

A COMPARATIVE STUDY OF FOURTH GRADE CHILDREN'S  
ATTITUDES TOWARD RUNNING WHEN RUNNING  
IS USED AS PUNISHMENT

---

A Thesis  
Presented to  
the Division of Health, Physical Education, and Recreation  
Kansas State Teachers College of Emporia

---

In Partial Fulfillment  
of the Requirements of the Degree  
Master of Science

---

by  
John M. Meyers  
December 1972

Thesis  
1912  
M

William A. Harper

Approved for the Major Department

John E. Peterson

Approved for the Graduate Council

342538

## ACKNOWLEDGMENTS

I extend my deep appreciation to my wife, Connie, for her assistance and understanding while this study was in progress.

J.M.M.

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS . . . . .	i
LIST OF TABLES . . . . .	iv
Chapter	
1. INTRODUCTION . . . . .	1
The Problem . . . . .	2
Hypothesis . . . . .	3
Assumptions . . . . .	3
Definition of Terms . . . . .	3
Limitations . . . . .	4
Delimitations . . . . .	4
Method . . . . .	4
2. REVIEW OF THE LITERATURE . . . . .	8
Development of Scales in Physical Education. . . . .	9
Attitude Assessment . . . . .	12
Attitudes Toward Physical Education . . . . .	12
Attitudes Toward Physical Education and Other Influencing Factors . . . . .	17
Attitude Change . . . . .	22
Sports Attitudes . . . . .	24
Punishment . . . . .	26
Summary . . . . .	28
3. PROCEDURES . . . . .	30
Nature of Subjects . . . . .	30
Orientation Procedures . . . . .	31

Chapter	Page
Facilities . . . . .	33
Testing Procedures . . . . .	35
4. ANALYSIS OF DATA . . . . .	36
Description of Groups . . . . .	36
Control-Experimental Groups: Pretest . . . . .	36
Control-Experimental Groups: Posttest . . . . .	37
Control Group: Pretest-Posttest . . . . .	38
Experimental Group: Pretest-Posttest . . . . .	39
Boys Control-Experimental: Pretest . . . . .	40
Boys Control-Experimental: Posttest . . . . .	41
Boys Control: Pretest-Posttest . . . . .	41
Boys Experimental: Pretest-Posttest . . . . .	42
Girls Control, Experimental: Pretest . . . . .	43
Girls Control, Experimental: Posttest . . . . .	44
Girls Control: Pretest-Posttest . . . . .	45
Girls Experimental: Pretest-Posttest . . . . .	46
5. SUMMARY AND CONCLUSIONS . . . . .	48
Findings . . . . .	48
Conclusions . . . . .	50
Interpretation of Data . . . . .	51
Recommendations for Further Study . . . . .	53
BIBLIOGRAPHY . . . . .	54
APPENDIX A . . . . .	59
APPENDIX B . . . . .	61
APPENDIX C . . . . .	63

## LIST OF TABLES

Table	Page
1. Analysis of Variance of the Sample Means for the Experimental and Control Groups Pretest . . . .	37
2. Analysis of Variance of the Sample Means of the Experimental and Control Groups Posttest . . . .	38
3. Analysis of Variance of the Sample Means of the Control Group, Pretest and Posttest . . . . .	38
4. Analysis of Variance of the Sample Means of the Experimental Group, Pretest and Posttest . . . .	39
5. Analysis of Variance of the Sample Means of the Boys Experimental and Control Groups Pretest .	40
6. Analysis of Variance of the Sample Means of the Boys Experimental and Control Groups Posttest .	41
7. Analysis of Variance of the Sample Means of the Boys Control Group, Pretest and Posttest . . . .	42
8. Analysis of Variance of the Sample Means of the Boys Experimental Group, Pretest and Posttest .	43
9. Analysis of Variance of the Sample Means of the Girls Experimental and Control Groups Pretest .	44
10. Analysis of Variance of the Sample Means of the Posttest of the Control and Experimental Groups	45
11. Analysis of Variance of the Sample Means of the Girls Control Group, Pretest and Posttest . . .	46
12. Analysis of Variance of the Sample Means for the Girls Experimental Group, Pretest and Posttest .	47

## Chapter 1

### INTRODUCTION

Educators and other interested people have long been searching for the explanation for differences in attitudes among children with seemingly equal innate capabilities. Psychologists and social psychologists have pursued the determinants of attitude development. The measurement of these attitudes can be surveyed, described in measurable terms, and can be analyzed and compared.

The field of education has long been interested in the attitudes of students and the factors that contribute to the formation of these attitudes. There has also been evidence of interest in how and to what degree physical education experiences influence the development of various attitudes.

The development of attitudes in the individual has been the aim of all education programs. It is necessary to develop attitudes favorable to the direction toward which the individual should move if this goal is to be achieved. Children begin to form attitudes at an early age and the elementary school years often determine the pattern of future concepts and values.

Skills are also being developed at the elementary school age and running appears to be one of the skills

that is being practiced. Through various experiences involving running each elementary school child develops attitudes that influence his interest in running. If children are subjected to running as a means of punishment, it may be possible to assume that they may develop a negative attitude toward running. If the previous example is possible, education must continually examine its purpose, objectives, and practices to determine if it is meeting the needs and interests of the children. Physical educators should attempt to strengthen the attitudes and appreciations that children have, or may develop, toward physical activity.

It was for this reason and the interest the researcher had in determining the attitudes of students when running was used as punishment that this study was conducted.

### The Problem

The problem of this investigation was to assess the attitudes toward running of fourth grade boys and girls, when running is used as punishment.

### Hypothesis

Attitudes toward running will not significantly differ when running is used as punishment.



## Assumptions

These assumptions were included for a better interpretation of the investigation.

1. Running appears to be a natural instinct in human beings.
2. Fourth grade children do not associate running with punishment.
3. The attitudes of the fourth grade population are very similar toward running.
4. The attitudes of fourth grade children toward running can be measured.
5. The differences in surface, speed and distance for the two groups run will not be significant.

## Definition of Terms

The following terms were defined for a clearer understanding of the study.

Attitudes. Dushkin states that an "attitude is a predisposition to respond positively or negatively to particular objects or issues" (13:680).

Punishment. Defined by Azrin and Holz: "Punishment is the consequence of behavior that reduces the future probability of that behavior" (7:121).

Positive value for running. The incentive or desire for running comes from within the student himself.

Natural instinct. According to Dushkin, natural instinct is an unlearned, repetitive, biologically based behavior, specific to a species (13:687).

### Limitations

The limitations and delimitations that are included below may have had some effect on the investigation.

1. The influence of parents, siblings, peers, teachers, and other persons on children were limitations of this study.

2. The child's physical make-up and ability may have been an influence on the attitudes of the individual toward running.

3. The environmental factors, such as weather conditions, may have influenced the children.

### Delimitations

1. The population was drawn from eighty-two, fourth grade boys and girls in the physical education program at Roeland Park and Roesland Elementary Schools in Shawnee Mission, Kansas.

2. In the study, running was regulated by the investigator in an attempt to use running as punishment and in a controlled situation.

### Method

This study involved eighty-two, fourth grade

boys and girls that were in the physical education program at Roeland Park and Roesland Elementary Schools in Shawnee Mission, Kansas.

During the fourth week of school the two groups of fourth grade boys and girls were administered the Purdue Master Type Attitude Scales - Form A (see Appendix A). These scales were developed to measure any one of a class of attitude objects. The statements of the scale are not related to any specific object, but when the name of the desired object is put at the top of the scale, the statements can be interpreted meaningfully for any object for which the scale is intended. The scale that was used for this study was Attitudes Toward Any Practice. The name of the desired object that was placed at the top of the scale was running. The test required approximately fifteen minutes to administer and has two forms which can be used for pre-test and post-test without losing any validity or reliability.

All of the instructions for the questionnaire were given to the students both verbally and by the use of the chalk board. All questions were answered before the writing began, which enabled each student to have a better understanding of the questionnaire procedures. The directions were written out to insure that both groups received the same instructions. In order for the subjects to freely express their feelings the students were told that the score would not affect

their grade, and the test results and names were held in confidence.

Roeland Park was designated as the experimental group, and Roesland was the control group. During the course of the twelve weeks, (twenty-two class meetings), both groups were involved in soccer, flag football, and physical fitness during the regular class periods.

