AN ABSTRACT OF THE THESIS OF

Shawna Deann Smith for the **Master of Science** in **Physical Education** presented on July 7, 1998.

Title: **The Difference Between Traditional Physical Education Curriculums and an Experimental Physical Education Curriculum (Physical Dimensions) on Attitudes of Ninth Grade Students Toward Physical Education.**

Abstract approved: _____

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The purpose of this study was to determine if a difference existed between traditional physical education curriculums and an experimental physical education curriculum (Physical Dimensions) on the attitudes of ninth grade students toward physical education. Subjects for this study were male and female students from six high schools in the state of Kansas, who were enrolled in either a traditional ninth grade physical education program (459 subjects) or in the ninth grade Physical Dimension program (289 subjects). The subjects participated by taking the Wear Attitude Scale, which was administered four times over a nine week period. All data were analyzed at the $p < .05$ level of significance through the use of one-way analysis of variance and repeated measures analysis of variance. There was a significant difference between the attitude scores of the students in traditional physical education programs and the students in the experimental physical education program. There was no significant difference between the attitude scores of the males and females in each of the curriculums.

THE DIFFERENCE BETWEEN TRADITIONAL PHYSICAL EDUCATION CURRICULUMS AND AN EXPERIMENTAL PHYSICAL EDUCATION CURRICULUM (PHYSICAL DIMENSIONS) ON ATTITUDES OF NINTH GRADE STUDENTS TOWARD PHYSICAL EDUCATION

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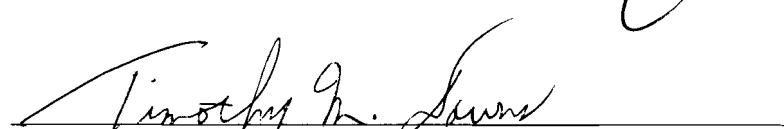
Approval of the Division Chair



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Introduction

Physical fitness is an essential component in an individual's overall health. The attitudes adolescents have toward physical activity can affect their behaviors and lifestyle habits for the rest of their lives. For that reason, it is important for schools to have effective physical education programs. An effective physical education curriculum can contribute to a more fulfilling, productive, and healthy life.

Traditionally, physical education focused on team sports and the athletic development of students. However, many alternative physical education curriculums have been developed that emphasize lifelong health-enhancing skills. These developments in curriculum content have been implemented with the idea that if adolescents are taught skills that can be used throughout life, they will more likely be physically active as adults. With this idea in mind, a physical education program that incorporates lifelong skills and improves attitudes toward physical activity can be beneficial to the future physical health of the students.

Statement of Problem

Sedentary lifestyle is a major contributor to many illness, diseases, and other health-related conditions in the United States (Krantzler & Miner, 1994). These health-related problems include obesity, smoking, cardiovascular disease, substance abuse, stress, and poor nutritional habits. Most of these conditions can be decreased significantly by regular physical activity or by implementing an exercise program (Surgeon General's Report, 1997). Many communities have resources that provide community members with the opportunity to be physically active on a regular basis.

With all the opportunities available, it is alarming how few individuals take advantage of them. This problem can be attributed to many different factors, such as weather, seasonal changes, job responsibilities, time constraints, cost, and desire or interest (Tappe, Duda, & Ehrnwald, 1989). Promoting physical activity when people are young can prevent health-related conditions. Adolescents exposed to high school physical education programs that focus on developing lifelong skills and positive attitudes toward physical fitness can benefit them for a lifetime. Students who develop positive attitudes toward physical activity are likely to maintain those positive attitudes throughout their lives, be physically active adults, and lead a healthier life (Phillipp, Piland, Seidenwurm, & Smith, 1989). Many physical education curriculums have been developed with the goal of developing positive attitudes towards physical activity. Although there has been a lot of information and research in the areas of attitude in regards to physical education, few studies have examined if the new curriculums are actually improving students' attitudes toward physical activity.

Statement of Purpose

The purpose of this study was to determine if there is a difference between traditional physical education curriculums and an experimental physical education curriculum (Physical Dimensions) on the attitudes of ninth grade students toward physical education.

Hypothesis

The following hypotheses served as a basis for this investigation:

(1) There is no difference between traditional physical education curriculum and the experimental physical education curriculum on the attitude scores of ninth grade students.

(2) There is no difference from week one to week nine on the attitude scores of ninth grade students between traditional and experimental physical education curriculums.

(3) There is no difference from week one to week nine on the attitude scores between ninth grade males and females in traditional and experimental physical education curriculums.

Statement of Significance

Changes in physical education curriculum have created issues important to public school systems. Physical activity positively affects the health and well-being of all individuals (Krantzler & Miner, 1994). The physical education curriculums that have been created emphasize lifelong skills and physical fitness. One of the new physical education curriculums is called Physical Dimensions. It has been incorporated into 120 Kansas schools. No studies have been conducted to determine the effectiveness of this curriculum on students' attitudes.

Assessing the attitudes of students using the Physical Dimensions curriculum will provide involved professionals with an opportunity to examine the effectiveness of this new curriculum. Determining effectiveness is important in order to see if the changes to the traditional curriculum have had any impact on the students' attitudes. If the students involved in the Physical Dimensions program develop more positive attitudes, then it is

likely that these attitudes can carry into adulthood. If physical activity is maintained, the long-term effect could be an improvement in an individual's health and quality of life.

