

Smith

ATTITUDES OF JUNIOR HIGH SCHOOL FEMALE ATHLETES AND  
NON-ATHLETES TOWARD PHYSICAL EDUCATION

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This investigation is concerned with the problem of determining whether or not a significant difference exists between attitudes of junior high school female athletes and non-athletes toward physical education.

The Wear Physical Education Attitude Inventory was administered to 725 female subjects enrolled in Joe Bailey Junior High School in Arlington, Texas, in the spring semester of 1972, to obtain scores for statistical treatment. The Inventory consists of thirty statements about physical education. The subjects had a choice of five alternatives for expressing their opinions. The choices were: (a) strongly agree, (b) agree, (c) undecided, (d) disagree, and (e) strongly disagree. The scoring was based on a "1" to "5" or "5" to "1" scale, depending on whether the item was negative or positive. The total score represented the attitude score. A score of 95 or above is considered to indicate a favorable attitude. In addition to the Inventory, each subject completed a background information sheet which included pertinent information as well as past

experiences in physical education and athletics. Responses to the data sheet were utilized as criterion variables used in the statistical treatment of the data. Due to adherence to the criteria established for matching subjects, sources of data were 198 female subjects.

Statistical treatment of data included a two-factor analysis of variance and Tukey's HSD Test to determine whether or not a significant difference existed between athletes and non-athletes in attitude scores. Results revealed a significant difference between attitudes of athletes and non-athletes as a group, and between eighth grade subjects and seventh grade subjects.

Conclusions based on the results of findings are as follows:

1. The hypothesis under test cannot be accepted.
2. Female students enrolled in physical education and members of athletic teams at Joe Bailey-Junior High School possess favorable attitudes toward physical education.
3. The attitudes of female athletes are significantly more favorable than those of non-athletes toward physical education.
4. The attitudes of female eighth grade students are

significantly more favorable than the attitudes of female seventh grade students toward physical education.

Recommendations resulting from the study are as follows:

1. A similar study be conducted for junior high school boys at Joe Bailey Junior High School.

2. Additional studies be conducted at the high school and college level for men and women.

3. Additional studies be conducted to compare attitudes of athletes in junior high school participating in a variety of sports.

4. A similar study be conducted to compare attitudes of students toward physical education at Joe Bailey Junior High School with regard to criteria such as elementary school attended, participation in school intramurals, participation in athletics outside the school program, letter grade received in physical education, and physical education teachers. *p.c.*

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THESIS

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## CHAPTER I

### INTRODUCTION

The development of positive attitudes toward physical education is considered by many physical educators as a major objective of physical education and athletic programs. The importance of emphasizing the carry-over value of physical skills has been stressed in teaching, but little research has been done in the area of teaching for carry-over attitudes. In most schools, provisions are made for measurement and evaluation of physical skills by both the student and the teacher, but little or no effort is made to assess attitudes. Physical educators may be assuming their students are enjoying activities provided through the program when, in fact, no attempt has been made to verify such assumptions. Kelly states:

It is distinctly worthwhile to measure attitudes if one wishes to fact honestly the degree of success which a program is achieving. It is particularly encouraging in the field of physical education, because our satisfied, though silent pupils are so much more numerous than is often supposed so (11, p. 86).

Attitudes toward physical education and how these attitudes may be improved and/or changed cannot be discounted



by physical educators who are interested in encouraging girls and women to actively participate in programs of physical activity in school and in adult life. Physical education and athletic programs are theoretically designed to provide numerous opportunities for the development and improvement of democratic behavior, an ethical code, and an appreciation and understanding of individual and cultural differences (17). Participation in athletics does not, however, automatically result in the development of good sportsmanship, desirable attitudes, and proper social behavior. If these objectives are to be taken seriously some means should be employed by schools to insure the realization of such objectives by students.

American girls in their adolescent years are more than merely interested in sports and games; they are eager for them (22). Although the popularity of athletic competition for girls is increasing today, the desirability of such programs is still in question in some sections of the country. Social stigmas attached to athletic competition for girls have in the past been centered around the lessening of femininity, unattractive attire, competition with males, and detriments to physical health. Competition imposes a certain degree of self-restraint on the participant. If

correctly guided, such self-restraint may lead to concepts of fair play and respect for a code of ethics. The athlete releases "bottled-up" tensions and finds little time in the heat of competition to brood over inner problems. Participation in athletics may result in desirable personal as well as social outcomes. Many educators agree that properly directed athletic programs provide unique opportunities to educate today's youth in many facets of life.

The contribution of athletics is negated, however, if participants in the program develop undesirable attitudes due to overly intense situations. Harres defined intensive athletic competition as "being characterized by coaching, practice sessions, scheduled games or meets, presence of spectators, and the designation of a winner" (9, p. 279).

The inclusion of team sports in physical education for girls at the college level has become almost routine partially because teachers assume students desire such activity. However, it has been noted that in many instances girls do not participate in such a program unless required to do so (2). Unfavorable attitudes toward certain aspects of physical education therefore may stem from experiences in public school physical education programs.

Teachers who also coach girls' athletics may unknowingly spend too much time converting athletes into "stars" and too little time working with the non-athletes in the physical education classes. "Maximum activity for maximum numbers" (8, p. iii) is a theory which can be put into use by encouraging girls to select activities for their leisure-time participation. The physical education teacher should provide the instruction and practice necessary to increase the enjoyment of such participation for all the students in the class.