When the experimental group, (Roeland Park) became a discipline problem, the entire group was punished by running. This punishment occurred twenty times during the twelve-week period. An example of group misbehavior was when the class was not paying attention to instructions. The students were then told to run as punishment for their misconduct. Other examples of misbehavior were running in the hall, being too noisy in the hall, and not keeping the locker rooms neat.

The control group (Roesland) was exposed to approximately an equal amount of running, but without any mention of punishment. The control group was simply running, maybe for pleasure or because it was a nice day for running. The attempt was to place emphasis upon running for enjoyment by using a variety of activities for running. Some of the examples for running were races, sprints, jogging, obstacle courses, and movement education (running fast, slow, tall, short, forward, backward, etc.).

During the time of the study individuals did not run for punishment, rather, when they ran, they ran as a group at all times. The groups were never punished for the discipline of only a few students. When individuals in either group needed to be punished or when the entire control group needed to be punished, the form of punishment was of a different nature than running.

At the end of the twelve weeks the Purdue Master Attitude Scale - Form B (see Appendix B) was again administered to the two fourth grade groups. Comparisons between the results of the first and second responses to the test for both groups were then made. The scoring procedures, reliability and validity are given in the Manual for the Purdue Master Attitude Scales (see Appendix C).

## Chapter 2

### REVIEW OF THE LITERATURE

The problem of this investigation was to assess the attitudes toward running of fourth grade boys and girls, when running is used as punishment.

Educators who have sought to develop meaningful learning experiences have become more aware of the importance of children's attitudes. Attitudes expressed by students are often related to their needs and interests. When dealing with needs and interests it is sometimes helpful to determine how children feel about certain subjects or ideas. There are several methods or techniques available for the measurement of attitudes in the field of physical education. Most of the studies are involved with general attitudes toward physical education, while some studies compare or relate other factors to physical education and sports.

Due to the nature of this study, sections on attitude change and punishment were included. Because of the possibility of attitude change, a better understanding of why these changes may or may not have happened was important. The use of punishment and non-punishment in this study required a better understanding of the nature of punishment, and how it related to fourth grade children.

The studies reviewed have been classified under the following groups:

1. Development of Scales in Physical Education
2. Attitude Assessment
3. Attitude Toward Physical Education
4. Attitudes Toward Physical Education and Other Influencing Factors
5. Attitude Change
6. Sports Attitudes
7. Punishment
8. Summary.

#### Development of Attitude Scales in Physical Education

Remmers (28:307-318) grouped attitude techniques under the following headings: self-inventories or questionnaires; rating scales; tests of conduct, knowledge, or judgment; and anecdotal records. All of these may be used with the appropriate methods. The rating scale is a series of statements of attitudes on which the pupil is rated along some continuum such as agree-disagree.

The Wear Inventory, constructed by Wear (35:114-126) in 1951, consists of thirty items related to favorable and unfavorable attitudes toward physical education as an activity course. The subject indicates the relative strength of his agreement or disagreement on each statement by selecting from these five choices:

strongly agree, agree, undecided, disagree, strongly disagree. Responses were secured from 472 men, most of whom were college freshmen. The reliability of the inventory was .96 thus indicating that the Wear Attitude Inventory is a reliable measure of individual and group attitudes toward physical education.

Wear (35:113-119) developed two equivalent forms of an attitude test for the purpose of making an objective measurement of changes in attitude, if any, as a result of the subject's involvement in planned experiences. The Wear Inventory, Form A and Form B, can be used when successive testing is desired, ruling out the influence of the first response upon a subsequent response.

Moawad (23:1834) adopted the situation-response technique of item construction in an attempt to develop a valid and reliable instrument which could be used to measure attitudes of the sophomore high school boys toward physical education. A situation was described and was followed by five ways of reacting to the specific situation. The student is asked to select the response which is the closest to what he actually would have done. About two hundred items were originally constructed, but only ninety-five items proved to be useful after being tested. The ninety-five items were organized into two equal preliminary forms. Each form was administered to 352 sophomore boys in fifteen Indiana high schools. The



split-half method was used and established a reliability of .915. The final form was found to be a valid and reliable measure of attitudes toward physical education for Indiana high school sophomore boys.

Edgington (14:5210) developed a 125 item scale for the purpose of finding a reliable and valid scale to measure the attitudes of high school freshmen boys toward physical education. The scale was administered to thirty freshmen boys. The results showed a reliability of .92 after applying the scale to the Spearman Brown Formula. The majority of the freshmen boys had a favorable attitude toward physical education.

The responses of 136 men and 130 women on the Wear Physical Education Attitude Inventory (short Form A) at the University of California were analyzed by Keogh (18:239). The purpose of this study was to determine if students differed in their attitudes toward the general benefits or values of physical education and if men and women differ in this concept. There was no difference between men and women in their attitudes toward physical education. The subjects endorsed the social, physical, and emotional values of physical education but conflicted in their opinions regarding the relative values of a physical education program in the school curriculum.

In a follow-up study, Keogh (18:27) analyzed stated attitude responses and selected descriptive information in relation to two groups of men and women

who demonstrated extreme attitudes toward physical education. This group consisted of sixty-nine of the original 266 subjects whose scores were extremely high or low. There were no differences between the male and female within the extreme groups. Again the value of the physical education program in the school was questioned.

### Attitude Assessment

Two functions of attitude measurement in schools were established by Remmers, Gage, and Rummel (28:312). The first shows indications of the degree to which pupils have acquired certain attitudes set up as objectives of instruction (goals for everyone). And second, attitudes may be evaluated as part of an attempt to predict interests for adjustment in curricula or occupations (goals for a particular interest).

### Attitudes Toward Physical Education

Campbell (8) conducted a study to determine if students differ in their attitudes toward physical education as a result of the size of high school attended, the program of physical education experienced, and the nature of academic interests. The Wear Attitude Inventory, short Form A, was administered to 199 lower division male students who were enrolled in the required program at the University of Texas at Austin. The students also completed a brief questionnaire on which

they reported information relative to age, years of high school physical education, size of high school attended, college within the university in which they were enrolled, and class of required physical education in which they were enrolled. No significant variation in attitude scores toward physical education was found within the subgroups. The findings suggest that attitudes concerning physical education cannot be predicted by size of high school attended, by academic interest, or by preference of physical activity.

A study to measure the attitude toward physical education of all male lower division students entering the University of Oregon in September, 1960, was conducted by Brumbach and Cross (3:10). The Wear Inventory, short Form A, was administered to students in groups of thirty during a physical education orientation session. The subjects filled out a brief questionnaire form on which they reported information relative to the high school attended, their physical education background, and whether or not they had had active duty in the United States Armed Forces. The data was gathered from 938 students. The mean score for the entire group was 119.72. The athletes earned a mean score of 122.01 while the non-athletes had a mean score of 114.32. Those groups having a high mean score had more favorable attitudes toward physical education than those groups with a lower mean score. It was found that the more years of

physical education the student acquired and the smaller the high school he attended, the higher his inventory score tended to be. The non-veteran group had a higher inventory score than did the veteran group.

Broer, Fox and Way (3:379) conducted a study to determine the University of Washington freshmen and sophomore women students' attitudes toward physical education. The Wear Attitude Inventory was administered to 1,149 women students who were enrolled in physical education activity classes. The great majority of the students expressed a very favorable attitude toward physical education as an activity class. Scores on the inventory indicated the attitude toward physical education as follows: 200-totally strongly favorable attitude; 160-totally favorable attitude; 120-completely neutral attitude; 80-totally unfavorable attitude; 40-totally decidedly unfavorable attitude. The mean score for 1,149 students was found to be 150.5. The mean scores for students enrolled in various activities was: swimming 158.8; softball 153.0; tennis 152.8; canoeing 149.9; tap dance 149.6; folk dance 149.5; modern dance 148.9; fencing 148.4; bowling 146.7; golf 146.4; riding 143.0; archery 142.9; badminton 140.6.

Moyer, Mitchem and Bell (24:515) modified the Wear Attitude Inventory to determine the attitude of freshmen and junior women toward the required physical education program at Northern Illinois University and

to evaluate the physical education offerings in terms of student needs. An eleven question multiple choice questionnaire was constructed to gather the additional information needed for the study. The inventory was given to 444 freshmen and 387 juniors in ninth-five physical education sections. The findings indicated a preference for individual sports, a highly favorable attitude toward physical education by both freshmen and juniors, and a need for re-evaluation of methods and interpretation of objectives in teaching the required program.

