

AN ABSTRACT OF THE THESIS OF

Kadhem Mohammad Abu-Saleh for the degree of Doctor of Education in Educational Foundations presented on February 24, 1989.

Title: Measurement of and Correlation Between Attitudes
Toward Physical Education and Health-Related
Physical Fitness Among Male Students at Two
Saudi Arabian Universities

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Abstract approved: _____

Kenneth M. Ahrendt

Two hundred twenty male students randomly selected during Spring semester 1988 from each of two Saudi Arabian universities, King Faisal and King Fahd, were administered a three-part attitude measurement instrument and a four-part Health-Related Physical Fitness Test. The attitude measurement instrument, derived from the McDonald Attitude Inventory and the Wear Inventory as modified by Ridha (1983), contained 70 statements. Subjects responded on a five-point scale ranging from Strongly Agree to Strongly Disagree. The Health-Related Physical Fitness Test, developed by the American Alliance for Health, consisted of 12-minute run, skinfold measurement, sit-up, and sit and reach tests. A total of 316 students completed both tests.

Values were assigned to responses on the attitude measurement instrument according to the Likert technique. These results, along with Health-Related Physical Fitness Test scores, were statistically analyzed by multiple regression, t-test, MANOVA, and the Spearman-Brown formula.

Findings showed a positive correlation between attitude toward physical education and scores on the Health-Related Physical Fitness Test. No significant difference in attitude toward physical education was found between students at the two universities, but King Fahd students scored significantly better than King Faisal students on the Health-Related Physical Fitness Test.

Between freshman and sophomore students, a significant difference in attitude toward physical education was found at King Faisal University but not at King Fahd University. No significant difference was found in attitude toward physical education between sophomore students at King Fahd University tested in Ridha's 1983 study and those tested in the present study.

Comparison of Health-Related Physical Fitness Test results to American college student norms showed that American students scored better in distance in 9 minutes run, sit-ups, and skinfold measurement, while the Saudi students scored better in the sit and reach test.

MEASUREMENT OF AND CORRELATION BETWEEN ATTITUDES
TOWARD PHYSICAL EDUCATION AND HEALTH-RELATED
PHYSICAL FITNESS AMONG MALE STUDENTS
AT TWO SAUDI-ARABIAN UNIVERSITIES

by

Kadhem Mohammad Abu-Saleh

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Redacted for Privacy

Assistant Professor in charge of major

Redacted for Privacy

Division Chair of Foundations and Post Secondary Education

Redacted for Privacy

Dean, School of Education

Redacted for Privacy

Dean of



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Typed by Harvey McCloud for Kadhem Mohammad Abu-Saleh

DEDICATION

To my parents, to my brothers and sisters, and
to my wife and children, with respect and love.

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MEASUREMENT OF AND CORRELATION BETWEEN ATTITUDES
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PHYSICAL FITNESS AMONG MALE STUDENTS
AT TWO SAUDI-ARABIAN UNIVERSITIES

CHAPTER I

INTRODUCTION

This study was primarily concerned with male students at the university level in Saudi Arabia. Specifically, it was designed to measure two variables from a random sample of these students: 1) attitude toward physical education, and 2) performance on the Health-Related Physical Fitness Test. On a general note, however, it should be understood that the relevance and results of the study are not isolated from understanding the people of Saudi Arabia and the changes they have gone through over the past several decades and continue to go through.

Huyette (1985, p. 1) notes the rapid modernization that has taken place in Saudi Arabia during recent decades has been largely due to the nation's greatly increased wealth. The period from 1953 to 1983 was one in which "the Kingdom of Saudi Arabia broke out of its traditional isolation, seeking to import the conveniences of modernity while preserving its social customs and institutions" (Huyette, 1985, p. 29). During the half-decade from 1975 to 1980, Huyette further points out, "people left the rural areas in greater numbers and moved

into the cities, changed their occupations, acquired more wealth, learned new tastes and attitudes." The cities themselves changed greatly: "High-rise buildings, modern highway networks, glistening new airports and large-scale electrification projects and industrial cities dotted a landscape once barren and uninhabitable."

As a result of this rapid modernization, conflict has been generated within Saudi society. There have always been struggles between the old and the new, and this struggle is very evident in present-day Saudi Arabia. Modernization has brought changes in the social structure, culture and traditions of Saudi Arabia, and these often have a marked effect on individuals and families. As a result, the people of Saudi Arabia are passing through a critical time when there is a great deal of friction between their traditional culture, religion, and way of life on the one hand, and the modern developments which are affecting so many aspects of their lives on the other. According to Huyette (1985, p. 29), Saudi Arabia is "a land of striking contrasts, its people adhering to values and traditions amidst a technological revolution." He notes the important role that will be played by the younger generation as this conflict continues: the degree to which older ways will endure in the face of modernization will depend on the younger generation's "willingness to uphold the social values of the past."

Due to these rapid changes in Saudi Arabia, research is needed which investigates the people's views concerning various aspects of their society. One important aspect of Saudi life is physical education. Another is health, which is of great importance not only to individuals and families, but for the country's development as well.

Factors that are related to health have been and continue to be affected by the modernization taking place in Saudi Arabia. For example, one result of new technology is that numerous tasks which previously required considerable physical effort to perform can now be completed much more easily. Thus many of the people who previously obtained a good deal of physical exercise simply by carrying out their daily responsibilities, no longer do so. This trend can be expected to continue. As technology becomes more widespread, jobs become less physically demanding and more sedentary jobs are created. At the same time, Saudis are now required to spend less time in providing for basic needs and comforts than they were in the past, and thus experience more leisure time. As a result of these combined factors, the importance of engaging in physical exercise during leisure time has increased. Moreover, since leisure time activities are ones which are done out of choice, it becomes increasingly necessary that the people have a positive attitude toward physical activities so that they will choose such

activities as their leisure time pursuits. Physical education in the schools also becomes more important since physical education classes help determine individuals' attitudes toward sports, games and physical exercise, and attitudes developed early in childhood and youth can continue for a lifetime.

This study therefore comes at a time when greater knowledge is needed of Saudi attitudes toward physical education and physical activities. The study will also add to awareness among Saudis of the importance of physical education and of fitness and health. In this way the study augments a positive aspect that has arisen from modernization, namely the fact that Saudi people are becoming better educated and more knowledgeable about their bodies and about aspects of health and nutrition. By adding to the research base which is concerned with the importance of exercise, sports, physical education, recreation, and physical activity in general, this study will help these issues to become more widely known among the people of Saudi Arabia. Knowledge on matters of health and fitness and a better understanding of the benefits of physical education can in turn be expected to expand people's concern for their own physical well-being and health. This can be a positive factor in encouraging them to spend more time in physical activities.

Prior to this study there was little research dealing specifically with physical education and health in Saudi Arabia. The measurement of attitude for specific groups of Saudi people is also a relatively new process. Moreover, this study not only included the first administration of the Health-Related Physical Fitness Test to university students in Saudi Arabia, it was the first attempt to administer the test to any group of Saudi people.

The study therefore breaks some new ground in a somewhat neglected area which is of considerable importance to Saudi people. In doing so, results of the investigation will be useful in several ways:

- 1) They will be useful for the two universities involved, King Fahd University of Petroleum and Minerals and King Faisal University, in helping them to evaluate their physical education programs.
- 2) They will provide useful data for any future investigations of this nature in the same or a related field.
- 3) They will be useful in promulgating awareness of the importance of health and physical exercise among the Saudi people at a time when rapid and significant changes are occurring in many facets of life in Saudi Arabia.

Purpose of the Study

The purpose of this study was twofold. The first purpose was to measure the attitudes toward physical education among male freshmen and sophomores at two universities in Saudi Arabia: King Faisal University and King Fahd University of Petroleum and Minerals (formerly the University of Petroleum and Minerals). Measurements were achieved through the administration of a questionnaire which has been tested for reliability and validity and translated into the Arabic language (Ridha, 1983). The second purpose was to administer to the same students a health-related physical fitness test developed by the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD). The AAHPERD recommends use of the test for the following purposes (American Alliance for Health, 1984a):

- 1) **Diagnosis:** Students' scores on the various items can be used to identify their physical strengths and weaknesses.
- 2) **Achievement of Objectives:** Every physical education program should have an established set of reasonable fitness objectives; the test helps to determine the degree to which these objectives are met.
- 3) **Education:** The process of administering the health-related physical fitness test to students communicates important components of health fitness. This

test can be used to help students learn about health and fitness.

- 4) Program Evaluation: Test results can be used to determine whether a physical education program is achieving its goals.
- 5) Motivation: Test results can be used to motivate students.
- 6) Improvement of Public Relations: The nature of concern for health-related physical fitness can enhance the image of a school.
- 7) Self-Testing: The items on the test are practical enough to allow students to evaluate their own level of fitness.
- 8) Evaluation of Athletes: Items concerned with body composition are especially useful for the evaluation of athletic training programs.

In general, the study provided useful data for the evaluation of the physical education programs of two Saudi Arabian universities; and also established a useful research base for any future studies in this field.

Objectives of the Study

The objective of the study was to determine if there was a relationship between attitudes toward physical education and the Health-Related Fitness test (AAHPERD)

among freshmen and sophomores in two universities in Saudi Arabia. The attitudes of randomly selected freshmen and sophomores toward physical education in these two universities were compared with their performance on the Health-Related Physical Fitness test. Also, within each university, the attitudes and performance levels of male freshmen and sophomore students were compared. A further comparison was made to determine any changes in attitude among male sophomore students at King Fahd University of Petroleum and Minerals, based upon the data provided by this study and that provided by an earlier survey by Ridha Mohammad Bu-Saleh, Attitudes toward physical education as a required course at the University of Petroleum and Minerals in Dhahran, Saudi Arabia (1983). In addition, the results of this study of Saudi Arabian students on the Health-Related Physical Fitness test will be compared with the norm of students from the United States who have taken the same test.

Hypotheses

- 1) There is no positive relationship between attitude toward physical education and scores on the Health-Related Fitness test among male freshmen and sophomores in King Faisal University and King Fahd University of Petroleum and Minerals.

- 2) There is no significant difference between King Faisal University male freshman and sophomore students and King Fahd University of Petroleum and Minerals male freshman and sophomore students in their attitudes toward physical education.
- 3) There is no significant difference between King Faisal University male freshman and sophomore students and King Fahd University of Petroleum and Minerals male freshman and sophomore students on scores obtained from their Health-Related Physical Fitness tests.
- 4) There is no significant difference between freshman male students and sophomore male students in King Faisal University in their attitudes toward physical education.
- 5) There is no significant difference between freshman male students and sophomore male students in King Fahd University of Petroleum and Minerals in their attitudes toward physical education.

Underlying Assumptions

- 1) The subjects will reflect their real attitudes in the questionnaire.
- 2) The subjects will demonstrate maximum effort throughout the Health-Related Physical Fitness test.
- 3) There is no error in the measurement process.

- 4) There is no effect on the Attitude inventory and the Health-Related Physical Fitness test from uncontrolled factors in the environment.
- 5) The Arabic form of the questionnaire is valid and reliable and has the same purpose as the English language form, which is to measure attitudes toward physical education.

Limitations

This study tested only male subjects because of the strict separation of males and females in Saudi higher education due to cultural, traditional, and religious reasons. For these reasons this type of study is not permitted to be done on females in Saudi Arabia.

This study is also limited to only two universities because they are similar in their population, they have different physical education programs, and they are in the eastern part of Saudi Arabia. There are only freshman and sophomore students involved in the study because they are the major group who take physical education classes.

Definition of Terms

Attitude: An organization of beliefs about an object or situation that determine one's behavior in some preferential manner (Roleach, 1968).

- ✓ Physical Education: An integral part of the total educational process. Physical education has as its aim the development of physically, mentally, emotionally, and socially fit citizens through the medium of physical activities which have been selected with the view of realizing these outcomes (Bucher, 1968).
- ✓ Physical Fitness: The ability to carry out daily tasks with vigor and alertness, without undue fatigue, and with ample energy to enjoy leisure time pursuits and to meet unforeseen emergencies (Clark, 1976).
- MacDonald Attitude Inventory: An instrument for determining attitude toward physical recreation of freshmen college men of selected institutions (MacDonald, 1970).
- ✓ Wear Attitude Inventory: An instrument for evaluation of attitude toward physical education as an activity course (Wear, 1951a, 1951b).
- ✓ AAHPERD: The American Alliance for Health, Physical Education, Recreation and Dance.
- King Fahd University of Petroleum and Minerals: A university in Dhahran in the eastern province of Saudi Arabia.
- King Faisal University: A university with two campuses, one in Dammam and one in AlHasa in the eastern province in Saudi Arabia.

CHAPTER II

REVIEW OF LITERATURE

This review of literature is divided into four main sections. The first section has special relevance to this study, because it concerns education in general, and sport and physical education specifically, in Saudi Arabia. It begins with a brief historical overview, but concentrates upon the present educational situation in Saudi Arabia. The second section deals with the definition of the term 'attitude', which is an important concept for this research. Various definitions of the term emphasize different aspects of attitude, but a review of these definitions suggests that attitude should be understood as composed of three basic components: cognitive, affective, and behavioral. The third section of the review concerns the validity of the four tests used in this study: the run, the skin-fold test, sit-ups, and the flexibility test. Finally, the fourth section addresses the topic of the relation of physical fitness exercises to general health.

Physical Education in Saudi Arabia

Historical Overview

The acceptance and growth of the modern sport and physical education movement in Saudi Arabia can to some

degree be traced to much earlier times. The beliefs, culture and traditions of the people of Saudi Arabia, both before and after the beginning of Islam, displayed an acceptance of and a positive attitude toward sport and physical fitness.

Before Islam, it was necessary for the people of what is now Saudi Arabia to learn sports such as hunting, horse riding, and marksmanship. Mastery of such physical skills enabled the individual to deal more successfully with an often harsh environment, aided the individual and the group in competing against others, and indeed helped ensure individual and group survival. Children, therefore, were taught these skills by their elders, often from an early age. We can consider this early training to be the beginning of sport and physical education in Saudi Arabia.

According to Ameen Alsa'aty in his book The History of the Sport Movement in the Kingdom of Saudi Arabia (Arabic version), there were also, during this early period, special occasions for the people to meet to trade and celebrate with poetry and sports such as running. The most famous celebration, Alsa'aty maintains, was Souk Okaz (Okaz market). According to Alsa'aty there was no relationship between these markets and the old Olympics; however, it is important to note that at these

celebrations demonstrations of physical skill were highly regarded.

The period before Islam is significantly different from the period after the beginning of Islam, largely because the people of the pre-Islamic period had a different ideology from those who came later. This difference extended to views and attitudes about the moral significance and goals of sport and physical fitness.

The Islamic period started in 5 A.D. when God chose Mecca to be the place of the religion of Islam (as Muslims believe). For Muslims, Islam is a religion which covers all aspects of life, including health and fitness.

Islamic religion is concerned with both the spiritual and the physical; it clearly maintains the importance of the body and its health. Indeed, the positive rules of Islam toward sports and the body encourage people to participate in sports and to care about their health. This is evident in the statement by the prophet Mohammed Ibn Abdullahl, God bless him, who said, "Teach your children swimming, marksmanship and equitation."

Thus, during the Islamic period it became a duty for the people to learn and to teach their children sports and physical fitness. In this period sports also became more organized and were used for good causes and right beliefs. It was also considered to be during this period that the separation between males and females began.

However, when the movement of Islam moved outside Gazarat Al-Arab, of which Saudi Arabia is part, then Gazarat Al-Arab became isolated and was left, for a long period, with no officially-organized movements or activities in sports and physical education. Therefore, it was entirely up to individual parents and other elders to educate children in the ways of good health and physical fitness. Organized education toward these ends had to await the year 1926, when the modern kingdom of Saudi Arabia was formed.

The Modern Educational System in Saudi Arabia

Tracing the modern educational system in Saudi Arabia to its beginnings shows that the earliest schools on the Arabian peninsula were organized during the early Islamic era. These schools, called Kuttabs, were located in or near mosques, taught boys or girls to read (Oliver, 1987), and were deeply rooted in Islamic faith and tradition. The Kuttabs were the predecessors of the modern system of education in Saudi Arabia, which dates from 1924, when the Directorate of Education was established.