Another aspect for consideration concerning the development of unfavorable attitudes is the possibility that athletes may be physically and emotionally over-worked. The Women's Division of the National Amateur Athletic Federation (25) states that athletes are too often forced into overly intense competition. Williams (23) concluded that intense specialized competition is injurious not only to the athlete, but to the entire athletic program as well. Too much concentration on absolute mastery of skills may tend to cause development of a self-centered, over-bearing individual. Junior high schools today are charged with much of the responsibility for the development of favorable attitudes by athletes. Much has been done by the junior

high schools to change the attitudes of society concerning athletic competition for girls. All indications emphasize the encouragement of participation in all areas by all, not specialization in any particular area.

Therefore the formation of their attitudes toward physical education in general is based primarily on the experiences they undergo in the physical education class itself. Singer (19) pointed out evidence of the learner retaining material more effectively if he is receptive and has a favorable attitude toward what is being presented to him. Physical educators should keep in mind the importance of being aware of the "teachable moments" (22) which occur during class that could possibly reinforce the formation of favorable attitudes.

The state of readiness of an individual makes it possible for him to respond to situations in a certain direction. Attitudes form the basic part of an individual's readiness to learn. The attainment of attitudes is in itself a learning process comparative to that of the attainment of motor skills or academic knowledge. Attitudes are therefore learned in the same ways as skill and knowledge; by conditioning, success and failure, and other such methods. Williams and Nixon (23) stated that considerable effort by

teachers is, and should be, generally spent on the development of desirable attitudes toward physical education.

As physical education has been enriched and broadened, so has athletics for girls. Participants not only may learn about cooperation, responsibility, and being part of a team, but are also provided with unique opportunities for the formation of standards and attitudes depending upon the leadership provided.

Any significant differences in attitudes of certain groups of students toward physical education should be made known to these teachers, administrators, and parents associated with those groups. Possibilities exist that students enrolled in physical education classes may not receive the attention and time given to those students of the same school who are members of athletic teams. Oversights of physical educators such as this could indeed be cause for the development of negative attitudes toward the physical education program. On the other hand, too much emphasis on winning, undue stress created by emotional situations in games and practice sessions, and pressure applied by coaches and/or parents could be causative of negative attitudes felt by athletes.

If the primary aim of the physical educator is to assist each individual to reach his highest possible level of attainment, then one must certainly be constantly aware of student attitude. Knowledge of attitudes should help the physical educator to arrange the much needed balance between the physical education and athletic programs. If one or the other is being over-emphasized, then some type re-evaluation of the overall program is necessary.

It is hoped that the results of this study will guide the physical educator in his efforts to provide opportunities for all students to develop and reinforce favorable attitudes toward physical education.

#### Statement of the Problem

The problem of this study was to determine whether significant differences exist in the attitudes of junior high school female athletes and non-athletes toward physical education.

#### Purpose and Hypothesis of the Study

The purpose of this study was to compare the attitudes of athletes and non-athletes toward physical education as measured by the Wear Attitude Inventory. Specifically the following null hypothesis was tested: There is no

significant difference in attitudes of female athletes and non-athletes toward physical education at ~~Joe Bailey~~ <sup>William E. Griener</sup> Junior High School.

#### Definition of Terms

The following terms and items are pertinent to this study:

1. Attitude.- "Latent or nonobservable, complex, but relatively stable behavioral disposition reflecting both direction and intensity of feeling toward a particular object whether it be concrete or abstract" (12, p. 97).
2. Athlete.- A student who was enrolled in physical education classes and in addition was a participant on a school sponsored athletic team for girls.
3. Non-Athlete.- A student who was enrolled in physical education classes and was not a participant on a school sponsored athletic team for girls.
4. Basketball Team.- A group sponsored by the school to compete against other school sponsored teams in the city. These students participated in regularly scheduled training and practice sessions supervised by a female coach.
5. Track Team.- A group sponsored by the school to compete at a city-wide track meet against other school

sponsored teams. These students participated in regularly scheduled training and practice sessions supervised by a female coach.

6. Junior High School Students.- Students who were enrolled in the seventh, eighth, or ninth grades.

#### Limitations of the Study

This study was limited to 725 female students enrolled in the seventh, eighth, and ninth grades at Joe Bailey Junior High School, Arlington, Texas, during the 1972 Spring semester.

#### Summary

This chapter presented an introduction to the study. Included were: (1) a statement of the problem, (2) purpose and hypothesis of the study, (3) definition of terms, and (4) limitations of the study.



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## CHAPTER II

### REVIEW OF LITERATURE

This chapter presents literature relative to the investigation of this study. Experimental studies, surveys, and articles dealing with attitudes toward physical education were reviewed.

A review of literature revealed that studies dealing with the measurement of attitudes toward physical education were conducted at the junior high school, high school, and college levels. A majority of these studies were designed for the purpose of determining variables such as strength, motor ability, and their relationship to attitudes toward physical education and physical activity. Some of the studies were conducted in an attempt to determine past experiences in physical education, while others were concerned with attitude changes within the physical education class.

A limited amount of findings have been reported concerning junior high school students due to the lack of a valid instrument designed to measure attitudes strictly for the junior high school student. Furthermore, junior high school athletic programs for girls are often not

as highly organized as the school program investigated in this study.