Bell and Walters (1:379) studied the attitudes of college women at the University of Michigan in an attempt to help evaluate the physical education program. All freshmen who were taking physical education and seniors who had taken the required physical education were studied. A questionnaire consisting of three parts was constructed to study the attitudes. Part I was a check list response to find the needed information on the background of the subjects. Part II consisted of questions based on the objectives of physical education, and Part III was the Wear Attitude Inventory. It was found that individual sports are the physical activities outside of the physical education class most frequently engaged in by freshmen and seniors. Group activities run second. Freshmen women spend more time outside of class engaged in physical activities than do senior women.

Freshmen who have had physical education in high school have a higher mean attitude toward physical education as an activity course than freshmen who have had no physical education in high school.

Mista (22:166) administered the Wear Inventory and a background questionnaire to 1,126 college freshmen women in private Iowa colleges and found that: (1) Significant differences in attitudes toward physical education existed between the following groups of freshmen women: (a) Those earning interscholastic athletic letters in high school had more favorable attitudes than those who did not earn letters; (b) Those who participated in organized extra-school physical activities programs had more favorable attitudes than those who did not participate in such programs; (c) Those who lived on farms had more favorable attitudes than those who did not live on farms; (d) Those who had high school graduating classes of less than seventy-five had more favorable attitudes than those from classes larger than 140; (e) Those who chose teaching careers had more favorable attitudes than those who chose non-teaching careers; (f) Those rating themselves above average in physical skills had higher attitudes than those rating themselves below average in physical skills; and (g) Those who enjoyed their high school physical education had more favorable attitudes than those who did not enjoy their high school physical

education, and (2) Significant differences in attitude toward physical education did not exist between the following groups of college freshmen women: (a) Those who had physical education in high school and those who did not; (b) Those who had a woman teacher in physical education and those who had a man; (c) Those who took physical fitness tests and those who did not; (d) Those from small communities and those from cities.

#### Attitudes Toward Physical Education and Other Influencing Factors

An attitude inventory was developed by Drinkwater (12:575), for the purpose of determining the attitude of high school girls toward physical education as a career for women. Likert's techniques of scale constructions were selected, and statements that applied to the physical education profession for women were prepared. Each subject was subjected to statistical analysis to eliminate ambiguity or poor discriminatory power. Following the use of the split-half method for determining reliability, the statements were put into two equal forms with 88 statements half negative and half positive spaced indiscriminately. The subjects were 208 high school girls from three schools. Typed instructions were used to see that each group was given the same instructions. The total score for each girl was computed and put on a frequency with other individuals. Those at the top of the scale were considered more favorable for a physical

education career. The top 27% and bottom 27% were selected for Thurstone's method of testing ambiguity. Conclusions indicated that scores from this inventory can be taken toward physical education as a career for women. The test is apparently both reliable and valid. Form A and B can both be used for determining attitude change as before and after tests.

Turner (32:3747) employed a modified Wear Attitude Inventory to determine the relationship between the quality of three high school physical education programs for girls in Iowa City, Iowa, and the attitudes expressed by senior girls toward their respective classes. This study found no significant relationship between the quality of physical education programs and the attitude held by students toward these programs.

The purpose of Isenberger's (17:167) study was to determine the relationship between the self-attitudes (self-rated attitudes toward physical education) of women physical education major students, and measures of interest and success. A second purpose of this study was to determine the relationship between the interests of women physical education major students from three institutions and 115 women physical education teachers participated in the various phases of the study. The "Who Am I" test was used as a measure of self-attitudes. Interest was measured by the Strong Vocational Interest Blank. Success was measured by the Minnesota Teacher



Attitude Inventory, the Scott General Motor Ability Test, a teacher trait evaluation sheet, semester grades in physical education in both theory and skill courses, and total university semester grades. The results of this study indicated that self-attitudes are not significantly related to measures of interest and success. A negative, but significant relationship between semester grades and self-attitudes, and between physical education skill grades and self-attitudes was significant for one of the student groups. A relationship between motor ability and self-attitudes was indicated. Women physical education major students scored significantly higher on the Strong Vocational Interest Blank than did the teachers of physical education.

Vincent (34:502) conducted a study to determine the roles of strength, efficiency and expressed attitudes toward physical education in the prediction of success in physical education activity courses. The Wear Attitude Inventory was administered to 192 students enrolled in eight selected physical education classes at the University of Georgia. Strength was evaluated by performance with dynamometers and included the following measurements: right and left grips, push, pull, and back and leg strength. Efficiency was measured through the calculation of oxygen consumption using an indirect closed circuit calorimetric technique. The success factor was taken as the final grade received in the physical

education activity course enrolled in for that quarter. The correlation of the factors showed that the relationship between success and strength and attitude were significant and positive. The relationships between success and efficiency, and strength and efficiency were negative. The efficiency attitude correlation was positive but not significant.

Vincent (33:126) had conducted an earlier study at the University of Georgia that involved 188 women in a variety of physical education activities, and the Wear Attitude Inventory. The final grade received for the activity course was used as the success factor. Attitudes were analyzed both as to values and as to activities groups; and correlations were computed between attitudes and success. There was a significant positive relationship between attitude and success.

In a study conducted by Wessel and Nelson (37:562) a random selection of two hundred college women from the non-major required program at Michigan State University was obtained by using a table of random numbers. During the first four weeks of the spring all tests were administered by the instructors in the Department of Health and Physical Education; the dynamometric strength measures, (hand grip, back lift, push, and pull) were used in this study. The Wear Attitude Inventory, short Form A, was used to measure attitudes toward physical education. Responses to four additional questions were

also used. All correlations were significantly greater than zero at the one percent level of confidence, although the relationships found were low. Back strength had a closer relationship to the attitude measures than the other strength measures. The results indicate that there is a relationship between strength and attitudes toward physical education as an activity.

A study to determine the relationships between selected educational and social background factors and the attitudes of college women toward physical education and certain sports was conducted by Lemen (20:1596). Inventories were administered by faculty members of twenty colleges and universities to freshmen and sophomores in required physical education classes; 1840 subjects were used in the final tabulations. The subjects expressed their attitudes toward eleven common activities by indicating on a seven degree continuum their reaction to each activity. Attitudes were determined by summing the values of each response. College women appear to have favorable attitudes toward activities and physical education. Relationships exist between certain social background factors and attitudes toward physical education. The degree to which a person enjoys her physical education program in high school is related to her attitude, to her ability in sports, and to leisure participation in sports. College women prefer to participate in individual sports rather than

team sports in their leisure time.

Fisher (15:1721) conducted a study to determine the factors identified with positive and negative attitudes toward physical education. The Wear Attitude Inventory was administered to 474 entering college freshmen women at California State College at Los Angeles. A definite relationship was found between the attitudes expressed and the physical education background the girls possessed.

Bullock and Alden (6:60) gave a questionnaire to 192 freshmen women who were enrolled in physical education courses at the University of Oregon. The three part questionnaire dealt with the home life and the early play experiences of the individual, the high school experiences, and the university physical education situation. Some of the factors affecting the attitudes of the freshmen women toward required physical education were the lack of opportunity to play with other children during childhood, the training of the physical education teachers the girls had in high school, the richness of the school curriculum, the type and variety of subject matter, the opportunity to select subject courses, and the element of requirement.

#### Attitude Change

One hundred and twenty-one items representing annoyances directly or indirectly related to physical education were derived from the Harsh study of "Categories of Annoyances," the results of fifteen interviews, and

the Page questionnaire on high school and college Physical Education participation. Nemson (26:336) presented these items to 323 junior and senior high school boys in a large semi-rural high school. The subjects expressed their degree of annoyance with respect to each item. Those scores were related to a rating of the boys attitude toward physical education by each physical education instructor.

The boys who were rated high in attitude toward physical education indicated that smoking, swearing and tardiness were the items which annoyed them the most. Rebelling against compulsive physical education and various "gripes" included the items most annoying to the poor attitude group. While certain sources of annoyances could be removed (lack of cleanliness and inadequate facilities) most of them are of a nature that involve the personality or behavior of other students or instructors.

Brumback (4:211) conducted a study that involved 168 students who were enrolled in six different physical fitness classes at the University of Oregon. The Wear Attitude Inventory was administered at the beginning and at the end of the semester. It was found that the subjects' mean score went up from 113.3 to 115.5 which was a significant improvement. A class of twenty-eight students were involved in a physical fitness course in which the instructor gave a more individual and personal

type of instruction with a more relaxed atmosphere. It was found that the classes mean score at the start of the semester was 119.0 and had risen to 129.70 by the end of the semester. Again the attitude change was significant.