In 1953 a new era in education in the Kingdom of Saudi Arabia began with the organization of the Ministry of Education, which marked the beginning of three and one half decades of remarkable educational progress within Saudi Arabia. One highlight of this progress was the

organization of the General Presidency of Girls' Education in 1960, which gave impetus to the rapid spread of elementary, intermediate, and secondary schools for girls, and to the development of a number of girls' colleges. Another important milestone in 1975 was the establishment of the Ministry of Higher Education, which was created to implement policy in the field of higher education. In 1980, a separate agency for technical/vocational education, the General Organization for Technical Education and Vocational Training, was founded.

The educational system of Saudi Arabia is divided into three levels: kindergarten/elementary, intermediate/secondary, and higher education. Education at all these levels is free. In 1983-84 more than 1.97 million students (approximately 23% of the population) were enrolled in educational programs.

Kindergarten includes nursery schools for students under four years of age and two years of preschool education. Most kindergartens are coeducational. Elementary school programs are six years in length, beginning at age six, and are separate for boys and girls. The students of each grade have two physical education classes each week for 45 minutes each.

The second level of education is divided into two stages -- intermediate and secondary -- each last for three years. For the last two years of the general

secondary school, students major in either science or the arts. In 1985, a new type of comprehensive school was started and is expected to replace general secondary schools by 1995. Vocational and technical schools are provided at the secondary level, which is also the level where boys and girls are separated. The students in each grade have only one class of physical education, of 45 minutes duration, each week.

Higher education constitutes the third level of education in Saudi Arabia. At present there are seven universities. Six are supervised by the Ministry of Higher Education, with the Islamic University in Madinah reporting directly to the Council of Ministers. Women can attend most of the universities in separate classes. In addition to the seven universities there are at present eleven higher education institutions for women, called girls' colleges, which specialize in education, arts, science, or social work. All offer bachelors degrees, and some offer masters and doctorates as well. Finally, post-secondary-level institutions are provided for teacher training, technical-vocational training, and military education.

Oliver (1987) defined several characteristics of the system of education in Saudi Arabia which help to give a better understanding of the system in general:

- 1) Emphasis on religion. The importance of religious studies in the schools may best be illustrated by the number of periods per week devoted to religious studies.
- 2) Separation of the sexes. A strict separation of the sexes is maintained throughout the educational system.
- 3) Rapid growth. As late as 1947, there were only 65 elementary, intermediate, and secondary schools in the kingdom -- and no universities. By 1983-84 there were 7,259 elementary schools, 2,126 intermediate schools, 976 secondary schools and around 50 post-secondary institutions.
- 4) Selectivity. The educational system in Saudi Arabia is highly selective and a number of factors contribute to this selectivity from elementary through secondary schools.
- 5) Generous financial support. Total public expenditures on education have risen steadily from \$1.3 billion in 1974-75 (8.3% of all government expenditures) to \$7.5 billion in 1983-84 (10.5% of total expenditures).
- 6) Use of non-Saudi teachers. In 1983-84 the percentages of non-Saudi teachers, by level, were as follows: non-Saudi elementary school teachers

35%; intermediate, 63%; secondary, 73%; technical-vocational, 61%; teacher training, 76; and university, 58%.

- 7) Centralization. The Ministry of Education and the General Presidency of Girls' Education direct almost all of the general elementary, intermediate, and secondary schools in Saudi Arabia. Six universities operate semi-autonomously under the Ministry of Higher Education. Islamic University reports directly to the Council of Ministers.
- 8) Shift to semester credit-hour system. Adoption of the semester system, with each school year divided into two semesters, was completed in 1975 for all educational institutions in Saudi Arabia. Five of the seven universities have also adopted the credit-hour system and the new comprehensive secondary schools (expected to become universal by 1995) also use the credit hour system.
- 9) Adaptation to rapid change. At every level of education, the last 20 years have been marked not only by explosive growth, but also by a series of changes in the organization and level of educational programs.

The Modern Sport and Physical Education Movement

The modern movement of sports and physical education in Saudi Arabia can be divided into two periods: 1) the

first period covers the years between 1926 and 1952, and
2) the second period encompasses the years after 1952.

The years between 1926 and 1952 are considered to be the period in which modern sports were introduced to the people of Saudi Arabia. This occurred through several means, the most important being through foreigners who came to Saudi Arabia for work, bringing with them sports and activities from their own countries. Soccer especially gained a great deal of attention from the Saudi Arabian people, and in fact the government during this period took a role in organizing soccer.

It was, however, at the beginning of the second period -- 1952 to the present -- that the first government organization dedicated to sports was formed. In 1952 a government administration was created in the Ministry of Education to oversee the sports movements in clubs. Nine years later, in 1961, the Directorate General of Youth Welfare was established in the Ministry of Labour and Social Affairs (Glimpses of the Sports Movement in the Kingdom of Saudi Arabia, 1972), and in 1962 the Directorate General was made responsible for youth welfare in the private sector (such as clubs).

In 1974, as a result of developing responsibilities, the General Presidency for Youth Welfare, under the Supreme Council for Youth Welfare, became responsible for

encouraging youth to carry out coordinated integrated policies relating to the following points:

- 1) spending leisure time fruitfully;
- 2) developing their talents;
- 3) improving their physical fitness;
- 4) deepening their minds in the Islamic traditions and the original Arabian customs.

The Ministry of Education is responsible for physical education and sport activities in schools. The General Directorate for Youth Welfare in the Ministry of Education is responsible for school youth welfare through its specialized departments. The objectives of the General Directorate for Youth Welfare can be summarized as follows:

- 1) to compete in modern educational programs;
- 2) to establish the fundamental basis for youth welfare in the kingdom by raising health and physical fitness standards for all citizens;
- 3) to develop the innate sense of art;
- 4) to appreciate manual skills and teamwork;
- 5) to emphasize the importance of useful hobbies;
- 6) to deepen the feeling towards social problems and encourage youth to contribute towards solving them;
- 7) to encourage participation in public service projects and other activities which play a major role in society's life and in increasing its production.

The Ministry of Education is responsible for physical education in kindergarten through the last year in secondary school and continuing to the colleges. It has a goal for each level.

Elementary School Physical Education:

The goals for elementary school physical education in Saudi Arabia are many. They include fitness to the physique, strength to the person, athletic skills, mental capability, increased sociability, psychological fitness and social skills, the elevation of the level of health, encouraging the achiever and the gifted, sponsoring the handicapped and utilizing free time.

The curriculum in elementary schools contains:

- 1) physical education classes -- two classes every week for a total of 52 classes per year, each class lasting 45 minutes;
- 2) activities inside the schools, such as competition between classes and school clubs in games;
- 3) outside activities, such as competition with other schools.

Intermediate and Secondary School Physical Education:

The goals of intermediate and secondary schools are as follows:

- 1) Physical goals are to increase and maintain the body's capabilities, increase the skills of the body that are useful in life, to practice the goal and health habits, and give the opportunity to those students who are skilled athletically to achieve championship level.
- 2) Mental goals are stimulating the senses and thinking ability, and increasing the P.E. awareness.
- 3) Moral goals are to increase the quality of social and attitude characteristics, and increase the quality of good citizenship and leadership.
- 4) Social goals are to create the right environment for the students to practice cooperation, self-sacrifice and true brotherhood, to prepare students for adaptation to the society, and to give them the opportunity for self expression and creativity.

At this level the student has only one physical education class each week. The student can also compete with his class against other classes or with his school against other schools in the area.

University Level Physical Education:

The university level includes King Fahd University of Petroleum and Minerals. Established in 1963 as the College of Petroleum and Minerals under the Ministry of

Petroleum, the university gained the status and title of university in 1975, and supervision shifted to the Ministry of Higher Education. The university provides advanced training in science and engineering to serve the petroleum and minerals industries in the kingdom. In December, 1986, the university was renamed King Fahd University of Petroleum and Minerals. Enrollment in 1984-85 was 3,786 total, with 831 or 22% non-Saudis, and no females (Oliver, 1985). The physical education program at King Fahd University provides the opportunity for each student to benefit physically, mentally, and socially from a variety of sports activities. Its aims are:

- 1) to develop skills, knowledge and attitudes essential to enjoyable participation in sport and recreation at all levels throughout university and professional life;
- 2) to progressively develop socially acceptable and satisfying attitudes towards others both in sport and work; and
- 3) to stimulate and enhance physical, mental, and emotional health through the interrelationship of one person to another in sport.

Students are introduced to the program during their preparatory year and normally continue through the freshman and sophomore years. Successful completion of four semesters of physical education (PE 101, 102, 201, and

202) at the university level is a requirement for all B.S. degrees. Physical education activities during the preparatory year consist of an introduction at a basic level to the majority of the physical education courses taught at King Fahd University (Undergraduate Bulletin, 30 March 1985).

King Faisal University, founded in 1975, has two campuses: one in Dammam, which houses the College of Medicine and Medical Sciences and the College of Architecture and Planning; and one in AlHasa, where the colleges of Administration and Planning, Agriculture and Food Science, Education, and Veterinary Medicine are located. Until 1983, the main offices of King Faisal University were located in Dammam, but AlHasa is now the main campus and houses the university's administration offices. King Faisal University was founded to serve the needs of the eastern province, where the specialized King Fahd University of Petroleum and Minerals is the only other university. Enrollment in 1984-1985 totalled 3,219, of which 1,269 or 39% were female and 338 or 11% were non-Saudi (Oliver, 1987).

Only one credit of physical education is required in this university and can be taken in any semester. While the majority of the students fulfill the requirement in their freshman year, the remainder take the course in their sophomore year.

Attitude

In itself, "attitude" may be so widely applied that it is difficult to focus upon its meaning within the confines of a simple definition. Wear (1951) defined attitude as the response, reaction, or state of mind to which an individual is predisposed when evaluating some symbol, object, or aspect of the world, and thus associates attitude with both the state of mind and the behavior of the individual. Bruvold (1970) concentrated on the affective element of attitude by defining it as a positive or negative affective reaction toward a denotable abstract or concrete object or proposition.

Allport (1950), on the other hand, emphasized the connection between the state of mind and the behavior of an individual in defining attitude as a mental or neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations to which it is related. Roleach (1968) also highlighted the connection between state of mind (embodied in beliefs) and behavior by stating that attitude is "an organization of beliefs about an object or situation that determine one's behavior in some preferential manner."

The definitions of both Wear (1951) and Allport (1950) imply that attitude is a predisposition to act

in a certain manner toward some object or type of object and that it is therefore something which has a significant duration over time. Roleach's (1968) definition, which referred to an "organization of beliefs ... that determine one's behavior" also implies that attitude is a predisposition to behave in a certain way.

Attitude could thus be considered to be a conditioned response, which can be elicited by the introduction of a conditioned stimulus. Feldman (1985), stressed the importance of classical conditioning as a mechanism for attitude formation, holding that its importance lies in the fact that through classical conditioning, people may come to have powerful attitudinal reactions to social objects even in the absence of first-hand experience.

Scheffell (1977) agreed that attitudes are not innate in the individual. Attitudes are learned or acquired. Moreover, there is a difference between fact and attitude in that attitude is more resistant to change when it is established.

Kenyon (1968) emphasized both the dispositional nature of attitude and its affective element in saying that attitude is a complex but relatively stable behavioral disposition reflecting both direction and intensity of feeling toward a particular psychological object, whether it be concrete or abstract. Kenyon's

definition also referred to attitude as a "complex," which seems to imply that attitude should be understood in terms of other psychological elements. Greenwald (1968) apparently agreed with this, saying that attitude is a complex psychological construct, built up from the theoretically subordinate constructs of habit, cognition and emotion. This means that the family has the major influence for developing the child's attitudes but not that only the family has that influence in the child's life.

Murphy (1931) stated that attitude and value are ultimately the same thing. There is, however, a practical distinction to be made insofar as value is frequently not mediated by words and may have all degrees of clarity for verbal communicability; whereas attitude usually means today the valuing tendencies as expressed through verbal responses.

Katz and Stotland (1959), Fishbein (1967), and Rajecki (1982) all held that attitude has three major components: cognitive, affective and behavioral. Feldman (1985) stated that the component view of attitudes is the idea that attitudes are organized, both internally (among the three components) and in relation to other attitudes. The three components of attitude (affective, cognitive, and behavioral) are generally assumed to be interrelated and consistent with one another.

Freedman, Courismith, and Sears (1974, 1979) helped to tie many of these insights together by stating, "we can conceive of an attitude as a collection of thoughts, beliefs and knowledge (cognitive component) and as including positive and negative evaluations of feelings (affective component), all relating to and describing a central theme or object -- the subject of the attitude." Further, they claimed, this knowledge and feeling cluster tends to produce certain behavior.

Martens (1975) held that at the same time it is recognized that attitudes can be changed by modifying any one of the three components. Because there is a tendency for the component to be consistent, a change in one will be reflected in changes in the other components.

There are thus two facets of attitudes that must be kept in mind (Freedman, Courismith, and Sears, 1974, 1979). First is the contrast between the cognitive complexity and the evaluative simplicity. Second is that all elements of the attitude, such as they are, can be interrelated, and that they can therefore have separate elements. Freedman, Courismith, and Sears (1974, 1979) further maintained that there are four theoretical frameworks for studying attitudes: 1) conditioning and reinforcement, 2) incentives and conflict, 3) functionalism, and 4) cognitive consistency.

With respect to the formation and modification of attitudes, Riordan and Tedeschi (1983) mentioned that persons associated with threatening circumstances tend to take on negative qualities simply through association, thus directly supporting the classical conditioning explanation of attitude formation. Processes of reward and punishment are examples of another learning theory approach, which suggests that a critical factor affecting the acquisition and maintenance of attitude relates to the degree to which attitudes are verbally or nonverbally reinforced by others (Feldman, 1985).

Health-Related Physical Fitness Tests

Research studies have indicated that physical fitness tests are valid tests for the measurement of the general health of individuals. For example, Fulls (1980) has stated that health-related fitness refers to those aspects of physiological and psychological functioning which are believed to offer some protection against degenerative diseases, including coronary heart disease, obesity and muscular disorders.

The AAHPERD (American Alliance for Health, 1984) states that the distance run is a valid field test of cardiorespiratory endurance because it is related to maximal oxygen uptake. The relationship between cardio-respiratory fitness (CRF) and health is well-documented.

Increases in CRF permit a higher quality of life by increasing the rate at which energy can be provided to support work and play activities. The reliability of distance run tests has ranged from .75 to .90 (Burris, 1970) and the AAHPERD (American Alliance for Health, 1984) has stated that this test is a valid indicator of CRF, but only for well-motivated students. Additional evidence of the validity for the endurance run as a test of CRF is provided by the fact that endurance run scores vary according to our expectations of a test of CRF.

The second degenerative physical process, obesity, may be determined by measurement of the two components, lean weight and fat weight, of body weight measurement. AAHPERD has stated that a relationship has been demonstrated between obesity and manifestations of coronary heart disease, hypertension, diabetes mellitus, depression, anxiety, and impaired heart tolerance. In addition, certain biochemical metabolic abnormalities, such as hyperlipidemia (high fat levels in the blood), decreased glucose tolerance, and insulin resistance, have been associated with obesity (Pollock, Wilmore, & Fox, 1978).

It is also very clear that physical activity helps to avoid gains in body fat weight. AAHPERD (American Alliance for Health, 1984) has stated that correlations between triceps and subscapular and body fatness are

similar among adults, supporting the concurrent validity of the skinfolds selected for the AAHPERD Health Related Physical Fitness test. The combination of triceps and subscapular further improves the relationship. The range of the skinfold validity is 0.70 to 0.90, and the AAHPERD (American Alliance for Health, 1984) has stated that the test-retest reliability estimates of skinfold measurements tend to be high, exceeding 0.95 (Pollock, 1975, 1976). The AAHPERD added that many practitioners believe that maintenance of minimal levels of trunk and hip strength/endurance and flexibility are important in the prevention and alleviation of low back pain and tension. While there is a dearth of hard research in this area, many physical fitness proponents, physical therapists, and orthopedic surgeons link the high incidence of low back problems with a corresponding lack of exercise (Corbin, Dowell, Lindsey, & Tolson, 1981). The general logic is that weak muscles that are easily fatigued and/or strained cannot support the spine in proper alignment.

