree." In case you are undecided (or neutral) concerning your feelings about the statement, then place an "x" under "undecided." Try to avoid placing an "x" under "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 paper--so please answer each statement as you actually feel about it. BE SURE TO ANSWER EVERY STATEMENT.

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. Students can better understand each other after meeting and playing together in physical education activities.

3. Physical education activities provide no chance for learning to control strong feelings, such as anger.

4. Taking part in lively physical activities gets one interested in using good health habits.

5. Physical education is one of the more important subjects in helping to teach and practice acceptable rules of behavior with other people.

6. Time spent in dressing, showering, and playing in physical education class could be more valuable if spent in other ways.

7. Very active play works off harmful strong feelings, such as anger.

8. A person's body usually has all the strength it needs without taking part in physical education activities.

9. I would take physical education only if it were required.

10. Taking part in physical education activities tends to make one more likable and better able to get along with other people.

11. Taking part in physical education gives no help in developing the ability to feel calm in strange situations.

12. Physical education in most schools does not receive the stress that it should.

13. Because physical skills seem very important in youth, it is necessary that a person be helped to learn and to improve such skills.

14. Physical education classes are poor in chances to learn how to get along with other people.

15. Exercises taken regularly are good for one's general health.

16. A person would be better able to control his feelings if he did not take part in physical education.

17. An average amount of skill in active games or sports is not necessary for leading the fullest kind of life.

18. It is possible to make physical education a valuable subject if a wide variety of useful activities is offered.

19. Physical education does more harm than it does good.

20. Developing a physical skill will relax your mind.

21. Meeting and playing with others in some physical education activity is fun.

22. Physical education classes provide nothing which will be of value outside of class.

23. Physical education classes provide no chances for learning to respect the rights of others which will help one to become a better citizen.

24. There should not be over two one-hour periods per week given to physical education in schools.

25. Physical education situations are among the poorest for making friends.

26. Belonging to a group, for which opportunity is provided in team activities, is a desirable experience for a person.

27. Physical education is not valuable enough to make it worth the time spent.

28. Physical education is an important subject in helping a person gain and keep all around good health.

29. Physical education skills will add to the joy and pleasure of living.

30. No definite good results come from taking part in physical education activities.

31. People get all the physical exercise they need in just taking care of their daily work.

32. Taking part in team sports during physical education is helpful in learning how to get along with people and how to make friends.

33. All who are physically able will profit from an hour of physical education each day.

34. Physical education activities tend to upset a person's feelings--for example, make him angry.

35. Physical education is helpful in building up enough extra strength and in improving the ability to keep going for daily living.

36. Physical education should be included in the program of every school because it helps a person to think better and to control strong feelings, such as anger.

37. Physical education makes one less friendly by encouraging people to be better than others in many of the activities.

38. I would advise anyone who is able to take physical education.

39. Taking part in sports, games, and dances makes for a better understanding of life, and increases the enjoyment of it.