Davis (11:7063-7064) conducted a study to determine if there was a change in the attitude toward physical education of college freshmen boys during one semester of participation in a physical education activity course. The Wear Attitude Inventory was administered to 265 freshmen and the results indicate that participation had little effect in altering attitudes toward physical education, favorably or unfavorably.

### Sports Attitudes

Craig (10:143) and the National Youth Administration developed a questionnaire to study the attitudes of the students of the University of Illinois toward required physical education. The first part asked questions about the classes that the students had taken in physical education. The second part dealt with the classes that the students would like to take. And finally the third part dealt with attitudes. The results show that if the students have a wide, well organized program of physical education activities, the average college student will select activities high in

carry over values and will enjoy taking them.

Stalnaker (31:500) conducted a study to determine the attitude of students and faculty toward inter-collegiate athletics at the University of Minnesota. The study gave these results: both groups favored intercollegiate athletics, the athletes had a better attitude than non-athletes, and the students had a better attitude toward intercollegiate athletics than the faculty.

McAfee (21:121) while teaching at Monroe Junior High School in Inglewood, California, conducted a study with 857 sixth, seventh, and eighth grade boys. Using a twenty-item sportsmanship preference record test and readministration of the test, McAfee discovered that sportsmanship attitudes grow progressively worse from sixth to eighth grades. The retest produced a reliability coefficient of .80.

Bouyer (2:282-287) investigated how the reading of twelve short sport stories to elementary school pupils will influence their sportsmanship attitudes. Using 213 fourth, fifth, and sixth graders from two Oakland, California, elementary schools and dividing them into an experimental group that was read twelve short sports stories and a control group that did not hear the stories, the two groups were compared. The two groups were very similar in chronological age, mental age, and I.Q. It was determined that play activities and literature have little effect on sportsmanship attitudes.

The classroom teacher is in a good position to help develop the proper values and sportsmanship. Thirty-two pupils picked at random from the test group all gave similar definitions of sportsmanship.

Seymour (30:338-346) performed a study to see if participation or non-participation by elementary school age boys in little league baseball would affect their sportsmanship attitudes. Using 114 boys who participated in little league baseball in Atlanta, Georgia, and a sample group of boys who did not participate, Seymour used a series of separate classification tests to reach this conclusion: there was little change in behavior of participants in little league baseball. There was no evidence of decline in sportsmanship attitudes due to participation in little league baseball.

### Punishment

Redl defines punishment as:

A planful attempt by the adult to influence either the behavior or the long-range development of a child or a group of children for its own benefit, by exposing it to an unpleasant experience (27:363).

After punishment is enforced the child first will become angry and directs this anger toward himself. Analyzing the situation he resolves not to involve himself in a situation like that again. This establishes self-control, insight and temptation resistance. This is a



constructive punishment experience.

The matter of timing is the most serious factor in educational practice. Can a student take the time relationship between a given offense and punishment without becoming confused? Can his ego sustain him throughout the duration of punishment? Can he use the experience for any future purpose? If the answer is no to any of these three questions, Redl reports that punishment is not worth the effort.

The needs and interests of the children must be met in order to eliminate serious group problems. These three major points concerning group-psychological factors in discipline must be considered. Redl suggests that one should not be fooled by a discipline problem. One should understand the individuals and group involved, and what happened. Before any disciplinary procedures are taken the following questions must be appraised. Should the group or individual be punished? What surface behavior or basic attitudes are under consideration? And last, will the punishment be effective?

Schain (29:84) states that punishment should correspond with the severity of the infraction. Punishment should follow as soon after the infraction as possible. The longer the time lapse the less effective it becomes.

Gesell and Ilg (16:210) have found that nine year olds are relatively easy to discipline and most

will accept punishment with good grace. A person does not have to be drastic with nine year old children.

### Summary

The studies reviewed indicate that there are several factors that may influence an individual's attitude toward physical education or sports. Such examples as opportunity to participate in activities, size of high school, number of years in physical education, academic interest, home environment, type of teachers, strength, success, and social background were related to attitudes toward physical education and sports.

Other studies related physical education attitudes to specific activities (softball, tennis, golf, archery, etc.), and individual versus team games. One study listed 121 items representing annoyances directly or indirectly related to physical education.

A study more closely related to this investigation involved the Wear Attitude Inventory and two groups of physical fitness classes. The first group took the Wear Inventory at the beginning of the semester and received a mean score of 113.3. Their mean score at the end of the semester was 115.5. The second group had an instructor that gave a more personal and individual approach with a more relaxed atmosphere. The mean score for this class rose from 119.0 to 129.70 from the beginning to the end of the semester. This was a more signifi \_

cant change in positive attitudes toward physical education. This seems to indicate that attitudes can be changed by teaching methods.

The literature included for this study involved types of testing procedures, attitude assessment in the area of physical education, attitude changes and punishment. Before attempting to measure attitudes or compare any change of attitude it was necessary to evaluate different types of attitude testing instruments. After considering the different test procedures it was necessary to select a tool that was best suited for this study. The assessment of attitudes in the area of physical education gave a better understanding for the procedures to be used in this investigation. Factors that involve attitude change may have had some effect on the direction or results for this study. Having several variables as possible elements of attitude change it was necessary to research the area of punishment because the relationship of punishment with this investigation.

## Chapter 3

### PROCEDURES

The purpose of this study was to determine whether or not attitudes toward running would differ when running was used as punishment or non-punishment. The study was divided into three parts. First, a questionnaire was given to evaluate attitudes. Second, the experimental group and the control group were dealt with differently with respect to running. And third, the questionnaire was again given in an attempt to measure any possible change in attitude.

#### Nature of Subjects

The students chosen for this study were eighty-two fourth graders from Roesland and Roeland Park Elementary Schools, Shawnee Mission, Kansas. The subjects were divided into two groups. The Roeland Park group consisted of sixteen boys and twenty-three girls. The Roesland group had twenty-four boys and nineteen girls. The students had not been exposed to the physical education teacher for instruction before the fourth grade. Classes in the fourth grade for physical education met two days a week for thirty-five minute periods. The two schools were both within the community of Roeland Park, Kansas, which eliminated any major differences in environment and living conditions. Both schools were a part of the Shawnee Mission School

District, and before unification in 1969, were a part of the Roesland School District.

### Orientation Procedures

After both groups had taken the Purdue Master Attitude Test, the Roeland Park fourth graders were designated the experimental group, and the Roesland fourth graders were the control group. On twenty occasions both groups ran distances of approximately two hundred to four hundred yards.

The experimental group was forced to run all twenty times as punishment for some type of group misbehavior. The following are some of the examples of misbehavior and how the investigation may have dealt with that situation. On several occasions the class was slow in getting quiet for the orientation of the activity for that day. When this happened the class was told of their misconduct and as their punishment the subjects were forced to run. Sometimes the class was in an activity that required group cooperation and as sometimes will happen the group would disagree and begin arguing and shouting. This was another example of group misbehavior and the class was forced to run for punishment. Other occasions for group punishment were not keeping the locker room in order, not following instructions, being noisy in the hall or running in the hall. Each time the class was specifically told that they had misbehaved and had to run as punishment.

The students that did not want to run had to stay after school and run a further distance. However none of the students elected to stay after school to do the running. If a student had an injury or was ill that subject was not forced to run. Students attempting to take advantage of an injury and continually complaining in order to avoid the running were not allowed any privileges that the class enjoyed and also were required to turn in a written report. This action eliminated any difficulties with superficial disabilities. The distances used for running were not always the same even if the reason for the punishment was the same.

Before and after the students ran for punishment it was explained to the group why they were running and the word punishment was used in the explanation. It might have been for any of the previously mentioned disciplinary reasons, but the students understood that they were being punished. There were twenty-two class meetings with the experimental group, and the group was punished on twenty occasions.

When the control group ran, emphasis was placed on pleasure and fun. The Roesland students did not receive a reward for their running, however the instructor would point out positive features in running such as being good for legs, heart, and general health, and that running is used in many games.

There were several different types of running that the Roesland students experienced. The control group was involved in running obstacle courses between swings, around posts and cones, over gym bars, up and down hills, through sand, and jumping over objects. Also included in the variety of activities were sprints, jogging, short races and long races. The movement education activities that involved running at different speeds (slow, medium, fast), at different levels (low, medium, high), and in different directions (forward, sideway, backward) were also employed. If students did not wish to run they were encouraged, but not forced to run. The control group never ran for punishment. If group punishment was necessary the group was punished by a method unrelated to running. For both groups, individuals were not forced to run for disciplinary reasons. Another method of punishment dissimilar to running was used for individuals who needed disciplinary action.