The majority of attempts before 1950 to conduct attitude studies consisted of administration of questionnaires and surveys to students. Such questionnaires were designed to provide the students with an opportunity to indicate likes and dislikes of activities, aspects of the program, administrative policies, etc. Carlos L. Wear constructed an attitude scale in 1951 in an attempt to develop a reliable and valid instrument for assessing individual and group attitudes toward physical education. Although some statistical evidence is given in support of validity of the instrument, Wear reported logic as a key part of the validity. Wear's efforts were to secure a valid instrument by defining the attitude object and giving the key concept, physical education, approximately the same meaning for all subjects. A wide sampling of accepted objectives was used as the method for validating the test. Statements were constructed in such a manner as to be clear and unambiguous. Those statements which ranked highest in power to differentiate between extreme groups as determined by total scores on the instrument were retained in a short form of the instrument. The scores were compared with results obtained

from the use of a graphic self-rating scale. In addition, personal data were secured from each individual concerning his present likes and dislikes as well as past experiences with physical education and athletics which might possibly affect or reflect attitudes toward physical education (15).

The original Wear inventory was designed to rank individuals in an order indicative of attitudes toward physical education as well as the direction of group attitudes. Negatively and positively worded statements were used to negate the possibility of subjects being affected by an all positive list. Following the first administration of the inventory to male students at the State University of Iowa in the fall semester of 1949, Wear concluded the 40-item Short Form to be useful as an instrument for assessing any changes in attitudes toward physical education (15). In 1955, Wear constructed two new 30-item Short Forms; Form A and Form B. The new forms were validated as being useful for an objective assessment of changes in attitude, if any, as a result of planned experiences to which students could be subjected (16). Studies dealing with Junior High School students were reviewed first.

Campbell (5) administered the Wear test to 208 seventh, 371 eighth, and 191 ninth-grade boys in the five junior high

schools in Austin, Texas. One randomly selected class in each grade at each school supplied the total 770 subjects. The Mean Inventory score was found equal or superior to the Mean score reported by Wear in the validation of his study (15). Mean scores for the seventh and ninth grade boys did not differ from the Mean scores discussed by Wear. However, significant differences in the Mean score of 120.26 of eighth grade boys to that of 114.95 of the eighth grade boys in Wear's study existed. These relationships are similar to those reported by Vincent (14) and Brumbach (4).

Campbell (6) used the Wear Inventory as one of the instruments administered to one randomly selected physical education class of eighth grade boys from each of six Austin, Texas, junior highs. Form A of the Inventory, the 50-yard dash, and the 600-yard walk-run were administered to 240 eighth grade boys in an attempt to establish whether any significant differences existed between attitudes toward physical education and the ability to perform the two fitness items. There were no significant differences to establish the relationship.

Another investigation involving adolescent boys was conducted by Neale (13). The AAHPER Fitness Test, a general self-esteem scale by Rosenberg, and the 165 subjects' own

indications of their level of voluntary participation in physical activities outside of physical education class were used as instruments of measure. The results did not support the relationship between physical fitness and self-esteem as being a significant one. There was no evidence of a substantial relationship between fitness and the extent of voluntary participation in physical activities. However, the results did show some evidence that physical fitness is related to one's self-perceived attitude in relation to physical activities in that "high-fit" boys considered themselves more capable of participating in physical activities and more interested in such participation than did "low-fit" boys.

A longitudinal investigation from 1968-1971 of forty-two junior high school girls was conducted by Holyoak (8) to determine patterns developed in the areas of physical fitness, physical education attitudes, and professed self-concept. Test instruments were the AAHPER Physical Fitness Test Battery and the Wear Physical Education Attitude Scale. Results indicated significant fluctuations ( $P = .05$ ) in physical education attitudes after a three-year physical education program, but no significant differences in factors



of autonomy, interpersonal adequacy, physical appearance, and teacher-school.

In an investigation to determine relationships of student and teacher creativity, student attitude toward physical education, and student skill in physical activity, Fleming (7) used the Kneer Attitude Inventory, results from the Alpha Biographical Inventory, and the physical education activity skill scores assigned each student in physical education activities as measuring devices. Creativity scores from the 223 high school student and eleven teacher subjects from two high schools in Wauwatosa, Wisconsin were provided from the Alpha Biographical Inventory and attitudes of student subjects were measured by the Kneer Attitude Inventory. The physical education activity score provided the Mean skill ability of each student subject in physical education activities. The following conclusions were formed:

1. There was no significant relationship between teacher creativity and student creativity.
2. Creativity of the physical education teacher was positively related to student attitude toward physical education.

3. There was no significant relationship between student creativity and student activity skill.

4. Student attitudes toward physical education and student activity skills were negatively related.

5. There was no significant relationship between student creativity and student attitude toward physical education.

Moyer, Mitchem, and Bell (12) used the Wear Inventory to determine the attitudes of 422 freshmen and 364 junior college women toward the required physical education program at Northern Illinois University and the value of physical education in terms of student needs. The results indicated that the preference of the majority of students for individual rather than team sports, a highly favorable attitude toward the physical education program, and the need for re-evaluation of objectives in teaching required physical education classes.

The Wear Inventory was also used by Vincent (14) at the University of Georgia to determine the attitudes of 188 college women toward physical education and to determine the relationship between attitudes and success in physical education activities. The Inventory was administered to the females enrolled in a variety of physical education

activities. The course grade received for the activity was used as the success factor. Vincent concluded that attitudes toward physical education were generally favorable and a significant relationship existed between attitude and success at the .05 level of confidence.