40. Physical education class is a waste of time in improving health.

APPENDIX B

ANSWER SHEET FOR KNEER ATTITUDE INVENTORY

ANSWER SHEET AND KEY

CLASS_____ MALE__FEMALE__

DATE_____ AGE_____

TEACHER_____ MAJOR_____

REQUIRED__ELECTIVE__ MINOR_____

P.E. COURSES TAKEN BEFORE_____

Classification_____

	N	VALUE
5		
4		
3		
2		
1		
Total		

	STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE		STRONGLY DISAGREE	DISAGREE	NEUTRAL	AGREE	STRONGLY AGREE
	5	4	3	2	1		1	2	3	4	5
1	( )	( )	( )	( )	( )	21	( )	( )	( )	( )	( )
	1	2	3	4	5		5	4	3	2	1
2	( )	( )	( )	( )	( )	22	( )	( )	( )	( )	( )
	5	4	3	2	1		5	4	3	2	1
3	( )	( )	( )	( )	( )	23	( )	( )	( )	( )	( )
	1	2	3	4	5		5	4	3	2	1
4	( )	( )	( )	( )	( )	24	( )	( )	( )	( )	( )
	1	2	3	4	5		5	4	3	2	1
5	( )	( )	( )	( )	( )	25	( )	( )	( )	( )	( )
	5	4	3	2	1		1	2	3	4	5
6	( )	( )	( )	( )	( )	26	( )	( )	( )	( )	( )
	1	2	3	4	5		5	4	3	2	1
7	( )	( )	( )	( )	( )	27	( )	( )	( )	( )	( )
	5	4	3	2	1		1	2	3	4	5
8	( )	( )	( )	( )	( )	28	( )	( )	( )	( )	( )
	5	4	3	2	1		1	2	3	4	5
9	( )	( )	( )	( )	( )	29	( )	( )	( )	( )	( )
	1	2	3	4	5		5	4	3	2	1
10	( )	( )	( )	( )	( )	30	( )	( )	( )	( )	( )
	5	4	3	2	1		5	4	3	2	1
11	( )	( )	( )	( )	( )	31	( )	( )	( )	( )	( )
	1	2	3	4	5		1	2	3	4	5
12	( )	( )	( )	( )	( )	32	( )	( )	( )	( )	( )
	1	2	3	4	5		1	2	3	4	5
13	( )	( )	( )	( )	( )	33	( )	( )	( )	( )	( )
	5	4	3	2	1		5	4	3	2	1
14	( )	( )	( )	( )	( )	34	( )	( )	( )	( )	( )
	1	2	3	4	5		1	2	3	4	5
15	( )	( )	( )	( )	( )	35	( )	( )	( )	( )	( )
	5	4	3	2	1		1	2	3	4	5
16	( )	( )	( )	( )	( )	36	( )	( )	( )	( )	( )
	5	4	3	2	1		5	4	3	2	1
17	( )	( )	( )	( )	( )	37	( )	( )	( )	( )	( )
	1	2	3	4	5		1	2	3	4	5
18	( )	( )	( )	( )	( )	38	( )	( )	( )	( )	( )
	5	4	3	2	1		1	2	3	4	5
19	( )	( )	( )	( )	( )	39	( )	( )	( )	( )	( )
	1	2	3	4	5		5	4	3	2	1
20	( )	( )	( )	( )	( )	40	( )	( )	( )	( )	( )

APPENDIX C

LETTER FROM DR. ROBERT RASCH

IRB Form No. 105

East Tennessee State University
Institutional Review Board

Report of Project Review

PROJECT TITLE: 81-305: An Investigation of Student Attitudes Toward Physical Education (Dissertation)

PRINCIPAL INVESTIGATOR: Carlos R. Hammonds

The IRB Board Short Review Subcommittee has reviewed the above project with respect to human subject participation on (date) 12-9-80, and has made the following recommendations:

1. Risks

   ✓ a. The project involves little forseeable risk and human subject safety is adequately protected.

   _____ b. The forseeable risks are justified, and there are adequate measures to protect human subjects.

   _____ c. The risks are justified but the following changes are advised before approval of the project:

   _____ d. The risks to human subjects cannot be justified.

2. Informed Consent

   ✓ a. Informed consent procedures are adequate.

   _____ b. Informed consent procedures should be modified as follows before approval of project:

3. Subject Confidentiality

   ✓ a. Subject confidentiality is adequately protected.

   _____ b. Subject confidentiality is not adequately protected, and the following changes should be made before project approval:

4. Further Comments:

5. Recommendation

   ✓ a. Approved as submittes.

   _____ b. Make suggested revisions and resubmit.

   _____ c. The project is rejected.

Date: 12/9/80 /s/ Robert Rasch
Chairman

APPENDIX D

LETTER FROM DR. MARIAN KNEER

UNIVERSITY OF ILLINOIS AT CHICAGO CIRCLE
Department of Physical Education
College of Health, Physical Education, and Recreation
Box 4348, Chicago, Illinois 60680
Telephone: 996-4600

December 17, 1980

(LOGO)

Carlos Hammonds Apt. 4
1005 Derwood Ct.
Kingsport, Tennessee 37660

Dear Carlos:

You have my permission to use the Kneer Adaptation of the Wear Inventory in your dissertation research.

Best wishes,

Sincerely,

/s/ Marian E. Kneer

Marian E. Kneer, Ph.D.
Professor

APPENDIX E

LETTER TO PHYSICAL EDUCATION FACULTY PARTICIPATING IN THE PRETEST

January 5, 1981

Dear (Teacher's Name):

During Spring Semester, 1981, I will be conducting a study on the attitudes of students on physical education at East Tennessee State University. I have gone through the peroper channels and my project has been approved. I will be coming to your (Class Title) on (Date) at (Time). I will be administering the Kneer Attitude Inventory and I should take up only twenty (20) minutes of the class time. Your cooperation and understanding will be greatly appreciated.