### Facilities

Both groups were tested in the gym and on the playground. The Roeland Park gym surface was tile, and the playground was blacktop and grass. The Roesland gym was a hard-wood basketball floor and the playground was blacktop and grass. Both groups suited out in gym shorts and some type of gym shoe.

## Testing Instrument

The Purdue Master Attitude Scales were selected because of the practical advantage of being brief, convenient and containing content validity for many purposes in their application to measurement and evaluation of attitudes. These scales have demonstrated validity against Thurstone's specific scales where they show almost perfect correlations. The reliability of the scales for various populations sampled ranged from .71 to .92.

The attitude scales developed by Remmers were designed to measure attitudes toward any practice. The practice that was being measured for this study was running. On the fourth week of school the inventory was given to the two groups. The test has two forms for measuring any practice. The purpose for the two forms is for pretest and posttest and to help disguise the overall evaluation of attitudes. Both forms will reflect the same attitudes. Form A was used at the beginning of the experiment. Each group was given the same set of instructions. To help the subjects give a true expression the students were told they did not have to sign the questionnaire, and the results would in no way effect any grades at school. The word practice was explained as a habit, or as something that is usually done. The examples of practices were riding a bike during the week, or the practice of brushing ones teeth in the morning. The students then placed the word running in the first line for



practices, and each statement was then read twice or more if requested. As each statement was read the students would put a plus mark in the box if they agreed with the statement with respect to running. The box was to be left blank if the student disagreed with the statement. At the end of twelve weeks both groups were given the Purdue Master Attitude Scale--Form B. The same procedures that were given for Form A also applied for Form B.

On the completion of the posttest for the experimental group, the students were told about the experiment and then given the opportunity to discuss questions about the study. The students were told running would not be a source of punishment in this instructor's physical education class again.

#### Testing Procedures

The statistical method used for this study was the analysis of variance of the difference between the means of the experimental and control groups.

## Chapter 4

### ANALYSIS OF DATA

The purpose of this study was to investigate attitudes toward running and the relationship of the attitudes to forms of punishment (experimental group) and non-punishment (control group). Included in this chapter are comparisons between the control and experimental groups related to the mean attitude score of the pretest and posttest. Analysis of variance was the statistical tool employed for the computation in this investigation.

#### Description of Groups

The control group had a total of forty-three students, nineteen girls and twenty-four boys. These students were never forced to run as punishment.

There were thirty-nine children, twenty-three girls and sixteen boys, in the experimental group. Each time the group was punished, they were forced to run.

#### Control-Experimental Groups: Pretest

For the control group a mean score of 8.298 was achieved on the pretest. The experimental group received a mean score of 7.838 on the pretest. The sum of squares for the between groups was 4.313, while the sum of squares for the within groups was 40.982. The total sum of

squares for both groups was 45.295.

Table 1

Analysis of Variance of the Sample Means  
for the Experimental and Control Groups Pretest

Source	ss	df	ms	F
between	4.313	1	4.313	8.424*
within	40.982	80	0.512	
total	45.295	81		

\*Significant at the .01 level.

From the F-table a value of  $F \geq 6.96$  was needed for a significant difference at the .01 level. Since an F-ratio of 8.424 was found, it would be concluded that the difference between the two sample means was significant at the .01 level.

The null hypothesis would be rejected as the mean (8.298) of the control group was significantly higher than the mean (7.838) of the experimental group.

#### Control-Experimental Groups: Posttest

The posttest for the control group resulted in a mean score of 8.572. The experimental group received a mean score of 8.195 on the posttest. The between groups had a sum of squares which was 2.910 and the sum of squares received for the within groups was 32.686. Both groups had a total sum of squares of 35.596.

Table 2

Analysis of Variance of the Sample Means  
of the Experimental and Control Groups Posttest

Source	ss	df	ms	F
between	2.910	1	2.910	7.124*
within	32.686	80	0.512	
total	35.596	81		

\*Significant at the .01 level.

For a significant difference at the .01 level a value of  $F \geq 6.96$  was required. There was a significant difference between the groups as an F-ratio of 7.124 was determined.

The mean (8.572) of the control group was significantly higher than the mean (8.195) of the experimental group which results in the rejection of the null hypothesis.

Control Group: Pretest-Posttest

The mean for the control group on the pretest was 8.298. The posttest mean for the control group was 8.572. The sum of squares for the between groups was 1.615 while the sum of squares for the within groups was 18.480. The total sum of squares for the groups was 20.095.

Table 3

Analysis of Variance of the Sample Means  
of the Control Group, Pretest and Posttest

Source	ss	df	ms	F
between	1.615	1	1.615	7.34*
within	18.480	84	0.22	
total	20.095	85		

\*Significant at the .01 level.

An F-value of 6.96 was required to show a significant difference at the .01 level. The F-ratio of 7.34 shows that there was a significant difference between the pretest and posttest of the control groups.

By comparing the results it must be concluded that the null hypothesis was rejected since the mean (8.572) of the posttest was significantly higher than the mean (8.298) of the pretest.

#### Experimental Group: Pretest-Posttest

The experimental group had a mean score of 7.838 on the pretest. The posttest mean score for the experimental group was 8.195. The between groups had a sum of squares of 2.476 and the within groups had a sum of squares of 55.192. The total sum of squares was 57.668.

Table 4

Analysis of Variance of the Sample Means  
of the Experimental Group, Pretest and Posttest

Source	ss	df	ms	F
between	2.476	1	2.476	3.410
within	55.192	76	0.726	
total	57.668	77		

not significant

To show a significant difference at the .05 level an F-value of 3.98 was needed. The F-ratio of 3.410 shows there was no significant difference between the pretest and posttest of the experimental group.

The null hypothesis was accepted because the mean

(7.838) of the pretest was not significantly different from the mean (8.195) of the posttest for the experimental group.

#### Boys Control-Experimental: Pretest

The mean score for the boys control group on the pretest was 8.225. A mean score of 7.794 was attained by the boys experimental group for the pretest. The sum of squares for the between groups was 1.785 while the within groups had a sum of squares of 18.494. These brought a total sum of squares to 20.280.

Table 5

Analysis of Variance of the Sample Means of the Boys Experimental and Control Groups Pretest

Source	ss	df	ms	F
between	1.785	1	1.785	3.670
within	18.494	38	0.487	
total	20.280	39		

not significant

An F-value of 4.10 at the .05 level of significance was needed to show a significant difference. The F-ratio of 3.670 indicated the boys experimental and control groups were not significantly different on the pretest.

Since the mean (8.225) of the boys control group pretest was not significantly different than the boys experimental pretest mean (7.794) the null hypothesis was accepted.

Boys Control-Experimental: Posttest

The boys control group received a mean score of 8.704 on the posttest. The boys experimental group acquired a mean score of 7.844 on the posttest. The between group had a sum of squares of 7.107 and the within group reached a sum of squares of 44.709. These were totaled for a sum of squares of 51.816.

Table 6

Analysis of Variance of the Sample Means of the Boys Experimental and Control Groups Posttest

Source	ss	df	ms	F
between	7.107	1	7.107	6.04**
within	44.709	38	1.177	
total	51.816	39		

\*\*Significant at the .05 level.

For a significant difference at the .05 level a value of  $F \geq 4.10$  was required. There was a significant difference between the sample mean as an F-ratio of 6.04 was attained.

The mean (8.704) of the boys control group was significant by greater than the mean (7.844) of the boys experimental group which supports the null hypothesis.

Boys Control: Pretest-Posttest

The boys in the control group had a mean score of 8.225 on the pretest. The posttest for mean score for the control group-boys was 8.704. The sum of the squares for the between groups was 2.755 and the sum of the squares

for the within groups was 8.615. The total sum of the squares was 11.370.

Table 7

Analysis of Variance of the Sample Means of the  
Boys Control Group, Pretest and Posttest

Source	ss	df	ms	F
between	2.755	1	2.755	14.718*
within	8.615	46	0.187	
total	11.370	47		

\*Significant at .01 level.

An F-value of 7.21 was required to show a significant difference at the .01 level. The F-ratio of 14.718 shows that there was a significant difference between the pretest and posttest of the boys control group.

By comparing the results of the boys control group it must be concluded that the null hypothesis was rejected since the mean (8.704) of the posttest was significantly higher than the mean (8.225) of the pretest.