Wessel and Nelson (17), in a study conducted at Michigan State University, found that the 200 college women enrolled in physical education classes expressed very favorable attitudes toward physical education as measured by the Wear Inventory. Comparisons of the scores on the Inventory and scores on various tests of strength were made. Conclusions drawn from the results were:

1. A significantly large portion of women enrolled in physical education at Michigan State University expressed very favorable attitudes toward physical education as an activity course.
2. The validity and reliability of the Wear Inventory as a measure of attitude toward physical education was supported by the data.
3. Strength among college women is significantly related to attitude toward physical education.

4. Lack of strength may be a factor in the development of negative personal feelings toward physical education resulting from repeated failures in some activities.

A revised form of Plummer's Attitude Inventory was used by Mista (11) in an investigation of 1,126 freshmen college women entering private four-year colleges in Iowa in 1964. Attitude scores were determined from responses to the inventory and comparisons were made on the basis of background information provided by the subjects' responses to a background questionnaire administered along with the Inventory. On the basis of the data collected, the following conclusions were considered to be justified concerning the attitudes of college women toward physical education based on contrasting experiences in high school backgrounds:

1. Significant differences in attitudes toward physical education existed between the following groups:

(a) Those who earned interscholastic athletic letters had more favorable attitudes than those who did not earn such letters.

(b) Those who participated in organized extra-school physical activity programs had more favorable attitudes than those who did not participate in such programs.

(c) Those who had lived on a farm had more favorable attitudes than those who did not live on a farm.

(d) Those who graduated from a class numbering less than 75 had more favorable attitudes than those who graduated from a class larger than 140.

(e) Those who chose teaching as a career had more favorable attitudes than those who did not choose teaching as a career.

(f) Those who rated themselves above average in physical skills had more favorable attitudes than those who rated themselves below average in physical skills.

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

2. Significant differences in attitudes toward physical education did not exist between the following groups:

(a) Those who had physical education in high school and those who did not have physical education in high school.

(b) Those who had a female physical education instructor in high school and those who had a male instructor.

(c) Those who had been given physical fitness tests in high school and those who were not given such tests.

(d) Those who attended parochial high schools and those who did not.

(e) Those from small towns and those from cities.

(f) Those who had two or less hours of weekly physical education in high school and those who had four or more hours of weekly physical education in high school.

Studies by Bell (3) and by Brumbach and Cross (4) point out contradictory findings concerning two conclusions presented by Mista. Bell used the Wear Inventory and a questionnaire in a study of 781 freshmen and senior college women at the University of Michigan. According to the results of both test instruments Bell concluded the freshmen who had physical education in high school had a higher Mean attitude toward physical education as an activity course than did those who had no physical education in high school. A comparison of attitudes of 938 males entering the University of Oregon was made in 1965 by Brumbach and Cross [4]. From responses to the Wear Attitude Inventory from the athlete and non-athlete subjects the following conclusions were made:

1. Athletes had more favorable attitudes toward physical education than did non-athletes.

2. The more years of physical education in high school a student has had the better his attitude is toward physical education.

3. Students from smaller high schools have more favorable attitudes toward physical education than those from larger schools.

Of the 938 subjects studied, more than 70 per cent had participated in interscholastic league sports in high school. Brumbach and Cross further concluded there may be a possibility that athletes as a group may not know why physical activity is valuable to man, but they have gained, in most instances, such status and satisfaction from their participation in competitive activities that they tend to react favorably to the Inventory. This conclusion indicated that athletics, in addition to physical education, has a great bearing on the development of one's attitude toward physical education.

Alderman (1) administered the Kenyon Attitude Inventory to 136 athletes (81 males and 55 females) at the 1967 Pan-American games in Manitoba. Each subject was required to rate the meaning of six subdomain concepts with respect to

his attitude toward physical activity. The six subdomains expressed in the inventory were physical activity as a social experience, as health and fitness, as the pursuit of vertigo, as an aesthetic experience, as catharsis, and as an ascetic experience. Alderman drew the following conclusions from the results:

1. Male and female athletes in the study were very similar in their attitudes.
2. The strongest attitude of the athletes toward physical activity was as an aesthetic experience.
3. Physical activity as an ascetic experience held the least meaning for the total group.

Keough (9) conducted an investigation to analyze responses and characteristics of men and women who expressed extreme high or low attitudes toward physical education. Of 266 subjects enrolled in physical education at U.C.L.A., 69 men and women were selected whose scores on the Wear Attitude Inventory were extremely high or extremely low. A group interview questionnaire provided additional data. The following conclusions were formed:

1. There were no male-female differences within the extreme groups.



2. The low groups offered some minimal support for the outcomes of physical education.

3. The low group questioned the value of physical education as a school program.

4. There was no evidence to indicate that negative attitudes were related to non-participation.

#### Summary

This chapter has presented a review of literature relative to the investigation of this study. The studies supply evidence that attitudes developed by students can be an important factor in many aspects of physical education and athletic programs. There appears to be a need for more research and study concerning attitude development at all levels.

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## CHAPTER III

### PROCEDURES FOR DEVELOPMENT OF THE STUDY

The problem of this study was to determine whether or not significant differences exist in the attitudes of athletes and non-athletes toward physical education at Bailey Junior High School in Arlington, Texas.