The AAHPERD (American Alliance for Health, 1984), developed a rationale for the sit-up and sit and reach tests which indicated that substantial clinical experience supports conclusions that the maintenance of good abdominal muscle strength/endurance and low back/hamstring flexibility reduces the risk of developing low back pain and that exercises which improve lower trunk strength and

flexibility improve the clinical status of many low back pain patients. Moreover, the AAHPERD has stated that the validity of modified sit-up tests has been logically determined, based on maximal involvement of the upper and lower rectus abdominus, external and internal obliques, and avoidance of hyperextension of the low back (Flint, 1965; Godfrey, Kindig, and Windell, 1977). Evidence from studies of muscle activity during the execution of sit-ups has shown that abdominal muscles are utilized during the execution of the test. The reliability of sit-up tests has been generally satisfactory; test-retest reliability coefficients have ranged from 0.68 to 0.94.

The AAHPERD (American Alliance for Health, 1984) also indicated that the sit and reach test has been validated, as opposed to the use of several other types of flexibility tests. The coefficients obtained have generally ranged from 0.80 to 0.90.

A study by Symonette (1983) on Bahamian youths between the ages of 13 to 17 has shown that there is no significant correlation between attitude toward physical education and scores on a health-related physical fitness test. Symonette also indicated that with an increase in age, there is improvement in attitudes toward physical education. It was concluded that students at the university level would be able to better understand the questions in an attitude inventory, consequently

developing a greater awareness of the need for physical education.

Relation of Physical Education to Fitness and Health

Falls (1980) stated that performance related fitness includes those qualities of function that provide the individual with the ability to participate in sport activities with greater power, strength, skill, and endurance. Zeigel (1982) claimed that we should emphasize that human motor performance (psychomotor, cognitive, and affective) in sport, dance, play, and exercise can contribute to the quality of life of all people.

Relating such fitness to education, the purpose of a study by Werner and Durham (1988) was to determine the effect of a supplemental physical education program based on health related fitness factors taught and maintained by classroom teachers on fourth, fifth and sixth grade children. They concluded that creating model lessons and providing help to classroom teachers is a way of developing daily physical education.

Sidentop (1985) related the success of the daily physical education program in Australia as having an effect on the fitness level of children. In this program classroom teachers used model lessons provided by physical education specialists which were designed to develop

students' physical fitness outside the time allotted for physical education.

Corbin, Dowell, Lindsey, and Toison (1981) indicate the physical health benefits of regular exercise are:

1. improved cardiovascular fitness;
2. greater lean body mass and less body fat;
3. improved strength and muscular endurance; and
- 4) improved flexibility.

Annarino (1978), Bain (1980), Bucher (1983), and Corbin et al. (1981) indicate the mental and social benefits are:

- 1) reduction of mental tensions;
- 2) opportunity for social interactions;
- 3) resistance to fatigue;
- 4) opportunity for successful experience; and
- 5) improved physical fitness.

Bucher and Koenig (1983) stated that the wellness movement emphasizes the need to provide measures that will prevent disease rather than treat illness. These measures include the attention to aspects of lifestyle that affect health, such as physical activity, diet and smoking.

Summary

In recent decades physical education has grown rapidly at all levels in Saudi Arabia. Control of education is centralized, and the Ministry of Education,

through the Directorate of Youth Welfare, has set clearcut goals for physical education programs, including goals for the university level. Particular universities set their own additional objectives; as a result, physical education requirements may differ in different universities, as is the case for King Fahd University of Petroleum and Minerals and King Faisal University, the two universities dealt with in this investigation.

Attitude toward physical education among male students at the two universities was a central concern of this study. The literature review revealed that attitude consists of a cognitive, an affective, and a behavioral component. A second main concern of the investigation was student scores on the Health-Related Physical Fitness Test. The four parts of the test furnish indicators for several important components of health and fitness, including cardiorespiratory endurance (12-minute run), obesity (skinfold measurement), and lower back strength and flexibility (sit-ups and the sit and reach test). Finally, an overall concern of the study was the relation of physical education to health and fitness, and the literature review showed that a positive correlation between these two variables has been found.

CHAPTER III

METHODS AND PROCEDURES

Selection of Subjects

A total of 440 male subjects were selected for this study. Subjects were selected randomly from students enrolled during the second semester 1988 at two Saudi Arabian universities: King Fahd University for Petroleum and Minerals and King Faisal University. At King Fahd University students must complete four credits of physical education as a requirement for receiving the B.S. degree. The student can take only one credit each semester. At King Faisal University students are required to complete one credit of physical education while pursuing the B.S. degree. From each university 220 male students were selected, with 110 of these being freshmen and 110 being sophomores.

Testing Instruments

Two instruments were used in this study. The first instrument was a three-part questionnaire in the Arabic language which was used to measure the subject's attitude toward physical education. The second instrument was the Health-Related Physical Fitness Test which consisted of four separate tests.

Attitude Measurement Instrument

The attitude measurement instrument contained three parts. The first part (Part A) contained eight biographical questions. The second and third parts (Parts B and C) consisted of a set of 70 statements taken from the McDonald Attitude Inventory and the Wear Inventory. Because of cultural differences between American and Saudi students, the Ridha version of this attitude measurement instrument was used. This instrument was modified by Ridha (1983) for use with Saudi students in his own study. In refining the Arabic form of the instrument and to ensure its clarity, Ridha (1983) conducted a pilot study on a class of 15 students from the lowest division at King Fahd University. Students were asked to identify any word that they did not understand, and further explanations were added to all such words. Before the instrument took its final form, it was reviewed by a specialist in the Arabic language to ensure its correct grammar and proper construction. Ridha (1983) found this modified instrument to be both valid and reliable.

The purpose of parts B and C of the attitude measurement instrument was to measure the attitudes of subjects toward physical education. Part B contained 33 positive statements concerning physical education. Twelve positive statements were from the McDonald Attitude Inventory and 21 positive statements were from the Wear

Attitude Inventory. Part C contained 37 negative statements concerning physical education. Eighteen negative statements were from the McDonald Attitude Inventory and 19 negative statements from the Wear Attitude Inventory. The purpose of separating the positive statements and the negative statements was to provide greater consistency for the subjects in order to achieve higher reliability for the instrument. Subjects responded to a five point scale which ranged from "Strongly Agree" to "Strongly Disagree." Values from one to five were assigned to each of the five possible responses to each statement to accommodate statistical analysis of these data.

Health-Related Physical Fitness Test

The second instrument was the Health-Related Physical Fitness Test which contained four parts and is considered to be a valid and reliable test by AAHPERD (American Alliance for Health, 1984a). The four parts were the 12- Minute Run, Sum of Skinfold Fat, Sit and Reach and Modified Sit-ups. Test administration followed the procedures set out by the AAHPERD Test Manual (American Alliance for Health, 1984b), which are described below:

Distance Run in Twelve Minutes

Participants are instructed to run as far as possible in 12 minutes. They begin on the signal, "ready, start!" and continue to run until a whistle is blown at the end of 12 minutes. Distance run by each participant is then measured. Walking is permitted, but the objective is to cover as much distance as possible during the 12 minutes.

Scoring: The 12-minute run is scored to the nearest 10 meters.

Equipment: In this study the 12-minute runs were administered on a 400-meter track which was marked at every 10 meters.

Sum of Skinfold Fat Test

In several parts of the body the subcutaneous adipose (fat) tissue can be lifted with the fingers to form a skinfold. The skinfold fat measure consists of a double layer of subcutaneous fat and skin, the thickness of which can be measured with skinfold fat calipers. The test uses two skinfold fat sites, the triceps and the subscapular, because they are easy to measure and correlate highly with total body fat. The triceps skinfold is measured over the triceps muscle of the right arm, halfway between the elbow and the acromion process of the scapula*, and is

* The lateral extension of the spine of the scapula projecting over the shoulder joint and forming the highest point of the shoulder, called also acromial process and acromion scapulae.

measured with the skinfold parallel to the longitudinal axis of the upper arm. The subscapular site, also on the right side of the body, is one centimeter (slightly less than 1/2 inch) below the inferior angle of the scapula, in line with natural cleavage sites of the skin. The recommended testing procedures are as follows:

- a) Firmly grasp the skinfold between the thumb and forefinger and lift up.
- b) Place the contact surfaces of the calipers one centimeter (1/2 inch) above or below your finger.
- c) Slowly release the grip on the calipers, so that they exert their full tension on the skinfold.
- d) Read the skinfold to the nearest half millimeter after the needle stops (one to two seconds after you've released your grip on the calipers).

Scoring: The skinfold measurement is registered on the dial of the calipers used. Each measurement is taken three consecutive times, with only the median (middle) of the three scores being recorded. The recommended scoring procedure is to use the sum of the two skinfolds, and this procedure was used in the present study.

Equipment: Skinfold calipers.

Modified Sit-Ups

To start, the student lies on his back with knees flexed and feet on the floor, heels 12 to 18 inches from the buttocks. The feet should be held down by a partner

to keep them on the testing surface. The student, by tightening his or her abdominal muscles, curls to the sitting position, touching elbows to thighs. Arms must remain on the chest, as should the chin. To complete the sit-up, the student returns to the down position, until the midback touches the testing surface. The timer gives the signal, "ready, go!" The student starts on the word "go" and must stop on the word "stop." The student should know before the test begins that rest between sit-ups is allowed, but that the objective is to perform as many correctly executed sit-ups as possible in a 60-second period.

Scoring: Record the number of correctly executed sit-ups completed in 60 seconds.

Equipment: Mats or another comfortable surface is used for the students. A stopwatch, or watch or clock with a sweep second hand, can be used for timing.

Sit and Reach

To start, have the student remove his shoes and sit down at the test apparatus with knees fully extended and feet a shoulder width apart. The feet should be flat against the end board. To perform the test, the student extends the arms forward, with hands placed on top of each other. The student reaches directly forward, palms down, along the measuring scale four times, and holds the position of maximum reach on the fourth trial. The position must be held for one second.

Scoring: The score is the furthest point reached, measured to the nearest centimeter, on the fourth trial. The administrator should remain close to the scale and note the most distant line touched by the fingertips of both hands. If the hands reach unevenly, the test should be readministered.

Equipment: The test apparatus consists of a specially constructed box (12 inches by 12 inches by 21 inches), with measuring scale where 23 centimeters is at the level of the feet.

Collection of Data

The names, numbers and schedule of classes for the subjects were randomly selected by computer for each university. Each subject who was enrolled at the time in a physical education class was administered the attitude measurement instrument through his physical education class. The completed instrument was returned by the end of the class period. The subjects also took the Health-Related Fitness Test during their regular classes. Subjects who were not enrolled in a physical education class were informed that they had been chosen for the study and were asked to complete the attitude measurement instrument and also to take the AAHPERD test with any physical education class at a time which fit into their class schedule.

The researcher was assisted by two teachers from the physical education departments at the respective universities. Identical instructions were given and procedures followed at each university and for each class.

The second instrument was the Health-Related Physical Fitness Test, which was given to as many students as possible of those who finished the attitude measurement instrument. The Health-Related Physical Fitness Test took two class periods to complete. During the first class a warm-up period was given to the students, and then the Sit-up test, the Sit and Reach test and the Skinfold test were given. In the second class, after a warm-up period, the 12-minute Run test was given to the students. The procedures followed in all the tests were according to the AAHPERD Test Manual (American Alliance for Health, 1984b), as outlined above.

Statistical Analysis

The most accurate way to find the mean of the attitude inventory for each statement responded to by the students is by using the Likert technique. Likert (1982) stated that the simpler technique involved the assigning of values from one to five to each of the five different positions on the five-point statements. The (1) end is always assigned to the negative end of the sigma scale,

and the (5) end to the positive end of the sigma scale. This technique was used in the present study.

When the scores of each student in the attitude and Health-Related Physical Fitness tests were determined, the mean, standard deviation, variance, standard error, and the range of attitude scores and each item of the Health-Related Physical Fitness Test were computed.

Multiple Regressions

To find the relationship between the attitude scores and the four items of the Health-Related Physical Fitness Test, multiple regression was used to find the relationship between one variable (attitude) and the other four variables (Health-Related Physical Fitness Test).

t-Test or f-Test

The t-test was used to find the significance of the differences in:

- 1) Freshman and sophomore male students' attitude toward physical education between King Faisal University and King Fahd University of Petroleum and Minerals;
- 2) Male students' attitude toward physical education between freshmen and sophomores in King Faisal University;

- 3) Male students' attitude toward physical education between freshmen and sophomores in King Fahd University of Petroleum and Minerals.

MANOVA

The MANOVA test was used to determine if there is a significant difference in the Health-Related Physical Fitness Test between the male students (freshmen and sophomores) in King Faisal University and male students (freshmen and sophomores) in King Fahd University of Petroleum and Minerals.

Spearman-Brown

The Spearman-Brown prophecy formula by odd-even split halves method was used to find the reliability coefficient for the attitude inventory statements for parts B and C combined.

Summary

Two hundred twenty male students from each of two Saudi Arabian Universities took part in this study. The students were randomly selected from those enrolled at the universities during the second semester 1988. Students were administered a three-part attitude measurement instrument and a four-part Health-Related Physical Fitness

Test. The attitude measurement instrument was derived from the McDonald Attitude Inventory and the Wear Inventory and was modified by Ridha (1983) to be used with Saudi students. In addition to eight biographical questions, the attitude instrument contained 33 positive statements and 37 negative statements to which subjects responded on a five-point scale ranging from Strongly Agree to Strongly Disagree. The Health-Related Physical Fitness Test, which was developed by the American Alliance for Health, consisted of a 12-minute run, a skinfold fat measurement, a sit-ups test, and a sit and reach test. Administration was according to procedures outlined by the American Alliance for Health (1984b). The Likert technique was used in assigning values to responses on the attitude measurement instrument, and these data, along with those from the Health-Related Physical Fitness Test, were statistically analyzed by multiple regression, t-test, MANOVA, and the Spearman-Brown formula.

CHAPTER IV

RESULTS

Subjects

A total of 357 students enrolled during the second semester of 1988 at King Fahd University of Petroleum and Minerals and King Faisal University completed the attitude survey. Of these, 316 students also completed the Health-Related Physical Fitness Test.

The number of students from each university was approximately equal, with 164 students from King Fahd University and 152 students from King Faisal University completing both tests. Approximately 60% of these students were freshmen (189), and 40% were sophomores (127). These numbers were sufficient to allow adequate testing of each hypothesis. Table 1 provides a breakdown of these students by university and class.

Reliability of the Attitude Inventory

The reliability of the attitude inventory questionnaire was very high. The range of each corrected question with total correlation of the items was .66664 lowest and 0.9012 highest. There were 70 items (statements) on the questionnaire. The correlation between forms equaled 0.9502. The 70 items were split

Table 1. Number of Students Involved in Each Part of the Study, by University and Class.

University	# Taking Attitude Survey	# Taking Both Attitude Survey and AAHPERD Test
Fahd		
Freshman	102	100
Sophomore	87	64
Total	189	164
Faisal		
Freshman	89	89
Sophomore	79	63
Total	168	152
Universities Combined		
Freshman	191	189
Sophomore	166	127
Total	357	316

into two parts with 35 items each. The alpha for the first part equalled 0.9871 and the alpha for the second part equalled 0.9866. The reliability by using Guttman split-half equaled 0.9502.

The items were rearranged in this study by putting all positive statements together in one part (Part B) and

all negative statements together in the second part (Part C). This differed from the use of the inventory made by Ridha (1983), in which positive and negative items were mixed. In this study the reliability was very high (0.9502) compared to the reliability in Ridha's (1983) study.

Hypotheses

Hypothesis 1

The first hypothesis tested in this study was:

There is no positive relationship between attitude toward physical education and scores on the Health-Related Physical Fitness test among male freshmen and sophomores in King Faisal University and King Fahd University of Petroleum and Minerals.

In order to determine whether there was a correlation between Attitude toward physical education and scores on the Health-Related Physical Fitness Test, multiple regression was used.