Boys Experimental: Pretest-Posttest

The boys experimental group had a mean score of 7.794 on the pretest. The posttest mean score for the experimental group was 7.844. The between groups had a sum of squares of 0.020 and the within groups had a sum of squares of 54.589. The total sum of squares was 54.609.



Table 8

## Analysis of Variance of the Sample Means of the Boys Experimental Group, Pretest and Posttest

Source	ss	df	ms	F
between	0.020	1	0.020	0.011
within	54.589	30	1.820	
total	54.609	31		

not significant

To show a significant difference at the .05 level an F-value of 4.17 was needed. The F-ratio of 0.011 shows there was no significant difference between the pretest and posttest of the boys in the experimental group.

The null hypothesis was accepted because the mean (7.794) of the pretest was not significantly different from the mean (7.844) of the posttest for the boys in the experimental group.

Girls Control, Experimental: Pretest

The mean score for the girls control group on the pretest was 8.389. A mean score of 7.870 was attained by the girls experimental group for the pretest. The sum of squares for the between groups was 2.813 while the within groups had a sum of squares of 22.147. These brought a total sum of squares to 24.960.

Table 9

## Analysis of Variance of the Sample Means of the Girls Experimental and Control Groups Pretest

Source	ss	df	ms	F
between	2.813	1	2.813	5.08**
within	22.147	40	0.554	
total	24.960			

\*\*Significant at .05 level.

An F-value of 4.08 at the .05 level of significance was needed to show a significant difference. The F-ratio of 5.08 indicates the girls experimental and control groups were significantly different at the .05 level.

Since the mean (8.389) of the girls control groups pretest was significantly different from the girls experimental pretest mean (7.870) the null hypothesis was rejected.

Girls Control, Experimental: Posttest

The mean for the girls control group on the pretest was 8.405. On the pretest the girls experimental group reached a mean of 8.222. The sum of the squares for the between groups was 0.350 while the sum of the squares for the within groups was 17.989. The total sum of squares for the groups was 18.339.

Table 10

Analysis of Variance of the Sample Means of the Posttest of the Control and Experimental Groups

Source	ss	df	ms	F
between	0.350	1	0.350	0.780
within	17.989	40	0.448	
total	18.339			

not significant

An F-value of 4.08 was required to show a significant difference at the .05 level. The F-ratio of 0.780 shows that there was not a significant difference between girls control group and the girls experimental group on the posttest.

By comparing the results it must be concluded that the null hypothesis was accepted since the mean (8.405) of the girls control group posttest was not significantly higher than the mean (8.222) of the girls experimental group posttest.

#### Girls Control: Pretest-Posttest

The pretest for the girls control group resulted in a mean score of 8.389. The girls control group received a mean score of 8.405 on the posttest. The between groups had a sum of squares which was .0024 and the sum of squares for the within groups was 8.6274. Both groups had a total sum of squares of 8.6298.

Table 11

Analysis of Variance of the Sample Means of the  
Girls Control Group, Pretest and Posttest

Source	ss	df	ms	F
between	.0024	1	.0024	0.010
within	8.6274	36	.2396	
total	8.6298	37		

not significant

For a significant difference at the .05 level a value of  $F \geq 4.11$  was required. There was no significant difference between the groups as an F-ratio of 0.010 was determined.

The mean (8.389) of the pretest was not significantly higher than the mean (8.405) of the posttest for the girls control group which indicates the null hypothesis was accepted.

Girls Experimental: Pretest-Posttest

For the girls experimental group a mean score of 7.870 was achieved on the pretest. On the posttest the girls experimental group received a mean score of 8.222. The sum of squares for the between groups was 1.426, while the sum of squares for the within groups was 31.508. The total sum of squares for both groups was 32.934.

Table 12

Analysis of Variance of the Sample Means for the  
Girls Experimental Group, Pretest and Posttest

Source	ss	df	ms	F
between	1.426	1	1.426	1.992
within	31.508	44	0.716	
total	32.934	45		

not significant

From the F-table a value of  $F \geq 4.06$  was needed for a significant difference at the .05 level. Since an F-ratio of 1.992 was found it would be concluded that the difference between the two sample means was not significant.

The null hypothesis was accepted as the mean (7.870) for the girls experimental pretest was not significantly lower than the mean (8.222) for the girls experimental posttest.

## Chapter 5

### SUMMARY AND CONCLUSIONS

It was the purpose of this study to assess the attitudes toward running when running is used as punishment.

The subjects for this study were members of the 1970-71 fourth grade class at Roesland and Roeland Park Elementary Schools, Shawnee Mission, Kansas. There were nineteen girls and twenty-four boys at Roesland, and sixteen boys and twenty-three girls at Roeland Park. The subjects were given an inventory to determine attitudes toward running. Following the inventory the two groups were dealt with differently with respect to running. Roeland Park students were forced to run for punishment and Roesland was the control group.

The statistical computation for this study was the analysis of variance. The mean attitude for the pretest and posttest of both groups was used as the data for analysis in this investigation.

#### Findings

The analysis of data revealed the following findings:

1. On the pretest the mean (8.298) of the control group was significantly higher than the mean (7.838) of the experimental group at the .01 level.

2. The mean (8.572) of the control group was significantly higher than the mean (8.195) of the experimental group on the posttest at the .01 level.

3. The posttest mean (8.572) was significantly higher than the pretest mean (8.298) for the control group at the .01 level.

4. There was no significant difference between the mean (7.838) of the pretest and the mean (8.195) of the posttest for the experimental group.

5. The mean (8.225) of the boys control group pretest was not significantly different from the mean (7.794) of the boys experimental group pretest.

6. On the posttest, the mean (8.704) of the boys control group was significantly greater than the mean (7.844) of the boys experimental group at the .05 level.

7. For the boys control group, the mean (8.704) on the posttest was significantly higher at the .01 level than the mean (8.225) of the pretest.

8. The mean (7.794) of the pretest was not significantly different from the mean (7.844) of the posttest for the boys experimental group.

9. On the pretest, the mean (8.389) of the girls control group was significantly higher at the .05 level than the mean (7.870) of the girls experimental group.

10. The girls control group mean (8.405) was not significantly higher than the girls experimental group mean (8.222) on the posttest.

11. For the girls control group, the mean (8.389)<sup>50</sup> of the pretest was not significantly different from the mean (8.405) of the posttest.

12. The mean (7.870) for the girls experimental pretest was not significantly different from the mean (8.222) for the girls experimental posttest.

### Conclusions

Within the limitations of this study the following conclusions were reached.

1. The control group had a significantly better attitude toward running than the experimental group at the onset of the study. This was highly significant at the .01 level.

2. The control group also had a significantly better attitude toward running than the experimental group on the posttest. This was highly significant at the .01 level.

3. On the posttest the control group had a significantly better attitude toward running than on the pretest. This was highly significant at the .01 level.

4. The experimental group had no significant difference in attitude toward running between the pretest and posttest.

5. There was no significant difference between the boys control group and the boys experimental group on the pretest.



6. The attitude toward running for the boys control group was significantly better than the attitude for the boys experimental group on the posttest. This significance was at the .05 level.

7. The boys control group had a significantly better attitude toward running on the posttest than the pretest. This was highly significant at the .01 level.

8. The attitude toward running on the pretest was not significantly different from the posttest for the boys experimental group.

9. The girls control group had a significantly better attitude toward running than the girls experimental group on the pretest. This significance was at the .05 level.

10. There was no significant difference in attitude between the girls control group and the girls experimental group on the posttest.

11. For the girls control group there was no significant difference in attitude between the pretest and posttest.

12. The pretest and posttest revealed no significant change in attitude for the experimental group.

#### Interpretation of Data

The findings from this investigation reveal that students are very likely to develop a more favorable attitude toward running when students are encouraged to

run for enjoyment. The findings also tend to indicate that forcing students to run as punishment does not enhance the possibility of improving attitudes toward running. This might indicate to teachers that encouraging children to do a particular activity may allow the child greater potential to enjoy the activity. This further indicates that activities with a positive value should not be used as a means of punishment.

It is possible that physical educators are not allowing students to build a greater desire for running when running is a means of punishment. It might also be assumed that other physical activities that are beneficial to children may not be completely developed if the activity is used as punishment.

There was no significant difference in the change in attitude toward running between the girls control group and the girls experimental group. However the boys control group and the total control group had a significantly better attitude toward running than the boys experimental group or the total experimental group.