#### Selection of Subjects

The subjects in the study were 725 female students enrolled in the seventh, eighth, and ninth grades at Joe Bailey Junior High School, Arlington, Texas. The subjects were representative of the following three groups:

1. Students enrolled in physical education classes who did not participate in girls' athletics.
2. Students enrolled in physical education classes who participated as members of the girls' basketball team.
3. Students enrolled in physical education classes who participated as members of the girls' track team.

#### Selection of Instrument

The selection of the instrument for this study was governed by objectives of the study and review of literature.

The criteria used for the selection of the instrument were: validity, reliability, objectivity, and ease of administration. The Wear Attitude Inventory was chosen as the measuring instrument for this study. The inventory was administered for the purpose of measuring the students' attitude toward physical education.

#### Description of Attitude Inventory

Form A of the Wear Attitude Inventory contains thirty statements about physical education. The persons being tested are asked to consider physical education only from the premise of its place as an activity course taught during a regular class period. No references are intended by any of the statements to athletics. Using the Likert type responses, the respondents had a choice of five alternatives for expressing their opinions. The choices were: (a) strongly agree, (b) agree, (c) undecided, (d) disagree, and (e) strongly disagree. An answer sheet is provided for responses to the statements. Space is provided opposite the number of the corresponding statement for placement of an "x" under the appropriate word or words which expresses the subject's feeling about the statement. If a subject is undecided or neutral about a statement, she may then mark

an "x" under "undecided". The scoring of the inventory was based on the original weights. That is 1, 2, 3, 4, 5, or 5, 4, 3, 2, 1, depending on whether the item was negative or positive.

The Inventory was designed as a survey, not a test. It provides the subjects with the opportunity to express how they feel about physical education based upon their own personal experiences. (A copy of the Inventory and Answer Sheet appears in Appendix A.)

#### General Procedures in Administration of the Instrument

Basic instructions were printed on the Inventory for the subject to read. A brief explanation of the purpose of the test was given to each group of subjects prior to their responding to the Inventory (see Appendix C).

All seventh, eighth, and ninth grade subjects enrolled in physical education took the test during their regular physical education class period on the same day. Ninth graders who were enrolled in health classes were given the Inventory at the same place and time with the physical education students.

In addition to the responding to the Inventory, each subject was asked to complete a background information

sheet which included pertinent information as well as past experiences in physical education and/or athletics (see Appendix B). Responses to the data sheet were utilized as criterion variables to be used in the statistical treatment of the data.

#### Treatment of Data

The Wear Attitude Inventory was administered during the thirteenth week of the 1972 Spring semester. Information on the data sheet served as criteria for matching of athletes and non-athletes. The following comparisons were made to determine differences in attitudes of the athlete and non-athletes:

- (1) between seventh, eighth, and ninth grade athletes and seventh, eighth, and ninth grade non-athletes
- (2) within seventh, eighth, and ninth grade athletes and seventh, eighth, and ninth grade non-athletes.

Subjects were matched by randomly selecting a non-athlete and matching an athlete to that subject in each grade. Criteria for matching were:

- (1) elementary school attended
- (2) grade received in junior high physical education
- (3) junior high intramural participation
- (4) name of instructor in junior high physical education

The attitude inventory was selected to determine student attitudes toward physical education. Data were reported and recorded in terms of raw scores. Statistical data were computed through the use of a randomized two-factor analysis of variance.

#### Summary

This chapter outlined the procedures followed in the development of this study. Included were: (1) selection of the subjects, (2) selection of the instrument, (3) description of the attitude inventory, (4) general procedures in administration of the inventory, and (5) treatment of the data.



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## CHAPTER IV

### FINDINGS

This chapter presents an analysis and interpretation of the findings of the study. The findings were derived from results of the Wear Attitude Inventory and statistical treatment of the data by an IBM 360 computer. The Wear Attitude Inventory was administered to 725 female junior high school students who were enrolled in physical education. This test was chosen to determine whether or not significant differences existed in the attitudes of female athletes and non-athletes toward physical education. Each subject also completed a background information sheet which provided pertinent information regarding participation in physical education and athletics. This information was utilized in matching the two groups of subjects. Data were analyzed by use of a randomized two-factor analysis of variance and Tukey's HSD Test.

Table I presents the mean scores, standard deviations, and mean differences of the seventh, eighth, and ninth grade athletes and non-athletes on the Wear Attitude Inventory. According to Wear, a score of 95 or above represents a

TABLE I

MEAN SCORES OF ATHLETES AND NON-ATHLETES  
ON THE WEAR ATTITUDE INVENTORY

Group Grade	Athlete			Non-Athlete			Mean Difference
	N	Mean	SD	N	Mean	SD	
7	32	119.16	14.62	32	114.34	12.91	4.82
8	34	132.06	13.22	34	116.59	18.70	15.47
9	33	128.12	12.85	33	115.49	15.44	12.63
Total	99	126.58	14.48	99	115.53	15.79	

favorable attitude toward physical education. The scores of seventh grade athletes on the Inventory ranged from 73 to 140. The mean score of this group was 119.16, with a standard deviation of 14.62. Scores of the seventh grade non-athletes ranged from 92 to 135. The mean score of the group was 114.34, with a standard deviation of 12.91. The mean difference of the two groups equaled 4.82.

Scores of the eighth grade athletes ranged from 100 to 150. The mean score was 132.06, with a standard deviation of 13.22. Scores of eighth grade non-athletes ranged from 73 to 144, with a mean score of 116.59 and a standard deviation of 18.70. The mean differences of the two groups equaled 15.47.