Thank you,

Carlos R. Hammonds
Doctorate Candidate
Middle Tennessee State University

APPENDIX F

LETTER TO PHYSICAL EDUCATION FACULTY PARTICIPATING IN THE POSTTEST

March 31, 1981

Dear (Teacher's Name):

Thank you very much for your cooperation during my pretest examination during January, 1981. The students in your class were cooperative, understanding, and kind during the pretest. It is now time for my posttest. I will be coming to your (Class Title) on (Date) at (Time). I will plan on meeting your class in room (Room Number) at the time stated above. If any information is incorrect please drop me a note and send it to the Kingsport University Center through campus mail. Once again I will be administering the Kneer Attitude Inventory and I should take up only twenty (20) minutes of your class time.

Many thanks,

Carlos R. Hammonds
Doctorate Candidate
Middle Tennessee State
University

APPENDIX G

ANALYSIS OF THE ACCUMULATED TOTAL AND PERCENTAGE OF PRETEST STUDENT RESPONSES ON THE KNEER ATTITUDE INVENTORY

Table 1

Analysis of the Accumulated Total and Percentage of Pretest Student Responses on the Kneer Attitude Inventory

Statement	Fives	%	Fours	%	Threes	%	Twos	%	Ones	%
1	152	35.84	182	42.92	24	5.66	47	11.08	19	4.48
2	156	36.79	215	50.07	15	3.54	28	6.60	10	2.36
3	187	44.10	173	40.80	25	5.90	28	6.60	11	2.59
4	129	30.42	227	53.54	20	4.72	31	7.31	17	4.00
5	86	20.28	249	58.73	40	9.43	42	9.91	7	1.65
6	83	19.58	232	54.72	46	10.85	47	11.08	16	3.77
7	118	27.83	230	54.24	19	4.48	42	9.91	15	3.54
8	216	50.94	179	42.22	9	2.12	14	3.30	6	1.42
9	188	44.34	168	39.62	11	2.59	33	7.78	24	5.66
10	62	14.62	202	47.64	77	18.16	68	16.04	15	3.54
11	82	19.34	219	51.65	56	13.21	56	13.21	11	2.59
12	65	15.33	159	37.50	73	17.22	113	26.65	14	3.30
13	164	38.68	191	45.05	26	6.13	31	7.31	12	2.83
14	125	29.48	235	55.42	19	4.48	26	6.13	19	4.48
15	278	65.57	120	28.30	12	2.83	6	1.41	8	1.89
16	160	37.74	203	47.88	42	9.90	10	2.36	9	2.12
17	63	14.86	168	39.62	63	14.86	101	23.82	29	6.84

Table 1 (Continued)

Statement	Fives	%	Fours	%	Threes	%	Twos	%	Ones	%
18	144	33.96	232	54.72	12	2.83	16	3.77	20	4.72
19	292	68.87	118	27.83	5	1.18	5	1.18	4	0.94
20	127	29.95	233	54.95	28	6.60	27	6.37	9	2.12
21	211	49.76	186	43.87	9	2.12	11	2.59	7	1.65
22	195	45.99	203	47.88	7	1.65	17	4.00	2	0.47
23	179	42.22	179	42.22	48	11.32	12	2.83	6	1.41
24	138	32.54	154	36.32	70	16.51	49	11.56	13	3.07
25	199	46.94	199	46.94	11	2.59	11	2.59	4	0.94
26	175	41.27	226	53.30	8	1.89	9	2.12	6	1.42
27	193	45.52	202	47.64	13	3.07	14	3.30	2	0.47
28	152	35.85	209	49.29	38	8.96	11	2.59	14	3.30
29	127	29.95	242	57.08	30	7.07	18	4.25	7	1.65
30	183	43.16	206	48.58	22	5.20	11	2.59	2	0.47
31	187	44.10	202	47.64	13	3.07	18	4.25	4	0.94
32	146	34.43	233	54.95	31	7.31	10	2.36	4	0.94
33	133	31.37	250	58.96	17	4.01	19	4.48	5	1.18
34	101	23.82	230	54.25	53	12.50	36	8.49	4	0.94
35	88	20.75	276	65.09	30	7.08	24	5.66	6	1.42
36	101	23.82	248	58.49	40	9.43	31	7.31	4	0.94