It was encouraging to the researcher that the experimental group had some improvement in running attitude although not nearly to the degree of the control group. It was hoped that the minimal change in attitude toward running will not be a handicap to the experimental group.

### Recommendations for Further Study

Upon examination of this investigation and its conclusions, the following recommendations are warranted.

1. Undertake another study of this design using one, two or three years between the questionnaires.
2. Undertake another study of this design and use sixth grade, junior high, and high school students.
3. Compare this study with another group of fourth graders.
4. Compare attitudes toward running between adults over thirty and elementary children.
5. Design a study that has only a punishment group and vary the intensity of the punishment.
6. Compare attitudes toward teacher when students are punished by running.

## BIBLIOGRAPHY

## BIBLIOGRAPHY

1. Bell, Margaret C., and Etta Walters. "Attitudes of Women at the University of Michigan Toward Physical Education," The Research Quarterly, 24:379, December, 1953.
2. Bouyer, George. "Children's Concepts of Sportsmanship in Fourth, Fifth and Sixth Grades," The Research Quarterly, October, 1963.
3. Broer, Marion R., Katharine S. Fox, and Eunice Way. "Attitudes of University of Washington Women Students Toward Physical Education Activity," The Research Quarterly, 26:379, December, 1955.
4. Brumback, Wayne B. "Effects of a Special Conditioning Class Upon Students' Attitudes Toward Physical Education," The Research Quarterly, 39:211, March, 1968.
5. \_\_\_\_\_, and John A. Cross. "Attitudes Toward Physical Education of Male Students Entering the University of Oregon," The Research Quarterly, 36:10, March 1965.
6. Bullock, Marguerite and Florence D. Alden. "Some of the Factors Determining the Attitude of Freshmen Women at the University of Oregon Toward Required Physical Education," The Research Quarterly, 4:60, December, 1933.
7. Campbell, Byron A., and Russell M. Church. Punishment and Aversive Behavior. Appleton-Century-Crofts, 1969.
8. Campbell, Donald E. "Students' Attitudes Toward Physical Education," Abstracts of Research Papers, 1968, 1969.
9. Campbell, Donald E. "Wear Attitude Inventory Applied to Junior High School Boys," Research Quarterly, 39:888, December 1968.
10. Craig, H. W. "Sports Interests and Attitudes of Students Enrolled in the Service Curriculum in Physical Education at the University of Illinois," The Research Quarterly, 10:143, May, 1939.

11. Davis, Leon Glenn. "Changes in the Attitudes of College Freshmen Toward Physical Education Participation," Dissertation Abstracts, 25:7063-7064, June, 1965.
12. Drinkwater, Barbara L. "Development of an Attitude Inventory to Measure the Attitude of High School Girls Toward Physical Education as a Career for Women," The Research Quarterly, 31:575, December, 1960.
13. Dushkin, David D. Psychology Today--An Introduction. Communications Research Machines, Inc., 1970.
14. Edgington, Charles Wendell. "Development of an Attitude Scale to Measure Attitudes of High School Freshmen Boys Toward Physical Education," Dissertation Abstracts, 36:5210, March, 1966.
15. Fisher, Anita Hart. "Factors Identified with Positive and Negative Attitudes Toward Physical Education," Dissertation Abstracts, 25:1721, September, 1964.
16. Gessel, Arnold, and Frances L. Ilg. Child Development. New York: Harper and Brother, 1949.
17. Isenberger, Wilma. "Self-Attitudes of Women Physical Education Major Students as Related to Measures of Interest and Success," The Research Quarterly, 30:167, May, 1959.
18. Keogh, Jack. "Analysis of General Attitudes Toward Physical Education," The Research Quarterly, 33:239, May, 1962.
19. \_\_\_\_\_. "Extreme Attitudes Toward Physical Education," The Research Quarterly, 34:27, March, 1963.
20. Lemen, Mildred Gene. "The Relationship Between Selected Variables and Attitudes of College Women Toward Physical Education and Certain Sports," Dissertation Abstracts, 23:1596, November, 1962.
21. McAfee, Robert. "Sportsmanship Attitudes of Sixth, Seventh and Eighth Grade Boys," The Research Quarterly, March 1955, p. 121.
22. Mista, Nancy J. "Attitudes of College Women Toward Their High School Physical Education Programs," The Research Quarterly, 39:166, March, 1968.

23. Moawad, Sayed Hassan. "A Situation-Response Physical Education Attitude Scale for Sophomore High School Boys," Dissertation Abstracts, 21:1834, January, 1961.
24. Moyer, Lou Jean, John C. Mitchem, and Mary Bell. "Women's Attitudes Toward Physical Education in the General Education Program at Northern Illinois University," The Research Quarterly, 37:515, December, 1966.
25. Nash, J. B. "The Skill Learning Years," Yearbook of the American Association for Health, Physical Education and Recreation, New York: World Book Company, 1950.
26. Nemson, Edward. "Specific Annoyances in Relation to Student Attitudes in Physical Education Classes," The Research Quarterly, 20:336, October, 1949.
27. Redl, Fritz. When We Deal With Children. Free Press Publishing Co., 1966.
28. Remmers, H. H., N. L. Gage, and Francis J. Rummel. A Practical Introduction to Measurement. New York: Harper and Row, 1965.
29. Schain, Robert L. Discipline--How to Establish and Maintain It. Teacher Practical Press, Inc., 1961.
30. Seymour, Emery. "Behavior Characteristics of Participants in Little League Baseball," The Research Quarterly, October, 1956, pp. 338-346.
31. Stalnaker, John. "Attitudes Toward Intercollegiate Athletics," School and Society, 37:500, April, 1933.
32. Turner, Mary Ann. "Senior Girls' Attitudes Toward High School Physical Education and Their Relationship to Program Quality and Other Factors," Dissertation Abstracts, 26:3747, January, 1966.
33. Vincent, Marilyn F. "Attitude of College Women Toward Physical Education and Their Relationship to Success in Physical Education," The Research Quarterly, 38:126, March, 1967.
34. \_\_\_\_\_. "Prediction of Success in Physical Education Activities from Attitude, Strength, and Efficiency Measurements," The Research Quarterly, 38:502, October, 1967.

35. Wear, C. L. "Evaluation of Attitude Toward Physical Education As an Activity Course," The Research Quarterly, 22:144-126, March, 1951.
36. \_\_\_\_\_. "Construction of Equivalent Forms of an Attitude Scale," The Research Quarterly, 26:113-119, March, 1955.
37. Wessel, Janet A., and Richard Nelson. "Relationships Between Strength and Attitudes Toward Physical Education Activity Among College Women," The Research Quarterly, 35:562, December, 1962.



APPENDIX A

A Scale for Measuring Attitudes  
Toward Any Practice--Form A

A SCALE FOR MEASURING ATTITUDES TOWARD ANY PRACTICE

Form A

Edited by H. H. Remmers

Date \_\_\_\_\_

Name (optional) \_\_\_\_\_ Sex (circle one) M F

Age \_\_\_\_\_ Grade \_\_\_\_\_

Directions: Following is a list of statements about practices. Place a plus sign (+) before each statement with which you agree with reference to the practice or practices listed at the left of the statements. The person in charge will tell you the practice or practices to write in at the head of the columns to the left of the statements. Your score will in no way affect your grade in any course.

Practice					
					1. Has an irresistible attraction for me.
					2. I like this practice too well to give it up.
					3. Serves a good purpose.
					4. Develops cooperation.
					5. Should be appreciated by more people.
					6. Has advantages.
					7. There is no reason for stopping this practice.
					8. Is all right in a few cases.
					9. My likes and dislikes for this practice are balanced.
					10. I dislike this practice but I do not object to others liking it.
					11. Isn't so bad but it is very boring.
					12. Has several undesirable features.
					13. Should not be tolerated when there are so many better ones.
					14. Life would be happier without this practice.
					15. Is a waste of time and money.
					16. Accomplishes nothing worthwhile either for the individual or society.
					17. Is the worst thing I know.

APPENDIX B

A Scale for Measuring Attitudes  
Toward Any Practice--Form B

A SCALE FOR MEASURING ATTITUDES TOWARD ANY PRACTICE

Form B

Edited by H. H. Remmers

Date \_\_\_\_\_

Name (optional) \_\_\_\_\_ Sex (circle one) M F

Age \_\_\_\_\_ Grade \_\_\_\_\_

Directions: Following is a list of statements about practices. Place a plus sign (+) before each statement with which you agree with reference to the practice or practices listed at the left of the statements. The person in charge will tell you the practice or practices to write in at the head of the columns to the left of the statements. Your score will in no way affect your grade in any course.