Scores of the ninth grade athletes ranged from 98 to 150, with a mean score of 128.12, and a standard deviation of 12.85. Scores of ninth grade non-athletes ranged from 69 to 143, with a mean score of 115.49, and a standard deviation of 15.44. The mean difference of the two groups equaled 12.63.

The source of variation, degrees of freedom, sum of squares, and F ratio for the groups on the Wear Attitude Inventory are presented in Table II. A comparison of differences among the grade levels was determined by an analysis of variance. An F ratio of 3.07 was required for significance at the .05 level of confidence (2, p. 387). There was a statistically significant difference among the athletes and non-athletes on the scale.

Table III presents the differences in attitude scores of the athletes and non-athletes. The mean score of the athlete group was 126.58. The non-athlete group mean score was 115.49. The mean difference of the two groups was 11.09. The mean score of the group was 121.04. The score of the athlete group was found to be significantly higher at the .05 level of confidence than the non-athlete group score.

TABLE II

SUMMARY OF ANALYSIS OF VARIANCE AMONG ATHLETES AND  
NON-ATHLETES AND GRADE LEVELS ON THE  
WEAR ATTITUDE INVENTORY

Source of Variation	df	Sum of Squares	Mean Squares	F Ratio
Grade	2	1,949.43	974.72	4.46*
Athlete-Non-Athlete	1	6,077.82	6,077.82	27.78*
Interaction Effects	2	996.17	498.09	2.28
Within Groups	192	42,011.31	218.81	
Total	197	51,034.31		

\*Significant beyond the .05 level.

TABLE III

DIFFERENCES IN ATTITUDE SCORES OF ATHLETES AND  
NON-ATHLETES ON THE WEAR ATTITUDE INVENTORY

Group	Mean	SD	Mean Difference	Tukey's HSD Test
Athlete	126.58	14.48	11.09	4.12*
Non-Athlete	115.49	15.79		
Total Subjects	121.04	16.10		

\*Significant beyond the .05 level.

Table IV presents the differences in attitude scores of the seventh, eighth and ninth grade subjects. Tukey's HSD

TABLE IV

DIFFERENCES IN ATTITUDE SCORES OF SEVENTH, EIGHTH, AND  
NINTH GRADE SUBJECTS ON THE WEAR ATTITUDE INVENTORY

Groups	Mean	SD	Mean Difference	Tukey's HSD Test
Eighth Grade	124.32	17.86	7.57	6.03*
Seventh Grade	116.75	13.89		
Eighth Grade	124.32	17.86	2.52	5.49
Ninth Grade	121.80	15.46		
Ninth Grade	121.80	15.46	5.05	5.58
Seventh Grade	116.75	13.89		

\*Significant beyond the .05 level.

Test (1, p. 88) was applied to determine among which grade levels statistically significant differences existed in attitude scores. The eighth grade group score was found to be significantly higher than the seventh grade group. Statistically significant results were indicated by the mean difference exceeding the range product value. Although the ninth grade group scored higher than the seventh grade group, these differences did not reach significance.

### Test of Hypothesis

The hypothesis of the study stated that there would be no significant difference in the attitudes of the female junior high school athletes and non-athletes toward physical education. Since the difference was significant at the .05 level of confidence, the hypothesis cannot be accepted.

### Discussion of Findings

The findings derived from this study with regard to attitude indicate a majority of the athlete and non-athlete subjects at this particular junior high school possess favorable attitudes toward physical education. Among other objectives, the physical education and athletic program was designed to provide the students with the variety of activities, opportunities to realize success, and reinforcement by teachers necessary to promote the formation of favorable attitudes. It is assumed this objective has been met. Non-athletes of all three grades displayed favorable attitudes with eighth grade subjects having the highest mean score, followed by the ninth and seventh grade subjects. While attitudes of athletes in all three grades were favorable, eighth grade subjects possessed more favorable attitudes than seventh grade subjects, while ninth grade

subjects were no different from seventh or eighth grade subjects. This may be due to the fact that the seventh grade subjects are in the process of adjusting to the junior high school program. However, this is an assumption. Eighth grade subjects may have displayed a more favorable attitude than seventh grade subjects because they have experienced more than one year in junior high school and may be more mature and better adjusted to the school program.

The athletes as a group may have developed more favorable attitudes toward physical education because of the amount of time and participation they have experienced as members of the school-sponsored athletic teams. The levels of success experienced during the school year may have also contributed to this development. However, this is an assumption.

This chapter has presented a discussion of the analysis and interpretation of the findings of this study.



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## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents a summary of the problem, an analysis of the results, and conclusions and recommendations based upon results of the study.

This study was designed to determine whether or not significant differences existed in attitudes toward physical education between junior high school female athletes and non-athletes. The subjects were 725 female students enrolled in physical education at Joe Bailey Junior High School, Arlington, Texas. Of the 725 female students, only 198 were included in the study due to adherence to the criteria established for matching subjects. The hypothesis under test was that there would be no significant difference in attitudes of female athletes and non-athletes toward physical education at Joe Bailey Junior High School.

Data utilized for determining differences in attitudes were provided by scores from the administration of the Wear Attitude Inventory. Data for matching of athletes and non-athletes was secured from the background information

sheet. An analysis of the mean changes in the attitude test scores showed a statistically significant difference in attitudes toward the field of physical education between the athlete and non-athletes studied. The athletes as a group and by grade had a more favorable attitude than did the non-athletes. Eighth grade athletes and non-athletes indicated more favorable attitudes than did the subjects in the ninth and seventh grades.