Table 1 (Continued)

Statement	Fives	%	Fours	%	Threes	%	Twos	%	Ones	%
37	104	24.53	222	53.56	27	6.37	47	11.08	24	5.66
38	170	40.10	212	50.00	26	6.14	15	3.55	1	0.20
39	136	32.08	228	53.77	38	8.96	20	4.72	2	0.47
40	226	53.30	176	41.51	14	3.30	6	1.42	2	0.47

APPENDIX H

ANALYSIS OF THE ACCUMULATED TOTAL AND PERCENTAGE OF POSTTEST STUDENT RESPONSES ON THE KNEER ATTITUDE INVENTORY

Table 2

Analysis of the Accumulated Total and Percentage of Posttest Student Responses on the Kneer Attitude Inventory

Statement	Fives	%	Fours	%	Threes	%	Twos	%	Ones	%
1	169	45.07	111	29.60	32	8.53	49	13.07	14	3.73
2	105	28.00	208	55.47	17	4.53	34	9.07	11	2.93
3	143	38.13	188	50.13	19	5.07	17	4.53	8	2.13
4	113	30.13	177	47.20	42	11.20	32	8.53	11	2.93
5	108	28.80	187	49.87	46	12.27	32	8.53	2	0.53
6	73	19.47	173	46.13	70	18.67	43	11.46	16	4.27
7	133	35.47	179	47.73	29	7.73	28	7.47	6	1.60
8	193	51.47	153	40.80	13	3.46	12	3.20	4	1.07
9	135	36.00	148	39.47	34	9.07	44	11.73	14	3.73
10	73	19.47	157	41.87	80	21.33	52	13.87	13	3.46
11	66	17.60	184	49.07	61	16.26	52	13.87	12	3.20
12	63	16.80	156	41.60	67	17.87	74	19.73	15	4.00
13	116	30.93	194	51.73	27	7.20	31	8.27	7	1.87
14	132	35.20	178	47.47	32	8.53	27	7.20	6	1.60
15	233	62.13	122	32.53	9	2.40	5	1.33	6	1.60
16	126	33.60	184	49.07	44	11.73	17	4.53	4	1.07
17	68	18.13	173	46.13	55	14.67	64	17.07	15	4.00

Table 2 (Continued)

Statement	Fives	%	Fours	%	Threes	%	Twos	%	Ones	%
18	150	40.00	187	49.87	17	4.53	15	4.00	6	1.60
19	231	61.60	113	30.13	13	3.47	12	3.20	6	1.60
20	120	32.00	194	51.73	36	9.60	19	5.07	6	1.60
21	185	49.33	163	43.47	11	2.93	12	3.20	4	1.07
22	167	44.53	176	46.93	15	4.00	14	3.73	3	0.80
23	127	33.87	185	49.33	34	9.06	19	5.07	10	2.67
24	89	23.73	133	35.47	76	20.27	55	14.67	22	5.86
25	183	48.80	154	41.07	22	5.86	10	2.67	6	1.60
26	178	47.47	155	41.33	19	5.07	16	4.27	7	1.86
27	155	41.33	171	45.60	28	7.47	18	4.80	3	0.80
28	135	36.00	199	53.07	15	4.00	18	4.80	8	2.13
29	124	33.07	198	52.80	37	9.86	13	3.47	3	0.80
30	168	44.80	169	45.07	19	5.06	16	4.27	3	0.80
31	145	38.67	185	49.33	25	6.67	18	4.80	2	0.53
32	123	32.80	218	58.13	18	4.80	11	2.93	5	1.33
33	125	33.33	180	48.00	44	11.73	20	5.33	6	1.60
34	102	27.20	172	45.87	58	15.46	40	10.67	3	0.80
35	103	27.47	214	57.07	30	8.00	21	5.60	7	1.86
36	104	27.73	189	50.40	41	10.93	30	8.00	11	2.93

Table 2 (Continued)

Statement	Fives	%	Fours	%	Threes	%	Twos	%	Ones	%
37	106	28.27	197	52.53	36	9.60	27	7.20	9	2.40
38	152	40.53	172	45.87	29	7.73	17	4.53	5	1.33
39	127	33.87	200	53.33	27	7.20	16	4.27	5	1.33
40	232	61.87	118	31.47	12	3.20	10	2.66	3	0.80

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