Multiple regression was first used with Attitude being considered as the dependent variable and the four components of the Health-Related Physical Fitness Test being considered the independent variable. The four

components of the Health-Related Physical Fitness Test were:

1. Distance run in 12 minutes
2. Skinfold fat
3. Sit-up
4. Sit and reach

The following results were obtained from the statistical analysis:

Multiple R = 0.2240

R square = 0.0502

Adjusted R square = 0.0381

Standard error = 0.45191

The analysis of variance was as follows:

	<u>DF</u>	<u>Sum of Squares</u>	<u>Mean Square</u>
Regression	4	3.3780	0.8445
Residual	313	63.9206	0.2042
F = 4.1353		Signif = 0.0028	

These data show significance at the 0.05 level since $P = 0.0028$, which is less than 0.05. Thus the null hypothesis was rejected. There was, therefore, a correlation between Attitude toward physical education and scores on the Health-Related Physical Fitness Test among male

and sophomores tested in the two universities in Saudi Arabia.

A model for this correlation can also be developed. First, $\text{Attitude} = C + a_1x_1 + a_2x_2 + a_3x_3 + a_4x_4$, with the consideration of the control of all other variables. Thus the equation for the expected attitude value for this correlation is:

Attitude =

$$3.06556 + 0.0016 (\text{distance run}) + (0.0074) (\text{sit-ups}) + 0.0005 (\text{skinfold}) + 0.0004 (\text{sit and reach})$$

where

x_1 = distance run (in meters)

x_2 = sit-ups (number of times)

x_3 = skinfold (in millimeters)

x_4 = sit and reach (in centimeters)

or

$$\text{Attitude} = 3.68 + 0.157 \text{ PHYSFIT.}$$

It should be noted that identification of the dependent and independent variables is a matter of decision in analyses such as this. In the above analysis Attitude was considered to be the dependent variable. Insofar as Attitude is considered the dependent variable, then if it were of interest to change a subject's attitude toward physical education, a means for doing so would be

through the creation of positive experiences for the subject, especially with good teachers and programs. This process would likely further take into account the subject's health and his or her results in the Health-Related Physical Fitness Test would be relevant. In particular, it is important to make the subject aware of his or her gradual improvement in health physically, socially and emotionally, and this can be aided by means of administering the Health-Related Physical Fitness Test to the subject on several occasions as improvement is taking place. As the subject becomes aware of such gradual improvement it is to be expected that he or she will develop a more positive attitude toward physical education.

Conversely, a subject's health, as well as his or her performance in the Health-Related Physical Fitness Test, can be improved by means of engaging the subject in the proper physical exercise program and by instilling high motivation for performing exercises. Development of high motivation can in turn be aided by helping the subject to gain a more positive attitude toward physical education. In this way, the subject's attitude toward physical education can have an effect on his or her scoring on the Health-Related Physical Fitness Test.

On this same line, the Health-Related Physical Fitness Test, with its four components, could be

considered as the dependent variable, Attitude as the independent variable, and a statistical analysis done from that point of view. In the present study such an analysis was carried out in addition to the one discussed above.

This analysis led to the following results.

Multiple R = 0.1746

R square = 0.03051

Adjusted R square = 0.02744

Standard error = 0.5063

Analysis of Variance was as follows:

	<u>DF</u>	<u>Sum of Squares</u>	<u>Mean Square</u>
Regression	1	3.5489	2.5489
Residual	316	81.0006	0.2563
F = 9.9436 Signif, or P-value = 0.0018			

These data show significance at the 0.05 level since the P-value = 0.0018, which is less than or equal to 0.05. Thus again, on this analysis, the null hypothesis was rejected, and a correlation was again found between Attitude toward physical education and scores on the Health-Related Physical Fitness Test among male freshmen and sophomores in the two Saudi-Arabian universities dealt with in this study.

A model for this correlation can be developed as follows:

$$\text{PHYSFIT} = C + b_1 \text{ Attitude}$$

or

$$a_1x_1 + a_2x_2 + a_3x_3 + a_4x_4 = C + b_1 \text{ Attitude}$$

The equation for the expected value for PHYSFIT of this correlation is:

$$\text{PHYSFIT} = -0.715 + 0.195 \text{ Attitude.}$$

Figure 1, a regression chart of PHYSFIT on ATTITUDE which appears on the following page, presents the data points for this correlation.

Hypothesis 2

The second hypothesis tested in this study was:

There is no significant difference between King Faisal University male freshman and sophomore students and King Fahd University of Petroleum and Minerals male freshman and sophomore students in their attitudes toward physical education.

Table 2 below shows the results of the analysis which tested this hypothesis. Inspection of Table 2 shows that the means for the two universities are close to one another in their values (3.6726 and 3.6616). Because $F = 0.166$, the significance of F , or the P -value, $= 0.684$. This value, not being less than 0.05, shows that there was

Figure 1

Regression of PHYSFIT on ATTITUDE

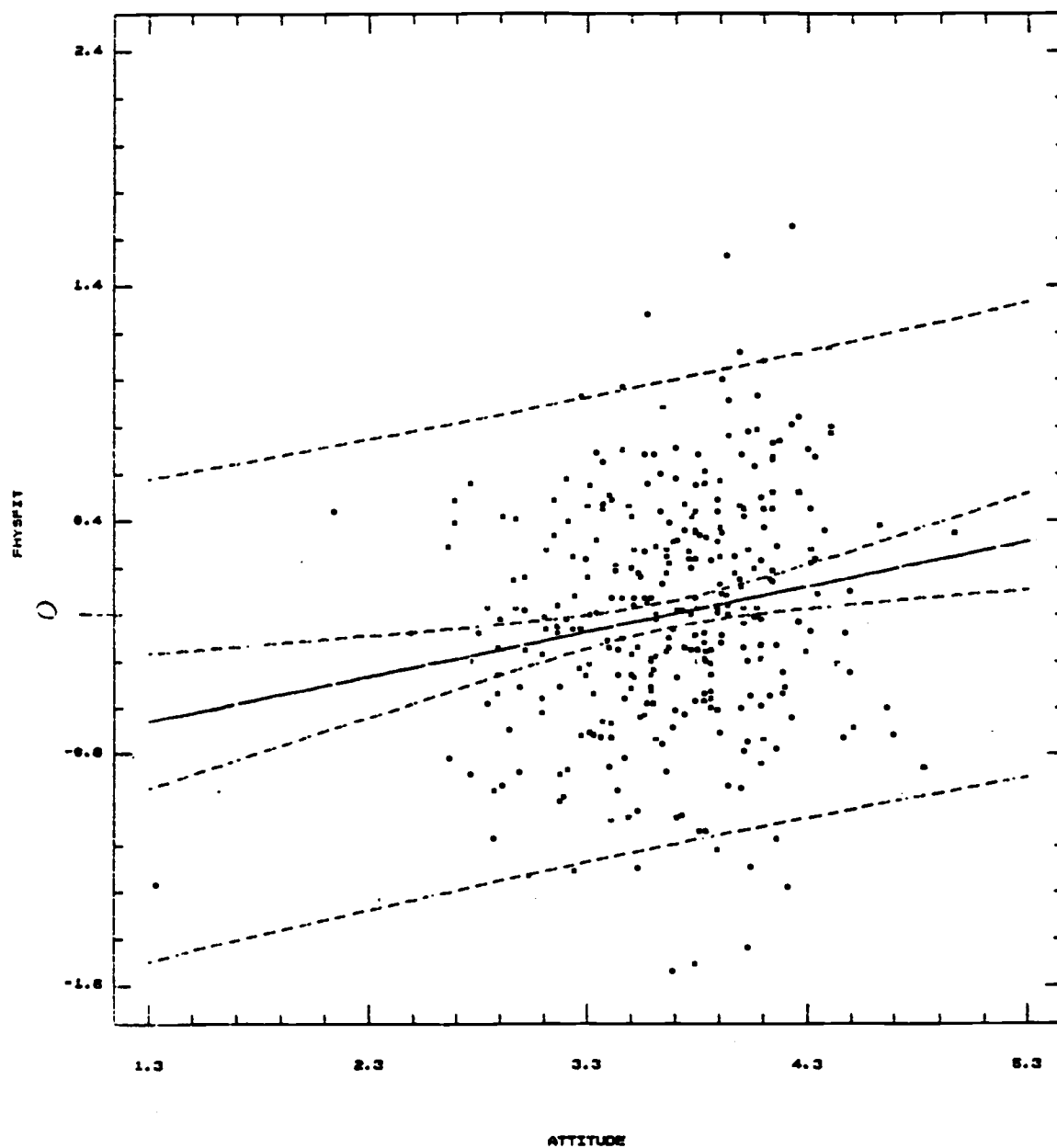


Table 2. Comparison of Attitudes of Students at the Two Universities.

University	Class	Mean	Std. Dev.	Cases
Fahd		3.672	0.5009	189
	Freshman	3.7286	0.3666	102
	Sophomore	3.6296	0.6186	87
Faisal		3.6616	0.4331	168
	Freshman	3.7770	0.3675	89
	Sophomore	3.5316	0.4658	79

no significant difference at the 0.05 level. Thus the null hypothesis must be retained. The results of these data indicate that there were no significant differences between students at the two universities in their attitudes toward physical education.

Hypothesis 3

The third hypothesis tested in this study was:

There is no significant difference between King Faisal University male freshman and sophomore students and King Fahd University of Petroleum and

Minerals male freshman and sophomore students on scores obtained from their Health-Related Physical Fitness tests.

This hypothesis was first tested with respect to each of the four components of the Health-Related Physical Fitness Test. The hypothesis was then tested with the MANOVA test, in which all four components were considered together.

Individual Tests:

The first component of the Health-Related Physical Fitness Test is the test for distance run in 12 minutes. Results for students from both universities are shown Table 3. Inspection of Table 3 shows that the average distance run in 12 minutes by students at King Fahd University was 2223.47 meters (2423.58 yards). This was considerably higher than the distance run by students at King Faisal University, which was 1963.29 meters (2139.98 yards).

Statistical analysis shows $F = 28.8278$ and the significance of F , or the P -value, $= 0.000$ for this component of the Health-Related Physical Fitness Test. Thus there was a significant difference at the 0.05 level between students at the two universities in the test for distance run in 12 minutes.

Table 3. Distance Run in 12 Minutes (in meters).

University	Mean	Std. Dev.	Cases
Fahd			
Freshman	2212.80	370.56	100
Sophomore	2240.16	387.47	64
Overall	2223.47	376.30	164
Faisal			
Freshman	1958.88	518.42	89
Sophomore	1969.52	423.02	63
Overall	1963.29	479.72	152
Combined			
Freshman	2093.23	462.88	189
Sophomore	2105.90	426.12	127
Overall	2098.32	447.82	316

The second component of the Health-Related Physical Fitness Test was the Skinfold Fat test. The results for both universities are shown in Table 4. Inspection shows that the skinfold fat measurements for the triceps and the subscapular for students at King Fahd University had a mean of 25.18 mm, which was lower than the figure of 27.40 mm obtained for students at King Faisal University.

Table 4. Skinfold Test (in mm)

University	Mean	Std. Dev.	Cases
Fahd			
Freshman	25.57	10.80	100
Sophomore	24.56	9.90	64
Overall	25.18	10.44	164
Faisal			
Freshman	27.20	10.38	89
Sophomore	27.69	8.14	63
Overall	27.40	9.49	152
Combined			
Freshman	26.34	10.60	189
Sophomore	26.11	9.18	127
Overall	26.25	10.04	316

Analysis of these data shows $F = 3.90$ and significance of F , or the P -value, $= 0.049$. Since P is less than 0.05 , there was a significant difference at the 0.05 level between students at the two universities for the two skinfold fat sites, the triceps and the subscapular.

The third component of the Health-Related Physical Fitness Test was sit-ups. Results for students at the two universities are shown in Table 5. Inspection shows that

Table 5. Sit-Ups (number completed).

University	Mean	Std. Dev.	Cases
Fahd			
Freshman	32.74	7.27	100
Sophomore	32.31	7.02	64
Overall	32.57	7.16	164
Faisal			
Freshman	36.32	9.06	89
Sophomore	31.55	7.69	63
Overall	34.35	8.82	152
Combined			
Freshman	34.42	8.34	189
Sophomore	31.94	7.34	127
Overall	33.43	8.04	316

students tested at King Faisal University averaged 34.35 sit-ups while those at King Fahd University averaged almost two full sit-ups less at 32.57.

Statistical analysis shows $F = 4.0310$, while the significance of F , or the P -value, = 0.046. This figure is less than 0.05, and thus is statistically significant at the 0.05 level. Therefore, there was a statistically significant difference in the results in the sit-up test

component of the Health-Related Physical Fitness Test between students at the two universities.

The final component of the Health-Related Physical Fitness Test was the sit and reach test. Table 6 shows the results for students from the two universities in this test, and inspection of the table shows that the results were very similar for the two sets of students. The average score for students tested at King Fahd University was 39.18 cm, while the average for students at King Faisal University was 39.84 cm.

Table 6. Sit and Reach Test (in cm).

University	Mean	Std. Dev.	Cases
Fahd			
Freshman	37.93	6.51	100
Sophomore	39.56	6.9	64
Overall	38.57	6.70	164
Faisal			
Freshman	40.03	7.30	89
Sophomore	39.57	5.76	63
Overall	39.84	6.69	152
Combined			
Freshman	39.92	6.96	189
Sophomore	39.57	6.35	127
Overall	39.18	6.71	316

Statistical analysis shows $F = 2.8498$, while the significance of F , or the P -value, $= 0.092$. This value of P is not below 0.05 , thus there was no significant difference in the scores of students in the two universities in the sit and reach test.

MANOVA Test:

The MANOVA test was used to determine whether there was a significant difference between students tested at the two universities in all four components of the Health-Related Physical Fitness Test taken together. The MANOVA yielded the result that the significance of F , or the P -value, $= 0.00$, and this was statistically significant at the 0.05 level. Thus the third hypothesis, that there was no statistically significant difference in the scores on the Health-Related Physical Fitness Test between students tested at the two universities, was rejected.

Hypothesis 4

The fourth hypothesis tested in this study was:

There is no significant difference between freshman male students and sophomore male students in King Faisal University in their attitudes toward physical education.

To test this hypothesis a t-test was performed on the data gathered from the attitude inventory instruments administered to students at King Faisal University. Results of the t-test are shown in Table 7.

Table 7. Results of t-test for Students at King Faisal University.

Class	Number	Mean	Standard Deviation	Standard Error
Freshman	89	3.7770	.368	.039
Sophomore	79	3.5316	.466	.052

Results showed a mean for freshman students (3.7770) that was higher than the mean for sophomore students (3.5316). To test whether there was a significant difference in the means of the two groups, the F-value was first determined: F-value = 1.61, 2-tail prob. = 0.031. A separate variance estimate showed the following:

t-value = 3.767

degrees of freedom = 147.97

2-tail prob. = 0.000

Since the t-value of 3.767 was greater than the F-value of 1.61, the null hypothesis was rejected. There was,

therefore, a significant difference between freshman male students and sophomore male students at King Faisal University in their attitudes toward physical education.

Hypothesis 5

The fifth hypothesis tested in this study was:

There is no significant difference between freshman male students and sophomore male students in King Fahd University of Petroleum and Minerals in their attitudes toward physical education.

The same procedure was used to test this hypothesis as was used for Hypothesis 4. A t-test was performed on the data gathered from the attitude inventory instruments administered to students at King Fahd University. Results of the t-test are shown in Table 8.

Table 8. Results of t-test for Students at King Fahd University.

Class	Number	Mean	Standard Deviation	Standard Error
Freshman	100	3.7286	.367	.037
Sophomore	87	3.6296	.619	.066

Results showed a mean for freshman students (3.7286) that was higher than the mean for sophomore students (3.6296). To test whether there was a significant difference in the means of the two groups, the F-value was determined: F-value = 3.85, 2-tail prob. = 0.000. A separate variance estimate showed the following:

t-value = 1.31

degrees of freedom = 135.58

2-tail prob. = 0.194

Since the t-value of 1.31 was less than the F-value of 3.85, the null hypothesis was retained. There was, therefore, no significant difference between freshman male students and sophomore male students at King Fahd University in their attitudes toward physical education.

Hypotheses 4 and 5 -- Total Sample

The total sample was also tested to determine whether there was a significant difference between freshman and sophomores students in scores on the attitude inventory instrument. A t-test was therefore performed on the data gathered from the attitude inventory instruments administered to students at both universities. Results of the t-test are shown in Table 9.