The results based on this study appeared to justify the following conclusions:

1. The hypothesis under test cannot be accepted.
2. Female students enrolled in physical education and members of athletic teams at Joe Bailey Junior High School possess favorable attitudes toward physical education.
3. The attitudes of female athletes are significantly more favorable than those of non-athletes toward physical education.
4. The attitudes of female eighth grade students are significantly more favorable than the attitudes of female seventh grade students toward physical education.

As a result of this study the following recommendations are presented:

1. A similar study be conducted for junior high school boys at Joe Bailey Junior High School.
2. Additional studies be conducted at the high school and college level for men and women.
3. Additional studies be conducted to compare attitudes of athletes in junior high school participating in a variety of sports.
4. A similar study be conducted to compare attitudes of students toward physical education at Joe Bailey Junior High School with regard to criteria such as elementary school attended, participation in school intramurals, participation in athletics outside the school program, letter grade received in physical education, and physical education teacher.

## APPENDIX A

### WEAR PHYSICAL EDUCATION 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 circle the letter (letters) which stand for the word (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 circle the letter for "agree" or "strongly agree". If you disagree, then decide whether to circle the letter for "disagree" or "strongly disagree". In case you are undecided (or neutral) concerning your feeling about the statement, then circle the letter for "undecided". Try to avoid circling the letter for "undecided" in very many instances.

Whenever 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.

## Statements

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

14. There is not enough value coming from physical education to justify the time consumed.
15. Physical education skills make worthwhile contributions to the enrichment of living.
16. People get all the physical exercise they need in just taking care of their daily work.
17. All who are physically able will profit from an hour of physical education each day.
18. Physical education makes a valuable contribution toward building up an adequate reserve of strength and endurance for everyday living.
19. Physical education tears down sociability by encouraging people to attempt to surpass each other in many of the activities.
20. Participation in physical education activities makes for more wholesome outlook on life.
21. Physical education adds nothing to the improvement of social behavior.
22. Physical education class activities will help to relieve and relax physical tensions.
23. Participation in physical education activities helps a person to maintain a healthful emotional life.
24. Physical education is one of the more important subjects in the school program.
25. There is little value in physical education as far as physical well-being is concerned.
26. Physical education should be included in the program of every school.
27. Skills learned in a physical education class do not benefit a person.

28. Physical education provides situations for developing desirable character qualities.
29. Physical education makes for more enjoyable living.
30. Physical education has no place in modern education.



## ANSWER SHEET

Please be sure you have read each statement carefully.  
Opposite the number of the statement circle the letter  
(letters) which stand for the word (or words) which best  
expresses your feelings about the statement.

Strongly Agree Agree Undecided Disagree Strongly Disagree

- |     |    |   |   |   |    |     |    |   |   |   |    |
|-----|----|---|---|---|----|-----|----|---|---|---|----|
| 1.  | SA | A | U | D | SD | 16. | SA | A | U | D | SD |
| 2.  | SA | A | U | D | SD | 17. | SA | A | U | D | SD |
| 3.  | SA | A | U | D | SD | 18. | SA | A | U | D | SD |
| 4.  | SA | A | U | D | SD | 19. | SA | A | U | D | SD |
| 5.  | SA | A | U | D | SD | 20. | SA | A | U | D | SD |
| 6.  | SA | A | U | D | SD | 21. | SA | A | U | D | SD |
| 7.  | SA | A | U | D | SD | 22. | SA | A | U | D | SD |
| 8.  | SA | A | U | D | SD | 23. | SA | A | U | D | SD |
| 9.  | SA | A | U | D | SD | 24. | SA | A | U | D | SD |
| 10. | SA | A | U | D | SD | 25. | SA | A | U | D | SD |
| 11. | SA | A | U | D | SD | 26. | SA | A | U | D | SD |
| 12. | SA | A | U | D | SD | 27. | SA | A | U | D | SD |
| 13. | SA | A | U | D | SD | 28. | SA | A | U | D | SD |
| 14. | SA | A | U | D | SD | 29. | SA | A | U | D | SD |
| 15. | SA | A | U | D | SD | 30. | SA | A | U | D | SD |

APPENDIX B

BACKGROUND INFORMATION SHEET

Please fill in as completely as possible:

Age \_\_\_\_\_ Grade \_\_\_\_\_ Elementary School Attended \_\_\_\_\_

Number of years you had a physical education teacher in elementary school \_\_\_\_\_.

Member of basketball team 7th \_\_\_\_\_ 8th \_\_\_\_\_ 9th \_\_\_\_\_.

Member of track team 7th \_\_\_\_\_ 8th \_\_\_\_\_ 9th \_\_\_\_\_.

Were a member of basketball or track team during 7th or 8th grade and are not on a team now Yes \_\_\_\_\_ No \_\_\_\_\_.

Number of years participated in summer softball program \_\_\_\_\_.

Number of years participated in church sponsored athletic programs \_\_\_\_\_.

Number of years participated on Recreation association sponsored teams \_\_\_\_\_.

Mother participated on school athletic team in high school \_\_\_\_\_ college \_\_\_\_\_.

Father participated on school athletic team in high school \_\_\_\_\_ college \_\_\_\_\_.