Practice					

1. Should be practiced by all Americans.
2. Aids in bringing civilization to a higher level.
3. Is endorsed by sensible people.
4. Many things about this practice are essential to normal living.
5. Keeps us from being "one-sided."
6. As a rule, is good.
7. Has more merit than demerit.
8. I would enjoy this practice if it were changed somewhat.
9. I am not against this practice but neither am I for it.
10. Isn't absolutely bad but isn't good either.
11. Is a little foolish.
12. Has more disadvantages than advantages.
13. Is annoying.
14. We would be better off without this practice.
15. Is not endorsed by sane people.
16. Serves no purpose.
17. I hate this practice worse than I hate anything else.

APPENDIX C

Manual for the Purdue Master Attitude Scales

**MANUAL**  
**FOR**  
**THE PURDUE MASTER ATTITUDE SCALES**

**by**  
**H. H. Remmers**  
**Professor, Psychology and Education**  
**Director, Division of Educational Reference**

**PURDUE UNIVERSITY**  
**Lafayette, Indiana**

**Published by**  
**University Book Store**  
**360 State Street**  
**West Lafayette, Indiana**

**Copyright, the Purdue Research Foundation, 1960**

## THE PURDUE MASTER ATTITUDE SCALES

Each of these scales is available in two equivalent forms, A and B. The scales are separately available as follows. Scale to measure attitude toward:

1. Any School Subject
2. Any Vocation
3. Any Institution
4. Any Defined Group
5. Any Proposed Social Action
6. Any Practice
7. Any Home-Making Activity
8. Individual and Group Morale
9. The High School

### The Rationale of the Scales

The scaling procedure for each of the scales is the psychophysical principle that equally often observed differences are equal, often referred to as the Thurstone attitude scaling technique. Thurstone conceived this psychophysical principle as applicable to the scaling of attitude statements relevant to specific attitudes. He and his associates as well as other researchers did much experimentation testing the overall hypothesis and demonstrated its validity with reference to many specific attitude objects.

The unique advantage of the Purdue Master Attitude Scales is that a single scale can validly measure attitude toward any one of a large number of specific attitudes with a known, adequate degree of reliability. Since the experimental work required in the construction of a single scale requires perhaps something like 200 hours, this makes readily apparent the tremendous practical advantage of these scales over those designed for specific attitude objects. For example, a scale to measure attitude toward each of all the existing vocations is only theoretically, not practically feasible, since to do so would require several hundred years for a single competent experimenter. In the broader context of psychological test theory a quotation from Cattell is relevant:

---

1. For detailed discussion of the experimental procedures in constructing such scales see Remmers, H. H. Introduction to Opinion and Attitude Measurement, New York: Harper & Bros., 1954, p. 87-94.

"Particularized validation is not only devoid of proper scientific interest but deceptive in its promise of practical economy . . . . Its absurdity is most cogently argued by the demands of practical economy and efficiency alone: for a specific test for every occupation and life situation is its logical and impossible conclusion." (pp. 549-550).

Recent developments in attitude measurement have certain theoretical advantages, at least for developing a science of psychology. Examples of such developments are the Guttman scaling technique<sup>2</sup> and its refinements as well as the Semantic Differential developed by Osgood and his associates<sup>4</sup> and the Q-technique of Stephenson.<sup>5</sup> The Purdue Master Attitude Scales have the practical advantage of being brief, convenient and with obvious face and content validity for many purposes in their applicability to measurement and evaluation of attitudes.

### Validity

Beyond their face validity, these scales have demonstrated validity both against Thurstone's specific scales with which they show typically almost perfect correlations and in differentiating among attitudes known to differ among various groups. Examples of such validation are: (a) attitude toward Sunday observance of Seventh-day Adventists vs. other church members. (Kelley, Ida B., "The Construction and Evaluation of a Scale to Measure Attitude Toward Any Institution," Bulletin of Purdue University, Studies in Attitudes, December 1934, pp. 18-30.); liking for social studies vs. science studies among high school students. (Silence, Ella Belle and Remmers, H. H. "An Experimental Generalized Master Scale: A Scale to Measure Attitude Toward Any School Subject," *op. cit.*, pp. 84-87.); preference for the ministry vs.

---

2. Cattell, R. B. Description and Measurement in Personality. Yonkers-on-Hudson: World Book Company, 1946.

3. For references to several of Guttman's papers see Remmers, *op. cit.*, p. 135.

4. Osgood, C. E. et al. The Measurement of Meaning. Urbana, Illinois: the University of Illinois Press, 1958.

5. Stephenson, William. The Study of Behavior, Chicago: University of Chicago Press, 1953.

engineering (Remmers, H. H. "Measuring Attitudes Toward Vocations," *op. cit.*, pp. 77-83.); attitudes toward drinking and petting among the members of social fraternities, sororities, Y.W.C.A. members and Sunday school members (Bues, H. W. "The Construction and Validation of a Scale to Measure Attitude Toward Any Practice," *op. cit.*, pp. 64-67.); attitudes toward Negroes, Chinese, Whites, Egyptians, Syrians, English, and Jews (Grice, H. H. "The Construction and Validation of a Generalized Scale Designed to Measure Attitudes Toward Defined Groups," *op. cit.*, pp. 37-46.); attitude toward any home-making activity (Kellar, Beatrix. "The Construction and Validation of a Scale for Measuring Attitude Toward Any Home-Making Activity," *op. cit.*, pp. 47-63.). These are only a few samples of experimental studies carried out to construct and validate these scales. The interested reader will find further reports of experimental work in the monographs cited above and in the following references:

1. Bateman, R. M. and Remmers, H. H. "A Study of the Shifting Attitude of High School Students when Subjected to Favorable and Unfavorable Propaganda," Journal of Social Psychology, 1941, 13, 394-406.
2. Bateman, R. M. and Remmers, H. H. "Attitudes of High School Freshmen Toward Occupations of Their Choice Before and After Studying the Occupations by Means of a Career Book," Journal of Educational Psychology, December 1939, 657-666.
3. Remmers, H. H. "Attitudes Toward Germans, Japanese, Jews, and Nazis as Affected by the War," School and Society, January 30, 1943, V. 57, No. 1466, 138-140.
4. \_\_\_\_\_ (Ed.) Studies in Attitudes: A Contribution to Social-Psychological Research Methods, Bulletin of Purdue University, December, 1934, 1-112.
5. \_\_\_\_\_ "Changes in Attitudes Toward Germans, Japanese, Jews, and Nazis, as Affected by the War," School and Society, February 16, 1946, V. 63, No. 1625, 118-119.
6. \_\_\_\_\_ "Changes in Attitude Toward Germans, Japanese, Jews, and Nazis," School and Society, June 28, 1947, V. 65, No. 1696, 484-487.
7. \_\_\_\_\_ (Ed.) Further Studies in Attitudes Series II, Bulletin of Purdue University, December 1936, 1-298.
8. \_\_\_\_\_ Further Studies in Attitudes Series III, Bulletin of Purdue University, 1938, 1-151.
9. \_\_\_\_\_ "Propaganda in the Schools - Do the Effects Last?" The Public Opinion Quarterly, April 1938, V. 2, No. 2, 197-210.
10. Tschechelina, Sister M. A., and Remmers, H. H. "Measuring the Attitudes of Elementary School Children Toward Their Teachers," The Journal of Educational Psychology, March 1940, 195-203.
11. Whisler, Laurence D., and Remmers, H. H. "The Effect of the Election on High School Pupils' Attitudes Toward the Two Major Parties," School and Society, April 17, 1937, V. 45, No. 1164, 558-560.
12. \_\_\_\_\_ "A Scale for Measuring Individual and Group Morale," The Journal of Psychology, 1937, 4, 161-165.
13. \_\_\_\_\_ "Liberalism, Optimism, and Group Morale: A Study of Student Attitudes," The Journal of Social Psychology, 1938, V. 9, 451-467.
14. Williamson, A. C., and Remmers, H. H. "Persistence of Attitudes Concerning Conservation Issues," The Journal of Experimental Education, March 1940, 354-361.
15. Wood, W. F., and Remmers, H. H. "Changes in Attitude Toward Germans, Japanese, Jews, and Nazis," School and Society, June 28, 1947, V. 65, No. 1696, 484-487.