Table 9. Results of t-test for Students at Both Universities.

Class	Number	Mean	Standard Deviation	Standard Error
Freshman	189	3.7514	.367	.027
Sophomore	166	3.5830	.552	.043

Results showed an overall mean for freshman students (3.7514) that was higher than the overall mean for sophomore students (3.5830). To test whether there was a significant difference in the means of the two groups, the F-value was determined:

F-value = 2.26, 2-tail prob. = 0.000.

A separate variance estimate showed the following:

t-value = 3.34

degrees of freedom = 280.84

2-tail prob. = 0.001

Since the t-value of 3.34 was greater than the F-value of 2.26, the null hypothesis was rejected. There was, therefore, a significant difference between freshman male students and sophomore male students in the total sample in their attitudes toward physical education.

Comparison of Saudi and American Scores on the
Health-Related Physical Fitness Test

A comparison was made between the Saudi subjects used in this study and American college-age students with respect to scores on the Health-Related Physical Physical Fitness Test. The comparison was done for each of the four components of the Health-Related Physical Fitness Test.

Distance Run in 9 Minutes

The norm of U.S. results in the distance run test was recorded in terms of a run of 9 minutes duration and was measured in yards. For the sake of comparing results gained in the present study to the U.S. results, two conversions were made: (1) distance run in 12 minutes by the Saudis was multiplied by the factor of .750 in order to convert results into the closest possible equivalent distance for a 9-minute run; and (2) meters were converted to yards. Although the first conversion does not give fully accurate results, it serves to enable a general comparison to be made between the two groups. Table 10 shows the norms for the two groups after the conversions have been made. Figure 2 presents a graphic representation of the comparison. The results show clearly higher scores on distance run in 9 minutes for the American college students than for the Saudis tested in the present study.

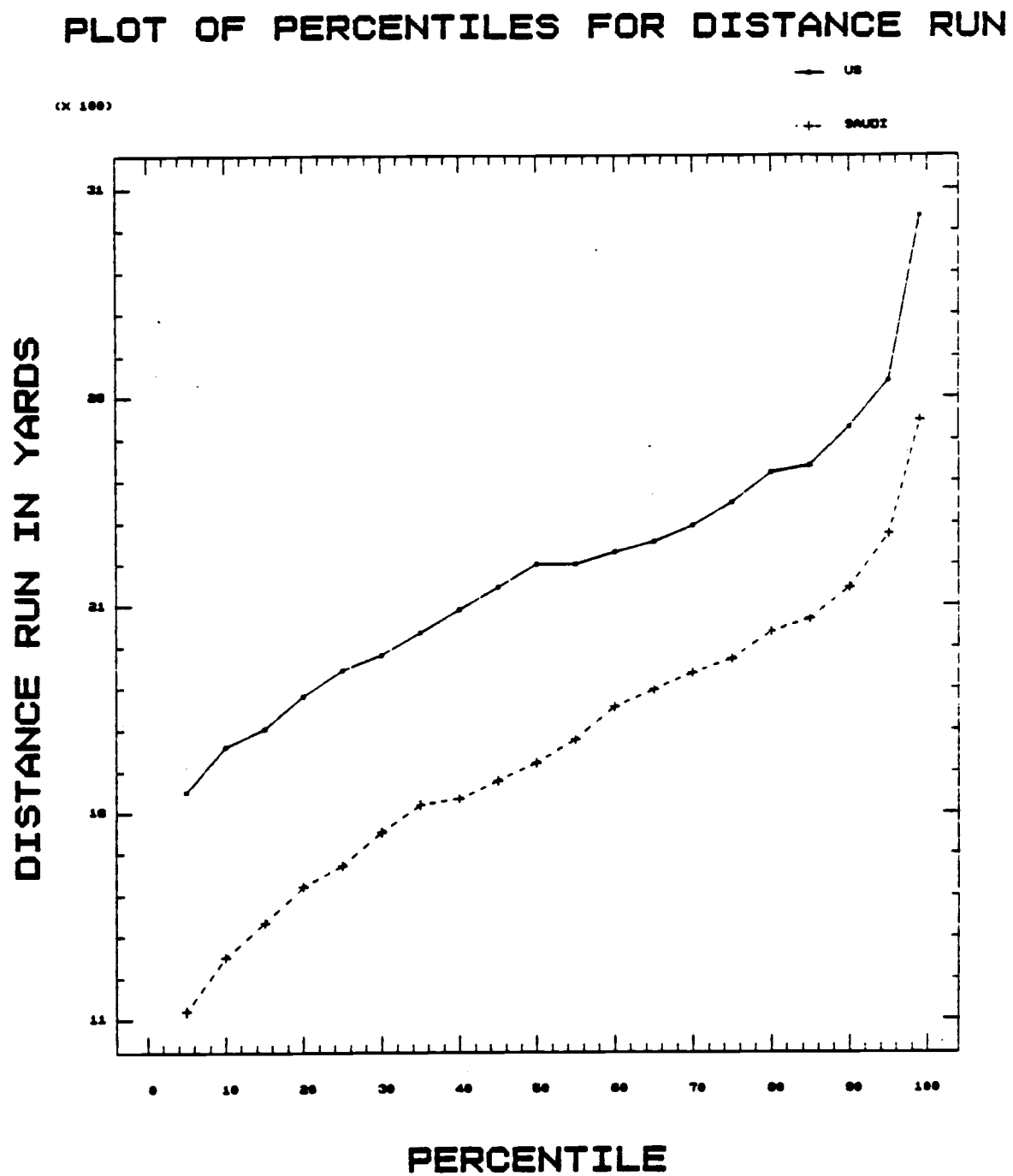
Table 10. Comparison of Scores of Saudi College Students and American College Students on Test of Distance Run in 9 minutes.

Percentile	Distance Run (meters)	
	Saudis* (age 17-25)	Americans** (age 18-21)
99	2544	2680
95	2273	2664
90	2142	2531
85	2068	2436
80	2037	2383
75	1970	2340
70	1937	2288
65	1897	2246
60	1856	2227
55	1778	2213
50	1721	2182
45	1680	2132
40	1635	2088
35	1619	2047
30	1553	2016
25	1472	1928
20	1421	1892
15	1333	1822
10	1250	1805
5	1120	1600

* From Health-Related Physical Fitness Test, this study.

** From The Health-Related Physical Fitness Test: Norms for U.S. College Students (AAHPERD, 1984c).

Figure 2



Skinfold Fat Measurement

Table 11 and Figure 3 show results of a comparison between the Saudi university students tested in this study and the norm for U.S. college students with respect to the

Table 11. Comparison of Results for Saudi College Students and American College Students on Skinfold Fat Measurements.

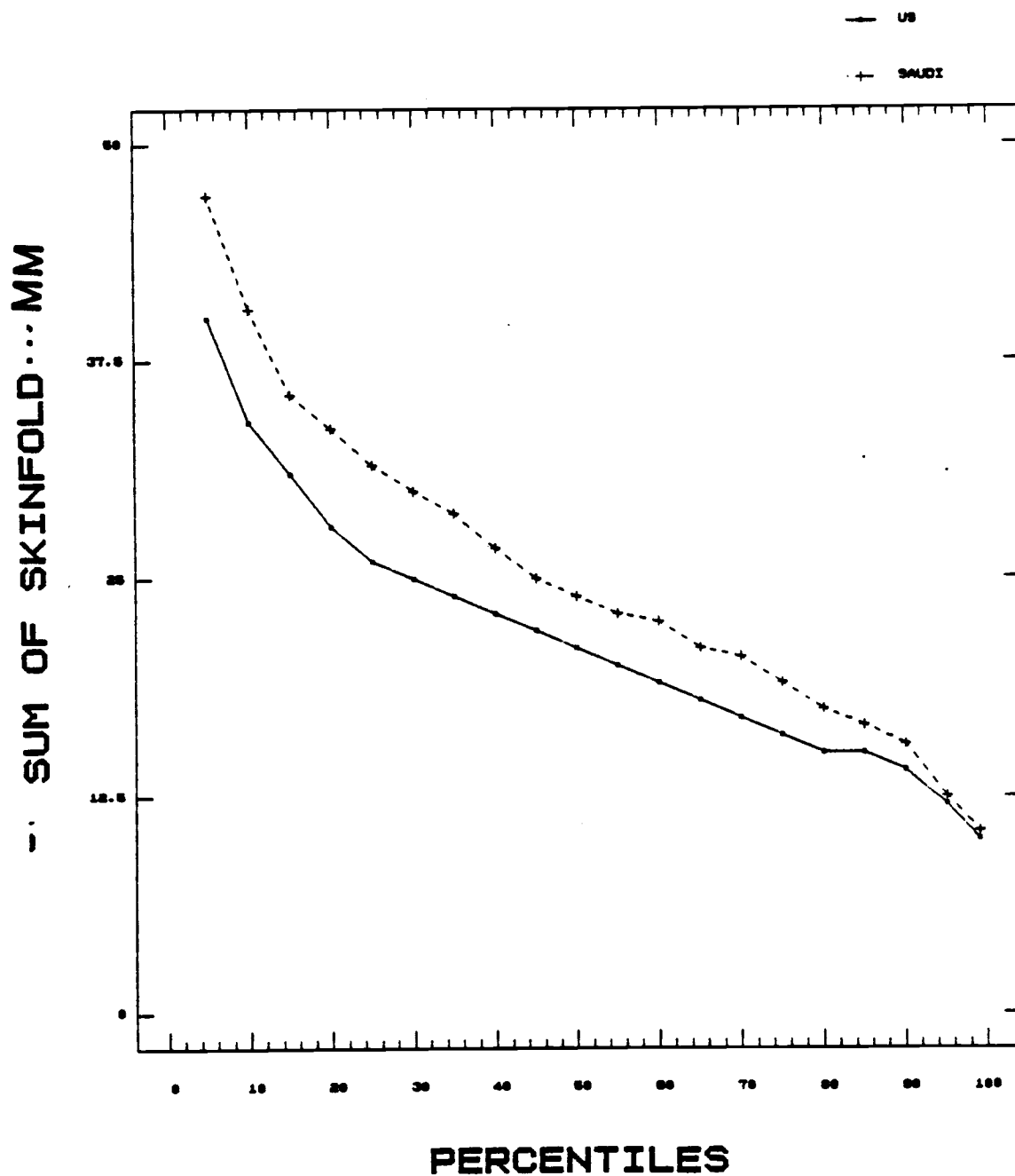
Percentile	Skinfold Fat (mm)	
	Saudis* (age 17-25)	Americans** (age 18-21)
99	12	8
95	12	13
90	15	14
85	16	15
80	17	16
75	19	17
70	20	18
65	21	18
60	22	19
55	23	20
50	24	21
45	25	22
40	27	23
35	29	24
30	30	25
25	31	26
20	34	28
15	36	30
10	40	33
5	47	39

* From Health-Related Physical Fitness Test, this study.

** From The Health-Related Physical Fitness Test: Norms for U.S. College Students (AAHPERD, 1984c).

Figure 3

PLOT OF PERCENTILES FOR SKINFOLD



skinfold fat measurement. The scores of the American students are again clearly better on this component of the Health-Related Physical Fitness Test than are those of the Saudi students tested in this study. This suggests that American college age male students have, generally speaking, less fat than do their Saudi counterparts.

Sit-ups

Table 12 and Figure 4 below show the results of a comparison between Saudi students tested in this study and American students with respect to number of sit-ups completed. Inspection of the table and the graph show that at all percentiles the Americans scored better than the Saudis on the sit-ups test.

Sit and Reach Test

Table 13 and Figure 5 show the results of a comparison between Saudi and American students on the sit and reach test. On this component of the Health-Related Physical Fitness Test the Saudi students who were tested in this study achieved higher scores at all percentile ranks than the norm for the American students.

Table 12. Comparison of Scores of Saudi College Students and American College Students on the Sit-ups Test.

Percentile	Sit-ups Completed	
	Saudis* (age 17-25)	Americans** (age 18-21)
99	57	68
95	47	59
90	44	56
85	41	54
80	40	52
75	38	50
70	37	49
65	36	48
60	35	46
55	34	45
50	33	44
45	32	43
40	32	42
35	30	41
30	29	40
25	28	39
20	27	37
15	26	35
10	24	34
5	21	30

* From Health-Related Physical Fitness Test, this study.

** From The Health-Related Physical Fitness Test: Norms for U.S. College Students (AAHPERD, 1984c).

Figure 4

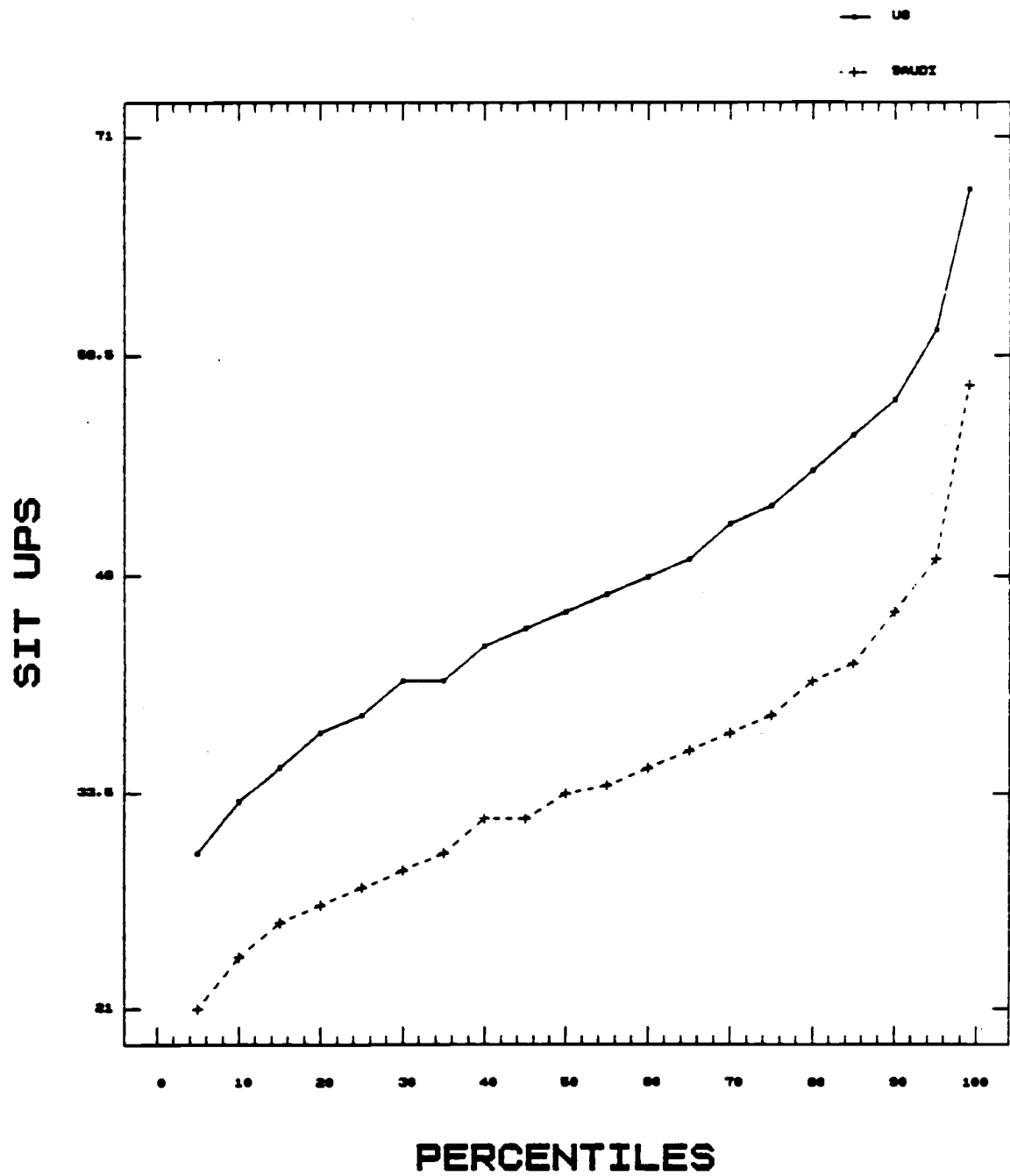
PLOT OF PERCENTILES FOR SIT-UPS

Table 13. Comparison of Scores of Saudi College Students and American College Students on the Sit and Reach Test.