Have had private lessons in any sport Yes \_\_\_\_\_ No \_\_\_\_\_

Approximate grade made in junior high physical education:

- A- to A+ \_\_\_\_\_
- B- to B+ \_\_\_\_\_
- C- to C+ \_\_\_\_\_
- D- to D+ \_\_\_\_\_
- Failing \_\_\_\_\_

Name of teacher in junior high physical education

7th \_\_\_\_\_ 8th \_\_\_\_\_

9th \_\_\_\_\_.

Approximate grades made in elementary physical education:

Satisfactory \_\_\_\_\_ Unsatisfactory \_\_\_\_\_.

Received Presidential Physical Fitness Award in School:

4th \_\_\_\_\_ 5th \_\_\_\_\_ 6th \_\_\_\_\_ 7th \_\_\_\_\_ 8th \_\_\_\_\_ 9th \_\_\_\_\_

Participated in junior high intramurals:

Homeroom 7th \_\_\_\_\_ 8th \_\_\_\_\_

Class 7th \_\_\_\_\_ 8th \_\_\_\_\_ 9th \_\_\_\_\_.

## APPENDIX C

### ORAL INSTRUCTIONS FOR ADMINISTRATION OF THE WEAR ATTITUDE INVENTORY

You are about to take part in a survey concerning student attitudes. This is not a test. Your answers will in no way affect your grade, so please answer each question truthfully.

Please look at the Background Information Sheet and fill it in as completely as possible as I go over it with you. Now turn to the next page.

Before you begin marking your responses to the statements, please read the directions carefully. I cannot tell you what a word or statement means. If you do not understand the meaning of a word, come quietly up here and I will look it up for you in the dictionary.

When you have finished, please double check your answer sheet to be sure you have answered every statement. Then put down your pencil and sit quietly until everyone has finished.

Any questions? Begin.

APPENDIX D

SCORES ON THE WEAR ATTITUDE INVENTORY

Subject	Score	Subject	Score	Subject	Score
001A7*	132	001A8*	147	001A9*	142
002A7	123	002A8	146	002A9	135
003A7	91	003A8	148	003A9	126
004A7	121	004A8	130	004A9	108
005A7	114	005A8	130	005A9	132
006A7	96	006A8	109	006A9	124
007A7	107	007A8	142	007A9	135
008A7	113	008A8	100	008A9	115
009A7	125	009A8	149	009A9	130
010A7	133	010A8	143	010A9	121
011A7	121	011A8	144	011A9	115
012A7	117	012A8	127	012A9	123
013A7	110	013A8	131	013A9	104
014A7	124	014A8	145	014A9	141
015A7	99	015A8	133	015A9	127
016A7	73	016A8	110	016A9	98
017A7	126	017A8	131	017A9	121
018A7	137	018A8	142	018A9	126
019A7	131	019A8	144	019A9	138
020A7	125	020A8	138	020A9	121
021A7	118	021A8	119	021A9	135
022A7	132	022A8	116	022A9	128
023A7	125	023A8	136	023A9	140
024A7	129	024A8	150	024A9	125
025A7	140	025A8	121	025A9	132
026A7	108	026A8	128	026A9	150
027A7	107	027A8	115	027A9	129
028A7	134	028A8	150	028A9	150
029A7	119	029A8	116	029A9	114
030A7	122	030A8	138	030A9	115
031A7	126	031A8	127	031A9	135
032A7	133	032A8	128	032A9	145
		033A8	133	033A9	148
		034A8	124		

\*7-seventh grade girls; 8-eighth grade girls; 9-ninth grade girls; A-Athlete

Subject	Score	Subject	Score	Subject	Score
001NA7*	92	001NA8*	118	001NA9*	115
002NA7	109	002NA8	119	002NA9	119
003NA7	97	003NA8	130	003NA9	120
004NA7	95	004NA8	135	004NA9	97
005NA7	133	005NA8	133	005NA9	104
006NA7	120	006NA8	88	006NA9	100
007NA7	128	007NA8	73	007NA9	124
008NA7	126	008NA8	128	008NA9	103
009NA7	135	009NA8	89	009NA9	124
010NA7	118	010NA8	142	010NA9	125
011NA7	118	011NA8	136	011NA9	113
012NA7	97	012NA8	89	012NA9	118
013NA7	126	013NA8	114	013NA9	134
014NA7	103	014NA8	95	014NA9	143
015NA7	102	015NA8	130	015NA9	130
016NA7	120	016NA8	143	016NA9	105
017NA7	110	017NA8	110	017NA9	105
018NA7	108	018NA8	123	018NA9	105
019NA7	121	019NA8	144	019NA9	108
020NA7	112	020NA8	107	020NA9	69
021NA7	110	021NA8	130	021NA9	117
022NA7	115	022NA8	129	022NA9	126
023NA7	130	023NA8	131	023NA9	123
024NA7	127	024NA8	130	024NA9	132
025NA7	135	025NA8	101	025NA9	104
026NA7	119	026NA8	127	026NA9	80
027NA7	114	027NA8	111	027NA9	132
028NA7	96	028NA8	130	028NA9	129
029NA7	132	029NA8	124	029NA9	129
030NA7	96	030NA8	98	030NA9	112
031NA7	107	031NA8	91	031NA9	123
032NA7	108	032NA8	94	032NA9	123
		033NA8	106	033NA9	120
		034NA8	118		

\*7-seventh grade girls; 8-eighth grade girls; 9-ninth grade girls; NA-Non-Athletes

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