Percentile	Distance Reached (cm)	
	Saudis* (age 17-25)	Americans** (age 18-21)
99	50	50
95	49	45
90	48	42
85	47	41
80	45	40
75	44	39
70	43	38
65	42	37
60	42	36
55	41	35
50	40	34
45	39	33
40	38	32
35	37	31
30	36	30
25	35	28
20	34	27
15	32	25
10	30	23
5	28	19

* From Health-Related Physical Fitness Test, this study.

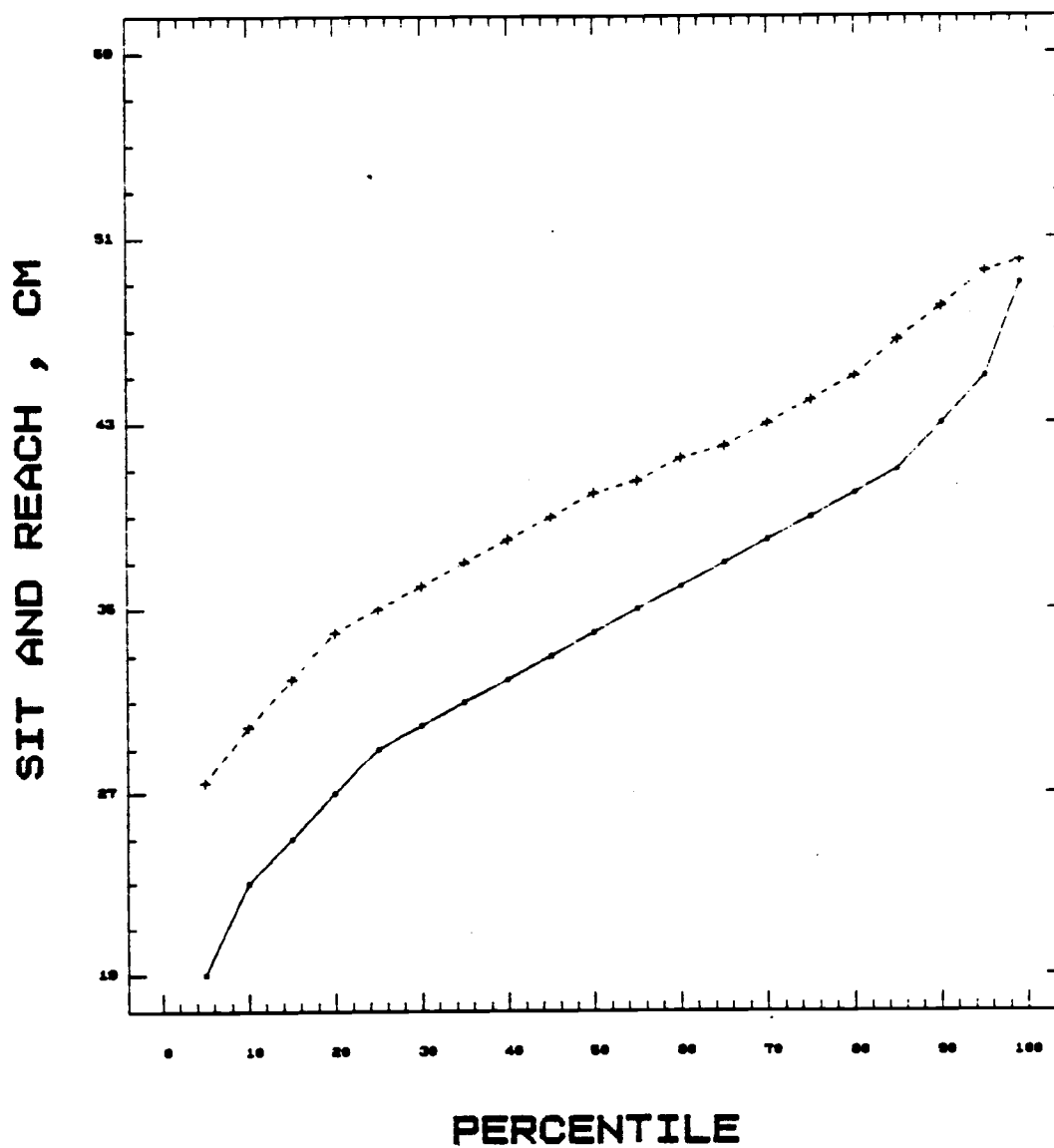
** From The Health-Related Physical Fitness Test: Norms for U.S. College Students (AAHPERD, 1984c).

Figure 5

PLOT OF PERCENTILES FOR SIT AND REACH

— US

+ SAUDI



Overall Comparison

Overall, the American students scored better in three parts of the Health-Related Physical Fitness Test: (1) Distance run in 9 minutes, (2) Skinfold fat measurement, and (3) Sit-ups. It is likely that the Americans scored better in these three parts of the test because, generally speaking, the American students exercise more often than do the Saudi students.

However, the Saudi students scored better in the sit and reach portion of the test. Three reasons for the better scores of the Saudis in this part can be suggested. First, it may be that this particular flexibility exercise is given more emphasis in Saudi physical education than it is in American physical education. Second, soccer, which is the main sport in Saudi Arabia, may greatly add to the kind of flexibility which is required in the sit and reach test. Third, the movements required by Muslim prayer can be expected to promote the kind of flexibility required in the sit and reach test.

Comparison of King Fahd Sophomores in the Present Study with Those in Rhida's (1983) Study with Respect to Attitude

A comparison of the attitudes toward physical education of sophomores at King Fahd University who were tested in the present study with the attitudes of King

Fahd sophomores who were tested in Ridha's (1983) study shows the following results:

1983	1988
$\bar{X} = 254.0720$	$\bar{X} = 255.507$
SD = 43.330	SD = 23.807
n = 87	n = 69

The means for the two groups are very close. For the 1983 students the mean equals 3.6501. For the 1988 students the mean equals 3.6296.

A 'Pseudo' t-test comparison gives the following results:

$$t = \frac{(254.0720 - 255.507)}{\frac{1877.49}{87} + \frac{566.77}{69}} = -0.26$$

To find the significance of this pseudo t-statistic:

$$t_1 = t_{.05(86)} = 1.98 \quad t_2 = t_{.05(68)} = 1.99.$$

Statistical tables show that the critical value is 1.98, and there was no significant difference between the two means. Therefore, there was no significant difference between King Fahd University sophomore students tested in the present study and those tested in Rhida's (1983) study with respect to attitude toward physical education.

Student Demographics

Age of Students

Part A of the attitude measurement instrument included several biographical questions, including the student's age. Ages of students tested ranged from 17 to 25. The subjects belonged to one of two major categories: age 20 years and below, and greater than 20 years of age. Table 14 presents a breakdown of student age according to these two categories by university and class.

Table 14. Ages of Students Involved in the Study,
by University and Class.

University	# 20 Years and Under	# Over 20 Years	# Combined
Fahd			
Freshman	62	40	102
Sophomore	21	66	87
Total	83	106	189
Faisal			
Freshman	58	31	89
Sophomore	23	56	79
Total	81	87	168
Universities Combined			
Freshman	120	71	191
Sophomore	44	122	166
Total	164	193	357

Students 20 years old or less comprised 45.90% of the population tested, while those more than 20 years old comprised 54.10%. The average age of the students tested at King Fahd University was higher than those at King Faisal University: 56.18% were more than 20 years of age at King Fahd University and 51.78% were more than 20 years of age at King Faisal University. Students who attend King Fahd University are required to spend one year after high school graduation in preparation for attendance at the university.

Game Preferences of Students

Question seven of the biographical section of the attitude survey provided students two spaces to enter sports that they preferred to play. The students' responses were classified into group games and individual games. Therefore, there were three possibilities for each student: 1) preference indicated for group games only; 2) preference indicated for individual games only; and 3) preference indicated for one of each. Table 15 provides the percentages for each of these, broken down by university and class.

The percentage of students indicating one of each type of game was highest, at 47.89%. Those who indicated group games only comprised 32.77% of the students. Those who indicated individual games only comprised 19.32%. The

percentage of students at King Fahd University who indicated a preference for only individual games was much higher than at King Faisal University.

Table 15. Game Preferences of Students,
by University and Class.

University	Group Games	Individual Games	Both Types of Games
----- # of students -----			
Fahd			
Freshman	30	24	48
Sophomore	20	30	37
Total	50	54	85
Faisal			
Freshman	35	5	49
Sophomore	32	10	37
Total	67	15	86
Universities Combined			
Freshman	65	29	97
Sophomore	52	40	74
Total	117	69	171

Time Spent Exercising by Students

Question 8 in the biographical information section asked students how many hours per week they spent exercising. There were three possible answers: 1) less than three hours weekly; 2) three to six hours weekly; and 3) more than six hours weekly. Table 16 presents a breakdown of the answers by university and class.

Table 16. Weekly Hours Spent Exercising by Students, by University and Class.

University	Less Than 3 Hours	3 to 6 Hours	More Than 6 Hours
	----- # of students -----		
Fahd			
Freshman	76	22	4
Sophomore	56	27	4
Total	132	49	8
Faisal			
Freshman	58	26	5
Sophomore	53	17	9
Total	111	43	14
Universities Combined			
Freshman	134	48	9
Sophomore	109	44	13
Total	243	92	22

Of the subjects, 68.06% responded that they exercised less than three hours weekly, 25.77% responded that they exercised from three to six hours weekly, and only 6.16% of the subjects responded that they exercised more than six hours weekly. At King Fahd University this figure was even lower, at 4.23% (compared to 8.33% at King Faisal University). These results suggest that physical exercise plays only a small role in the lives of many male university students in Saudi Arabia.

Student Preference for Watching or Playing

The last statement in the biographical questionnaire was concerned with whether the students preferred to watch games or to spend their time engaged in sports themselves. Table 17 presents a breakdown of the answers to this question by university and class.

Students who preferred to spend their time engaged in playing sports comprised 63.33% of the subjects tested, while 36.69% preferred to watch games. Approximately 2/3 of the subjects tested indicated a preference for engaging in physical activity rather than just watching, which indicated that a high proportion of male university-level students in Saudi Arabia enjoy playing sports.

Table 17. Preference of Students for Watching or
Playing Games, by University and Class.

University	# Preferring Watching Games	# Preferring Playing Games
Fahd		
Freshman	31	71
Sophomore	26	61
Total	57	132
Faisal		
Freshman	35	54
Sophomore	39	40
Total	74	94
Universities Combined		
Freshman	66	125
Sophomore	65	101
Total	131	226

CHAPTER V

DISCUSSION AND RECOMMENDATIONS

This chapter is divided into five sections. The first section gives a summary of the study, including an overview of purposes and objectives, the review of literature, and methods and procedures used. The second section discusses the results of the investigation. The third section provides conclusions drawn from the study. The final two sections present recommendations. The first of these provides several recommendations aimed specifically at the universities involved in the study; the second lists general recommendations arising from the research.

Summary

Purposes and Objectives

This study had two main purposes. The first was to measure the attitude toward physical education among male freshman and sophomore students at two universities in Saudi Arabia. The second purpose was to administer the Health-Related Physical Fitness Test to those students and to determine their scores on the test. The Health-Related Physical Fitness Test was developed by the American Alliance for Health and contains four components:

1) distance run in 12 minutes, 2) skinfold fat measurement, 3) sit-ups completed, and 4) sit and reach measurement.

There were two major objectives for this study. The first objective was to determine whether there was a correlation within the sample population between attitude toward physical fitness and scores on the Health-Related Physical Fitness Test. The second objective was to compare students from the two universities with respect to their attitude toward physical education and their performance on the Health-Related Physical Fitness Test. In addition, freshman and sophomore students within each university were compared with respect to their attitudes toward physical education.

Review of Literature

Four topics were covered in the Review of Literature. These were: 1) Physical Education in Saudi Arabia, 2) Attitude, 3) the Health-Related Physical Fitness Test, and 4) the relation of attitude toward physical education to health and fitness.

Physical Education in Saudi Arabia

A historical overview of physical education in Saudi Arabia showed that the people of Saudi Arabia have historically held a positive ideology concerning health

and fitness. As a result, physical exercise has been considered a value which should be practiced along with spiritual values, and this outlook continues up to the present day.

During the modern period great advances in education have been made in Saudi Arabia, and this has included progress in physical education and sports. The efforts of the government in physical education have been strongest in the period from 1952 to the present, and these are the years where the most rapid progress has been made in this field.

The government has different goals for different ages and levels, ranging from elementary schools to the universities. Although the two universities that this study was concerned with have different physical education programs for their students, they have similar goals.

Attitude

Attitude is the second major topic related to this study. The term "attitude" is widely applied, yet it is difficult to focus on its meaning within the confines of a simple definition.

A number of definitions of the term were entertained in the Review of Literature, with different authors emphasizing different aspects of attitude. However, a close consensus was reached by several of the authors who

held that attitude has three components: cognitive, affective and behavioral. Since attitude is a complex of these three, it can be changed by changing any of its components.

The Health-Related Physical Fitness Test

The Health-Related Physical Fitness Test is the third topic related to this study. This test consists of four items, as outlined above. These four items are highly correlated with individual health. Distance run has a close relationship to cardiorespiratory fitness. The skinfold fat measurement determines obesity, which in turn is related to manifestations of coronary heart disease, hypertension, diabetes, and other diseases. Both sit-ups and the sit and reach test have a relationship to low back pain and tension.

Relation of Physical Education to Fitness and Health

The relation of physical education to fitness and health is also a major concern for this study. There are two types of benefits of regular exercise: 1) physical health benefits, and 2) mental and social benefits. The overall advantage of physical education is the prevention of disease, and this is a benefit not only to the individual but to the society.

Procedures

Measurements for this study were made by means of two instruments: 1) a questionnaire which surveyed the attitude toward physical education of the participants in the study; and 2) the Health-Related Physical Fitness Test, which is composed of four fitness tests administered to the participants. Subjects were randomly selected from male freshman and sophomore students at two universities in Saudi Arabia. A total of 357 students completed the first instrument, the attitude survey, and 316 of these also completed the second instrument, the Health-Related Physical Fitness Test.

Statistical analysis of the results used multiple regression to determine the correlation between the two instruments. For the first instrument ANOVA was used to determine if there were significant differences between the two universities and between the two grades within each university, and MANOVA was used for the second instrument.

Discussion

Results of the study provide several issues that deserve further discussion. These fall into five areas which are discussed below.

Biographical Questions

Several biographical questions were included in the attitude survey, and answers to one of these indicated that over 60% of the students preferred to engage in physical exercise as opposed to watching games. This result suggests a generally positive attitude toward engaging in physical education activities among the students surveyed.

However, the biographical questions also indicated that relatively few of the students (6.16%) spent more than 6 hours weekly in exercise. This result suggests that physical exercise plays only a small role in the lives of many male university students in Saudi Arabia. It may further indicate the need for improved physical education programs in both universities and, in general, the need for a renewed emphasis on physical education among university level students in Saudi Arabia.

Moreover, it is worth considering the two results together. The fact that the great majority of the students tested spent an average of less than one hour per day in physical exercise, yet over 60% of the same population preferred actively engaging in physical exercise to watching sports, indicates that in many cases factors other than attitude hinder students from exercising. These factors can be expected to vary from individual to individual; however, there are likely some

common factors which may contribute to the problem, including the facilities available to students at the two universities, the quality of teaching and coaching, the types of games which are played, and, in general, the overall physical education program. These are factors which are largely controllable by the two universities, and the fact that nearly 2/3 of the subjects tested indicated a preference for actively engaging in physical activity rather than passively watching, suggests that creative and well thought out physical education programs at the university level will find many enthusiastic participants.

It is also notable that the proportion of students who preferred playing to watching sports was much higher at King Fahd University (69.8%) than at King Faisal University (55.9%). These results may indicate a difference in the effectiveness of the physical education programs at the two universities.

Answers to the biographical questions also showed that the percentage of students at King Fahd University who indicated a preference for playing individual games only was much higher (28.6%) than at King Faisal University (8.9%). Further investigation of these results might provide useful information to assist the respective universities in developing their physical education programs.

Reliability of the Attitude Instrument

In this study the reliability of the attitude instrument, which was in Arabic language, was very high. Reliability equalled 0.95, whereas the reliability in Rhida's (1983) study, which used the same attitude instrument, also in Arabic language, was 0.85. The reliability for the original instrument in English was 0.94 for the MacDonald component (1970) and 0.96 for the Wear component (1951). The average of these two, 0.95, was the same as the reliability found in the present study.

The main reason the instrument had higher reliability in the present study than in Ridha's (1983) study was the reorganization of the items of the questionnaire by positive statements and negative statements. In the original English forms and in Rhida's (1983) study the positive and negative statements were mixed randomly, whereas in the present study all positive statements appeared together in Part B of the attitude survey, and all negative statements appeared together in Part C.

Correlation between the Two Instruments

This study found a correlation between attitude toward physical education and scores on the Health-Related Physical Fitness Test among students tested at the two

universities. The correlation, however, is considered to be weak.

In general, the relationship between a subject's attitude on any specific issue and his or her readiness to act according to that attitude is a very important one. Research on the correlation between attitude and actions which express attitude can assist investigators to develop models for the relationship. Such models could provide equations through which expected level of action can be determined based upon measurements of the subject's attitude toward a specific issue. The importance of this relationship goes beyond physical education and includes many other issues of importance to educators. For example, individuals' attitudes toward cheating or drug usage have an effect on actions of those individuals. For this reason, if students are allowed to express their attitudes on such matters without fear of failure or punishment, the information can be of value in prediction of probable behavior and in designing programs to alter both attitude and actions.

Comparison of Student Attitudes at the Two Universities

This study found no significant difference in attitude toward physical education between students at the two universities. The students of both universities had positive attitudes toward physical education.

However, it was found that freshman students had, overall, a more positive attitude than sophomore students. Several factors other than the physical education programs at the universities can be identified as contributing to this difference between classes. Class load and the greater level of difficulty of sophomore classes may result in a more difficult schedule for sophomores compared to freshmen. Sophomores may therefore be kept busier, with less time to engage in physical exercise. This would be expected to also lessen the perceived importance of physical education among those students.

Comparison of Scores on the Health-Related Physical Fitness Test of Students at the Two Universities

Comparison of scores in the Health-Related Physical Fitness Test between students at the two universities led to mixed results. King Fahd University students scored higher in distance run in 12 minutes and lower in the skinfold fat measurement than King Faisal University students. Students from the two universities scored closely in both the sit-up and sit and reach tests.

However, overall, King Fahd University students had somewhat better results in the Health-Related Physical Fitness Test than King Faisal students. A reason for this difference may be that students at King Fahd University are required to take more physical education classes than

those at King Faisal University. King Fahd students must complete two credits of physical education in their preparation year and four additional credits of physical education through completion of their B.S. degree. King Faisal students are required to complete only one credit of physical education in pursuance of their B.S. degree.

Conclusions

Several conclusions can be drawn on the basis of results of this study. These are outlined below.

1. More than 60% of the students tested preferred to spend their time actively participating in exercises and playing games rather than passively watching games. However, only 6.16% of the students exercised more than six hours weekly.
2. The reliability of the attitude survey was very high, equalling 0.95.
3. There was a correlation between attitude toward physical education and the Health-Related Physical Fitness Test among the sample population.
4. There was no significant difference between students at the two universities in their attitude toward physical education.

5. There was a significant difference between students at the two universities in their Health-Related Physical Fitness Tests.
6. There was no significant difference between freshman and sophomore students at King Fahd University in their attitude toward physical education.
7. There was a significant difference between freshman and sophomore students at King Faisal University in their attitude toward physical education.
8. There was a significant difference between freshman and sophomore students at both universities combined in their attitude toward physical education.
9. There was no significant difference in attitude toward physical education between sophomore students at King Fahd University who were tested in 1983 (Ridha, 1983) and sophomore students from the same university who were tested in the present study.
10. There were significant differences between the results of Saudi college students tested in this study and the norms of American college students in the Health-Related Physical Fitness Test. The American students scored better in distance in 9 minutes run, sit-ups, and skinfold measurement, while the Saudi students scored better in the sit and reach test.

Specific Recommendations

There are several specific recommendations for the two universities involved in this study. These are outlined below.

1. Those students who scored less than average in the Health-Related Physical Fitness Test should be given special attention by the physical education departments at the two universities in order to get them more involved in physical activities. This is indicated by their below-average scores, which show the need for an increased level of exercise.
2. Research should be undertaken at the two universities to determine reasons contributing to negative attitudes of some students toward physical education; results of that research should be used to attempt to improve student attitudes through curricular changes.
3. The universities should seek to determine reasons why well over 90% of the students tested exercised less than 6 hours weekly although over 60% of the same students prefer exercising and playing sports to watching games. Although there may be social or cultural influences involved in this discrepancy, more immediate and more easily controllable factors, such as facilities, teachers, and overall physical education program may also be involved.

4. Physical education programs at the two universities should include both group and individual games in order to match the preferences of all students and instill the widest enjoyment and enthusiasm for physical education among the students.
5. It is important for those responsible for physical education programs at the two universities to determine student levels in both attitude and health-related physical fitness. The universities should consider using the expectation equation developed in this study to help predict Health-Related Physical Fitness Test measurements for their students on the basis of the students' attitudes toward physical education. By doing so, the universities could further test the equation. If the model of this study and the expectation equation were further verified, they could be extended to the entire student population.
6. Since the scores of King Faisal University students on the Health-Related Physical Fitness Test were lower than those of King Fahd University students, King Faisal University should require more than one credit of physical education. This greater amount of required physical exercise can be expected to increase health-related physical fitness among King Faisal students.

7. Since sophomore students scored lower in their attitude toward physical education than freshmen, and since physical exercise is a necessity for good health, it is recommended that the programs in these two universities take steps to maintain and increase the positive attitude toward physical education at all class levels.
8. King Faisal University should take steps to determine why a substantially lower percentage of their tested students, compared to King Fahd tested students, preferred active participation in games over watching games.

General Recommendations

As a result of this study several recommendations not aimed specifically at the universities involved can also be made. These general recommendations are presented below.

1. It is strongly recommended that this study be repeated.
2. It is also recommended that a similar study be done on a wider scale by increasing the number of universities involved and/or by including grades other than freshman and sophomore.

3. It is recommended that individuals responsible for health and physical education in Saudi Arabia give greater attention to the health of all Saudis and to the college population specifically. The importance of this is indicated by comparison of results of Saudis and Americans on the Health-Related Physical Fitness Test. This comparison showed considerably lower scores for the Saudis tested in the distance run, sit-up and skinfold fat tests, all of which are highly correlated with the health of individuals.

REFERENCES

- Allport, G.W. (1950). The nature of personality: Selected papers. Cambridge, MA: Addison-Wesley, 1950.
- American Alliance for Health, Physical Education, Recreation, and Dance. (1984a). Technical manual. Reston, VA.
- American Alliance for Health, Physical Education, Recreation, and Dance. (1984b). Test manual. Reston, VA.
- American Alliance for Health, Physical Education, Recreation, and Dance. (1984c). The Health Related Physical Fitness Test: Norms for U.S. College Students. Reston, VA.
- Annarino, A.A. (1978). Operational taxonomy for physical education objectives. Journal of Physical Education and Recreation 49(1), 54-55.
- Bain, L.L. (1980). Socialization into the role of participant: Physical education's ultimate goal. Journal of Physical Education and Recreation, 51(7), 48-50.
- Bruvold, W.H. (1970). Are beliefs and behavior consistent with attitudes? A preliminary restatement and some evidence from a survey research project. Paper presented at the meeting of the Western Psychological Association, Los Angeles, April 1970.
- Bucher, C.A. (1968). Foundations of physical education, 5th ed. St. Louis: C.V. Mosby Co.
- Bucher, C.A., & Koenig, G.R. (1983). Methods and materials for secondary school physical education. St. Louis: G.V. Mosby.
- Burris, B. (1970). Reliability and validity of twelve minute run test for college women. Paper presented at AAHPERD Convention, Seattle, WA.
- Clark, H.H. (1976). Application of measurement to health and physical education. 5th ed. Englewood Cliffs, NJ: Prentice-Hall.
- Corbin, G.B., Dowell, L.J., Lindsey, R., and Tolson, H. (1981). Concepts in physical education. Dubuque: Wm. G. Brown.

- Directorate General of Youth Guidance, Ministry of Labour and Social Affairs, Kingdom of Saudi Arabia. (1972). Glimpses of the sports movement in the Kingdom of Saudi Arabia.
- Falls, H.B. (1980). Modern concepts of physical fitness. Journal of Physical Education and Recreation.
- Feldman, R. (1985). Social psychology: Theories, research, and applications.
- Fishbein, M. (Ed.). (1967). Readings in attitude theory and measurement. New York: John Wiley and Sons.
- Flint, M.M. (1965). An electromyographic comparison of the function of the iliacus and the rectus abdominus muscles. Journal of the American Physical Therapy Association, 45, 132-135.
- Freedman, J.L., Carlsmith, J.M., & Sears, D.O. (1974). Social psychology (2nd ed.). Englewood Cliffs, N.J.: Prentice-Hall.
- Godfrey, K.E., L.E. Kindig, & E.J. Windell. (1977). Electromyographic study of duration of muscle activity in sit-up variations. Archives of Physical Medicine and Rehabilitation, 58, 132-135.
- Greenwald, A.G. (1968). On defining attitude and attitude theory. In A.G. Greenwald, T.C. Brock, & T.M. Ostrom (Eds.), Psychological foundations of attitudes. New York: Academic Press.
- Huyette, S. (1985). Political adaptation in Saudi Arabia. Boulder, CO: Westview Press.
- Katz, D., & Stotland, E. (1959). A preliminary statement to a theory of attitude, structure and change. In S. Koch (Ed.), Psychology: A study of a science. Vol. 3. New York: McGraw-Hill. Pp. 423-475.
- Kenyon, G.S. (1968). A conceptual model for characterizing physical activity. Research Quarterly, 39, 96-105.
- Likert, R. (1982). A technique for the measurement of attitudes. Archives of Psychology, 140, 5-43.
- MacDonald, G. (1970). The development of an instrument for determining attitude toward physical recreation of freshman college men of selected institutions.

- Unpublished Ph.D. dissertation, State University of New York at Buffalo, Buffalo, NY.
- Martens, R. (1975). Social psychology and physical activity. New York: Harper and Row.
- Murphy, G., & Murphy, L.B. (1931). Experimental social psychology. New York: Harper and Brothers.
- Oliver, E.E. (1987). Saudi Arabia. World Education Series.
- Pollock, M.L. (1976). Prediction of body density in young and middle-aged men. Journal of Applied Physiology 40:300-04.
- Pollock, M.L. (1975). Prediction of body density in young and middle-aged women. Journal of Applied Physiology 38:745-49.
- Pollock, W., & S.M. Fox. (1978). Health and fitness through physical activity. New York: John Wiley and Sons.
- Rajecki, D.W. (1982). Attitudes, themes and advances, 1st ed. Sunderland, Mass.: Sinauer Associates.
- Ridha, Mohammad Abu-Saleh. (1983). Students' attitudes toward physical education as a required course at the University of Petroleum and Minerals in Dhahran, Saudi Arabia. Unpublished Ph.D. dissertation, University of Oregon, Eugene, OR.
- Roleach, M. (1968). A theory of Organization and chances. San Francisco: Jersey Bass, Inc.
- Scheffel, V.L. (1977). The attitude of seventh-day adventists toward competitive sports in seventh-Day adventist academies. Unpublished doctoral dissertation, Springfield College, Springfield, MA.
- Siedentop, D., and Siedentop, B. (1985). Daily physical education in Australia. Physical Education, Recreation and Dance, 56, 41-43; reprinted in Journal of Physical Education, 45(2) (Spring 1988).
- Symonette, P.L. (1983). Assessment of the physical fitness of Bahamian youth ages 13 thorough 17 years and their attitudes toward physical education. Unpublished master's thesis, Howard University, Washington, D.C.

University of Petroleum and Minerals, Office of Public Relations. (1985). Undergraduate bulletin. Dhahran, Saudi Arabia.

Wear, Carlos L. (1951a). The evaluation of attitude toward physical education as an activity course. The Research Quarterly, 26, 113-119.

Wear, Carlos L. (1951b). The evaluation of attitude toward physical education as an activity course. The Research Quarterly, 26, 113-119.

Werner, P., & Durham, R. (1988). Health related fitness benefits in upper elementary school children in a daily physical education program. Journal of Physical Education, 45, 2.

Zeigler, E.F. (1982). Physical education -- dead, quiescent, or undergoing modification. Journal of Physical Education, 41(4).

APPENDICES

APPENDIX A
ENGLISH VERSION OF THE INSTRUMENT

This questionnaire contains three parts.

Part A consists of nine questions about yourself and your ideas about physical education. For each of these questions please fill in your answer or put a check mark () in the space provided.

Parts B and C consist of a total of 70 statements. You are to indicate your opinion about each statement by putting a check mark () in one of the spaces provided underneath the statement. The five choices for each statement are:

Strongly Agree

Agree

No Opinion

Disagree

Strongly Disagree

Part A

This part of the questionnaire has nine questions about yourself and your ideas about physical education. For each of these questions please fill in your answer or put a check mark () in the space provided.

1. Your Name (optional) _____
2. Your Number _____
3. Your Age _____
4. Are you a Freshman () or Sophomore () ?
5. What is your college _____?
6. What is your major _____?
7. What sports do you most like to play?
1) _____ 2) _____
8. How many hours do you practice each week?
 - a. less than 3 hours ()
 - b. between 3 hours and 6 hours ()
 - c. more than 6 hours ()
9. What do you like to do more?
 - a. watch games ()
 - b. play sports yourself ()

Part B

Part B consists of 33 positive statements about physical education. You are to indicate how much you agree or disagree with each statement by putting a check mark () in one of the spaces provided underneath the statement.

The five choices for each statement are:

Strongly Agree

Agree

No Opinion

Disagree

Strongly Disagree

1. The ability to see, accept, and meet social responsibility is developed through physical education activities.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

2. Participation in active games and sports makes for a more wholesome approach to life's problems.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

3. Engaging in physical education activities is helpful for mature personality development.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

4. Physical education experiences help to establish worthwhile social standards.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

5. A sense of "fair play" can be developed in physical education activities.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

6. Participation in physical education results in greater self-respect.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

7. Participation in physical education activities leads one to become interested in the practice of good health habits.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

8. The opportunities which physical education participation opens for meeting other people may be among its major benefits.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

9. Self-confidence can be an outcome of participation in physical education.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

10. Physical education activities provide situations for the formation of attitudes which will make one a mature person.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

11. Most of my leisure time is spent in physical education activities.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

12. Physical activity rates high in my scale of values.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

13. Associations in physical education activities give people a better understanding of each other.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

14. Engaging in vigorous physical activity gets one interested in practicing in good health habits.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

15. Physical education is one of the most important subjects in helping to establish and maintain desirable social standards.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

16. Vigorous physical activity works off harmful emotional tensions.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

17. Participation in physical education activities tends to make one a more socially desirable person.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

18. Physical education in schools does not receive the emphasis that it should.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

19. Because physical skills loom large in importance in youth it is essential that a person be helped to acquire and improve such skills.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

20. Calisthenics taken regularly are good for one's general health.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

21. It is possible to make physical education a valuable subject by proper selection of activities.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

22. Developing a physical skill brings mental relaxation and relief.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

23. Association with others in some physical education activity is fun.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

24. Physical education classes provide situations for the formation of attitudes which will make one a better citizen.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

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

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

26. Physical education is an important subject in helping a person gain and maintain all-round good health.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

27. Physical education skills make worthwhile contributions to the enrichment of living.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

28. Engaging in group physical education activities is desirable for proper personality development.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

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

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

30. Physical education makes a valuable contribution toward building up an adequate reserve of strength and endurance for everyday living.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

31. For its contributions to mental and emotional well-being, physical education should be included in the program of every school.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

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

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

33. Participation in physical education activities makes
for a more wholesome outlook on life.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

Part C

Part C consists of 37 negative statements about physical education. You are to indicate how much you agree or disagree with each statement by putting a check mark () in one of the spaces provided underneath the statement.

The five choices for each statement are:

Strongly Agree

Agree

No Opinion

Disagree

Strongly Disagree

1. The competitive situations of physical education do little in establishing desirable codes of conduct.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

2. Sports and games do not encourage creativeness by the participants.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

3. Physical education activities may not be a worthy use of my leisure time.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

4. The time devoted to physical education activities could be better spent in many other activities.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

5. Physical education furnishes little toward the betterment of social attitudes.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

6. The time spent in participating in physical education could be better spent in other ways.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

7. The benefits of the friendly play spirit of games and sports are overexaggerated.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

8. Participation in physical fitness activities may be a waste of time for the individual.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

9. The positive effects of physical activities on an individual's health may be greatly exaggerated.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

10. Participation in physical education activities makes no contribution to the development of personal composure.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

11. The effects of competition in physical education may be bad.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

12. Physical education activities do not provide outlets for creative expression.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

13. Physical education has little value in relation to the time spent in participation.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

14. The competitive aspects of physical education may be socially harmful in participants.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

15. Physical education does not contribute to the participant's social maturity.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

16. Physical education activities may not bring about good sportsmanship conduct.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

17. The claim for the release of tensions through activity may be overstated by physical education advocates.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

18. The carry-over values of physical education

experiences to a person's life may be questionable.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

19. If for any reason a few subjects have to be dropped from the school program, physical education should be one of the subjects dropped.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

20. Physical education activities provide no opportunities for learning to control the emotions.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

21. The time spent in getting ready for and engaging in a physical education class could be more profitably spent in other ways.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

22. A person's body usually has all the strength it needs to make one a more socially desirable person.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

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

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

24. Participation in physical education makes no contribution to the development of poise.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

25. Physical education classes are poor in opportunities for worthwhile social experiences.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

26. A person would be better off emotionally if he did not participate in physical education.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

27. Skill in active games or sports is not necessary for leading the fullest kind of life.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

28. Physical education does more harm physically than it does good.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

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

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

30. There should not be over 2 one-hour periods per week devoted to physical education in schools.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

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

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

32. There is not enough value coming from physical education to justify the time consumed.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

33. No definite beneficial results come from participation in physical education activities.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

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

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

35. Physical education activities tend to upset a person emotionally.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

36. Physical education tears down sociability by encouraging people to attempt to surpass each other in many of the activities.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

37. As far as improving physical health is concerned, a physical education class is a waste of time.

Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
[]	[]	[]	[]	[]

APPENDIX B
ARABIC VERSION OF THE INSTRUMENT

بسم الله الرحمن الرحيم

عزيزى الطالب

السلام عليكم ورحمة الله وبركاته

مع شكرى وتقديرى لطفك أرفق لك الاستبيان الذى يمثل جزءاً مهماً جداً فى رسالتى للدكتوراه فى التربية البدنية .

لذا ، أرجو اكرامى بجزء يسير من وقتك الثمين للإجابة على هذا الاستبيان و اعادته الى مدرس التربية البدنية بعد الانتهاء منه ، والذى يشمل جمل و عبارات عن التربية البدنية و النشاط الرياضى .

الرجاء تحديد رأيك بدقة بالإجابة على مدى موافقتك أو عدمها على كـ (عبارته) ، كل تلك (العبارات) الجمل جدلية ، حيث لا يوجد خطأ أو صح فى أى اجابة ، و ليس لها أى تأثير على علامات التربية البدنية .

و لكم جزيل الشكر

أخوكم

كاظم محمد أبو صالح

عزيزى الطالب

يشمل هذا الاستبيان ثلاثة أقسام هي :-

القسم -أ-

هذه بعض الاسئلة التي تشمل بعض المعلومات الشخصية ورأيك في بعض المواضيع الخاصة بالتربية البدنية . أرجوا الأجابة عليها أو وضع اشارة () في الفراغ المناسب...وشكرا .

- ١- الاسم (اختيارى): _____
- ٢- رقم الطالب : _____
- ٣- العمر : _____
- ٤- هل أنت في مرحلة السنة الاولى جامعة () أو السنة الثانية جامعة () ؟
- ٥- ما هو تخصصك ؟ أ) الكلية : _____
ب) التخصص : _____
- ٦- ما هي أفضل الأنشطة الرياضية التي ترغب في مزاولتها :-
أ) _____ ب) _____
- ٧- كم ساعة تتدرب في الاسبوع ؟ أ) أقل من ٣ ساعات ()
ب) من ٣ ساعات إلى ٦ ساعات ()
ج) أكثر من ٦ ساعات ()
- ٨- مسادا تفعل أكثر؟ أ) مشاهدة المباريات ()
ب) مزاوله النشاط الرياضي ()

عزيزى الطالب

سيكون التقييم بالنسبة (للعبارات) الجمل الايجابية عن التربية البدنية و النشاط الرياضي بهذا القسم كالتالى :-
موافق جدا = ٥ ، موافق = ٤ ، لا رأي (متوسط) = ٣ ، غير موافق = ٢ ، غير موافق جدا = ١ .

على الصفحات التالية أرجوا وضع علامة () في المكان المناسب بعد كل

عبارة .

١ - القدرة على مواجهة ، فهم ، و قبول المسئوليات الاجتماعية يمكن تطويرها من

خلال النشاط الرياضي .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٢ - المشاركة في الألعاب و النشاطات الرياضية الفعالة تزيد في اعداد الفرد لمواجهة

المشاكل الحياتية مواجهة شاملة .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٣ - الانخراط في الأنشطة الرياضية يساعد على نمو شخصية الفرد .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٤ - الخبرات المكتسبة من الأنشطة الرياضية تساعد الفرد في تبني موازين اجتماعية

قيمة .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٥ - يمكن الشعور بالانكشاف من خلال الفعاليات الرياضية الترويحية (الترفيهية) .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٦ - المشاركة في التربية البدنية تزيد في احترام الذات .

موافق جدا	موافق	لا أدرى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٧ - المشاركة في فعاليات التربية البدنية يؤدي بالفرد الى تطبيق العادات الصحية
الجيدة .

موافق جدا	موافق	لا أدرى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٨ - من أهم منافع المشاركة في فعاليات التربية البدنية إيجاد فرص التعرف على
أصدقاء جدد .

موافق جدا	موافق	لا أدرى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٩ - الثقة بالنفس يمكن أن تكون إحدى نتائج المشاركة في فعاليات التربية البدنية .

موافق جدا	موافق	لا أدرى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

١٠ - فعاليات التربية البدنية تؤمن فرص اتخاذ المواقف التي تساعد على النموذج الشخصي
للفرد .

موافق جدا	موافق	لا أدرى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

١١ - معظم أوقات فراغي أمضيها بفعاليات التربية البدنية .

موافق جدا	موافق	لا أدرى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

١٢ - لفعاليات (أنشطة) التربية البدنية أهمية تفوق أهمية الفعاليات الأخرى .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق جدا
()	()	()	()

١٣ - المساهمة بفعاليات التربية البدنية تساعد في فهم الناس بعضهم لبعض .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق جدا
()	()	()	()

١٤ - الانخراط في الفعاليات الرياضية الشديدة (العنيفة التي تتطلب مخاطرة أو جهد كبير) تزيد اهتمام الفرد بتطبيق العادات الصحية الجيدة .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق جدا
()	()	()	()

١٥ - التربية البدنية هي إحدى المواد الدراسية التي تساعد على تنمية و صيانة الموازين الاجتماعية المرغوبة لدى الفرد .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق جدا
()	()	()	()

١٦ - الفعاليات الرياضية الشديدة (العنيفة) تقضي على اضرار التوتر والعاطفي

(النفسي) .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق جدا
()	()	()	()

١٧ - المشاركة بفعاليات التربية البدنية يجعل الفرد محبوبا و مرغوبا عند الناس .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق جدا
()	()	()	()

١٨ - التربية البدنية في المدارس لا تلقى الأهتمام اللائق بها .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

١٩ - بما أن المبارات البدنية تبدو كبيرة الأهمية للشباب ، لذا فان مساعدة الفرد على نيل وتطوير تلك المبارات يعتبر أساسيا .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٢٠ - التدريبات البدنية العنيفة (التي تتطلب مخاطرة أو جهد كبير) المنظمة دوريا تعتبر جيدة للصحة العامة لكل فرد .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٢١ - أنه من الممكن جعل التربية البدنية مادة دراسية قيمة و ذلك بالاختيار المناسب للفعاليات .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٢٢ - بناء و تطوير المبارات البدنية يؤدي الى التخلص من الأجهاد الذهني .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٢٣ - ممارسة فعاليات التربية البدنية مع الأكرين مرح و تلبية .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٢٤ - دروس التربية البدنية تؤمن فرد اتخاذ المواقف المساعدة على تكوين المراتب

الصالح .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٢٥ - الانتظام مع مجموعة بلعبة فرقية (كرة القدم ، كرة السلة ، كرة الطائرة و اليد)

تهيء الفرد لكل فرد لاكتساب الخبرات المرغوبة .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٢٦ - التربية البدنية تعد مادة دراسية مهمة في مساعدة الفرد على اكتساب و صيانة

صحة جيدة .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٢٧ - مهارات التربية البدنية تقدم الكثير لتعزيز معيشة الفرد .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٢٨ - الانتظام بفعاليات التربية البدنية الجماعية شيء مرغوب لتطوير شخصية الفرد .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٢٩ - تل القادريين بدنيا يمكنهم الاستفادة من حصة تربية بدنية واحدة يوميا .

موافق جدا	موافق	لا أدري (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٣٠ - التربية البدنية ذات قيمة عالية في بناء الاحتياطي المناسب من القوة والجلد

لمتطلبات الحياة اليومية .

موافق جدا	موافق	لا أدرى (متوسط)	غير موافق جدا
()	()	()	()

٣١ - نظرا لما تقدمه التربية البدنية من الاستقرار العاطفي والعقلي (النفسي) للفرد

لذا يجب أن تكون إحدى المواد الدراسية في كل مدرسة .

موافق جدا	موافق	لا أدرى (متوسط)	غير موافق جدا
()	()	()	()

٣٢ - اني أتمتع كل القادرين بدنيا بدراسة التربية البدنية .

موافق جدا	موافق	لا أدرى (متوسط)	غير موافق جدا
()	()	()	()

٣٣ - المشاركة بفعاليات التربية البدنية تساعد على زيادة الاستبصار (التفأول)

العام في الحياة .

موافق جدا	موافق	لا أدرى (متوسط)	غير موافق جدا
()	()	()	()

٥ - التربة البدنية تساعد قليلا في تحسين المواقف الاجتماعية للمشاركين بها .

موافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٦ - الوقت المصروف بالمشاركة في التربة البدنية يمكن أن يستفاد منه كثيرا في وسائل أخرى .

موافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٧ - ان روح اللقاءات والمباريات الودية مبالغ بها في منافعتها .

موافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٨ - المشاركة في فعاليات اللياقة البدنية هي مضجرة للوقت .

موافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٩ - التأثير الايجابي للفعاليات الرياضية على صحة الفرد مبالغ فيه .

موافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

١٠ - المشاركة في الفعاليات الرياضية لا تنفع في تنمية (هدوء و احترام) رمانسة الفرد في القدرة على السيطرة على الانفعالات والمواقف .

موافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

١١ - تأخير المنافسة في الفعاليات الرياضية يمكن أن يكون سيئا .

موافق جدا	موافق	لا رأي (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

١٢ - فصاليات التربية البدنية لا تؤمن الفرص للتعبير الإبتكاري .

موافق جدا	موافق	لا رأي (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

١٣ - التربية البدنية لا تستحق الوقت المخصص للمشاركة بها .

موافق جدا	موافق	لا رأي (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

١٤ - وجوه المنافسة في التربية البدنية يمكن أن تكون ضارة اجتماعيا بالنسبة للمشاركين .

موافق جدا	موافق	لا رأي (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

١٥ - التربية البدنية لا تساهم في النفوج الاجتماعي للفرد .

موافق جدا	موافق	لا رأي (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

١٦ - فعاليات التربية البدنية يمكن أن لا تساعد في تنمية ما يعرف بـ (الاخلاق الرياضية الحميدة) .

موافق جدا	موافق	لا رأي (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

١٧ - الادعاء القائل بأن التربية البدنية تساعد على التخلص من التوتر النفسي

و البدني مبالغ فيه .

مرافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

١٨ - ان الاستفادة من الخبرات المكتسبة من التربية البدنية في حياة الفرد هو

شيء مشكوك في صحته .

مرافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

١٩ - اذا وجب الغاء بعض المواد من البرنامج الدراسي فيجب أن تكون التربية البدنية

أحداها .

مرافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٢٠ - فعاليات التربية البدنية لا توجد الفرر لتعليم السيطرة على العواطف .

مرافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٢١ - الوقت المخصص للتهيئة و المشاركة في دروس التربية البدنية يمكن أن يكون

أكثر فائدة فيما لو صرف في وسائل أخرى .

مرافق جدا	مرافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٢٢ - ان جسم الانسان عادة يحلث القوة التي يحتاجها بدون المشاركة بفعاليات التربية البدنية .

موافق جدا	مرافق	لا رأي (متوسط)	غير مرافق	غير موافق جدا
()	()	()	()	()

٢٣ - أنا أدرس التربية البدنية لكونها مادة الزامية .

موافق جدا	مرافق	لا رأي (متوسط)	غير مرافق	غير موافق جدا
()	()	()	()	()

٢٤ - المشاركة في التربية البدنية لا تساهم في تنمية رصانة (هدوء و اتزان) الفرد.

موافق جدا	مرافق	لا رأي (متوسط)	غير مرافق	غير موافق جدا
()	()	()	()	()

٢٥ - دروس التربية البدنية تعتبر ضعيفة في تهيئة الفرص لاكتساب خبرات اجتماعية .

مرافق جدا	مرافق	لا رأي (متوسط)	غير مرافق	غير موافق جدا
()	()	()	()	()

٢٦ - لحل الفرد غير المشارك في التربية البدنية يكون أكثر استقرارا عاطفيا
و نفسيا .

موافق جدا	مرافق	لا رأي (متوسط)	غير مرافق	غير موافق جدا
()	()	()	()	()

٢٧ - المبارات في الألعاب و الرياضات ليست تيشا ضروريا يؤدى الى حياة مليئة
بالنشاط .

موافق جدا	مرافق	لا رأي (متوسط)	غير مرافق	غير موافق جدا
()	()	()	()	()

٢٨ - التربية البدنية تضر بدنيا أكثر مما تنفع .

موافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٢٩ - دروس التربية البدنية لا تؤدي الى شيء ذو قيمة خارج الدرس ذاته .

موافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٣٠ - يجب أن لا يخصص في امدارس أكثر من حصتين تربية بدنية في الاسبوع .

موافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٣١ - ان فرس اكتساب المصداق من خلال التربية البدنية تعتبر ضعيفة جدا .

موافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٣٢ - ليس في التربية البدنية القيمة المرجوة التي تبرر الوقت المصروف فيها .

موافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٣٤ - يمكن لكل فرد الحصول على التمرينات البدنية الضرورية و ذلك بالاهتمام بأعماله

الحياتية اليومية .

موافق جدا	موافق	لا رأى (متوسط)	غير موافق	غير موافق جدا
()	()	()	()	()

٣٥ - فعاليت التربية البدنية تضر الفرد عاطفيا (نفييا) .

موافق جسدا	موافق	لا رأى (متوسط)	غير مرافق	غير موافق جسدا
()	()	()	()	()

٣٦ - التربية البدنية تمزق التفاعل الاجتماعي و ذلك بتشجيعها للناس على التماهي

مع بعضهم البعض في الكثير من الفعاليات .

موافق جسدا	موافق	لا رأى (متوسط)	غير مرافق	غير موافق جسدا
()	()	()	()	()

٣٧ - بما أن حصة التربية البدنية لا تؤدي الى تحسين الصحة البدنية فهي اذا مضية

للوقت .

موافق جسدا	موافق	لا رأى (متوسط)	غير مرافق	غير موافق جسدا
()	()	()	()	()