Literature Review

The adolescent years are very important in shaping opinions and attitudes that will be carried throughout the adult life (Luke & Sinclair, 1991). This is a crucial time to emphasize health and the importance of physical activity. In order for high school physical education programs to be effective, the curriculums must positively affect students' attitudes toward physical activity. These positive attitudes, if continued into adulthood, could contribute to healthier behaviors and lifestyles. It is important to understand how attitudes are formed and how these attitudes help shape an individual's behavior.

Attitude Development/Formation and Effect on Behavior

Safrit (1986) defined an attitude as "a feeling one has about a specific attitude object, such as a situation, a person, an activity, and so forth" (p. 366). An attitude usually reflects a person's degree of feeling, appreciation, or concern about a particular concept (Kirkendall, Gruber & Johnson, 1987). Attitudes and behavior are directly linked (Thomas & Nelson, 1996). If an environment creates positive attitudes, then the behaviors that are developed can aid an individual throughout life.

There are many factors that can affect the development of attitudes. Some of these factors are school achievement, self-concept, school/home environment, parent attitudes, teacher attitudes, and individual interests (Cothern & Collins, 1992). Life is

full of successes and failures. With each success or failure, a belief system is developed. Pieper (1963) defined belief as a "means to regard something as true on the testimony of someone else" (p. ix). Usually, beliefs are formed as quickly as an event occurs and, over time, are generalized and incorporated into a person's understanding of expectations and consequences regarding behavior (Cothern & Collins, 1992). An individual's beliefs can change with positive and negative experiences in life. Attitudes, on the other hand, take longer to change. If an individual is exposed to successful, positive experiences that create a more positive belief system, attitudes could eventually become more positive.

An individual with a positive attitude toward physical education would be more inclined to be physically active. However, when it comes to physical activity, the link between attitude and behavior is not as strong. Many people know the positive effects physical activity has on their health (Dishman, 1994). However, their behaviors do not always correlate with their attitudes and beliefs. Developing positive attitudes in a physical education program requires emphasizing different activities that create an interest in physical fitness. Shaping behaviors begins with the development of positive attitudes. Physical education curriculums that can introduce activities that create an interest in physical activity can, in turn, create a positive experience while being physically active. This could result in positive behaviors that are being shaped for life-long physical fitness.

Physical Fitness

Physical fitness is "the ability of the body to respond or adapt to the demands and

stress of physical effort" (Insel & Roth, 1998, p. 338). When physical activity is part of a peoples' daily lives, their chances of disease and illness are greatly reduced. In the United States, many people lead sedentary lifestyles. Lifestyle changes resulting from technology have created a society of individuals who are becoming more sedentary than in previous decades. There is "a relationship between sedentary lifestyles and increased incidence of heart disease, arthritis, osteoporosis, obesity, diabetes, and depression" (Krantzler & Miner, 1994, p. x).

Unfortunately, the risk factors usually associated with older adults are now appearing in adolescents. (Petray & Cortese, 1988). "Nearly half of American youth aged 12-21 years are not vigorously active on a regular basis" (Surgeon General's Report, 1997, p. 1). Bailey, Mirwald, Faulkner, Fairburn, and Owen (1982) found a dramatic drop in fitness levels and an increase in health problems during the adolescent years. This research has prompted many countries to "launch major initiatives to increase the physical activity and physical fitness level of this segment of society" (Luke & Sinclair, 1991, p. 31).

While most people are aware of the importance of physical activity on overall health, most people still do not participate in regular physical activity (Surgeon General Report, 1997). Physical activity needs to be incorporated into a lifestyle habit and the earlier it is implemented, the more likely individuals will remain physically active as adults (Phillipp, Piland, Seidenwurm, & Smith, 1989).

Students' Attitudes Towards Physical Education

Lee (1997) presented a model of student thinking and behavior in a classroom setting and the way in which various factors affect their thinking. In the model, the characteristics (gender and age), personal experiences, and environmental variables (culture and media) are factors that affect the student. These, in turn, affect and are affected by class interactions and school environment. More specifically, her study focused on the role of student thinking in the physical education setting. The study focused only on student thoughts and feelings toward physical education, and the effectiveness of teaching, curriculum content, and environmental factors. Lee believed entry level ideas, feelings, and beliefs develop over time and from a variety of sources. Students' initial views about school, as well as their beliefs about themselves and their abilities, are shaped by the frequency of opportunities to participate and the feelings associated with successful and nonsuccessful experiences. Many different factors were associated with the students' initial perception of physical education such as parents, peers, cultural expectations, and media exposure, as well as gender differences and social environments.

Attitudes towards physical activity are not created the first day a student walks into a physical education class but are developed over years and inspired by personal experiences. The time of adolescence, however, is a very crucial time to establish lifestyle behaviors. This period of transition from childhood to adult status is a time when adolescents explore personal limits and form lifetime attitudes and patterns of

living (Luke & Sinclair, 1991). It is critical during this period of time for physical education programs to increase awareness about the benefits of physical activity and to improve the students' attitudes toward being physically active.

Gender

According to the Surgeon General Report (1997), inactivity is more common among women than men. In addition, Dablgren (1988) found adolescent females were not as fit as males, fewer females were participating in school physical activity programs, and females were not encouraged to participate in physical activity to the same extent as male.

Even though females are not as fit or as active as males, research shows female attitudes towards physical education are very similar to the male attitudes toward physical education (Earl & Stennett, 1987). However, there is a difference in what females and males find important and/or beneficial about physical fitness. Adolescent females tend to connect physical activity with social interaction and maintaining health and fitness. Males tend to connect physical activity with competition and excitement (Rice, 1988). A curriculum that mainly focuses on team sports is more effective with the male students and the more athletic individuals. Curriculums that emphasize lifelong skills and individual sports (along with some team sports) would be more effective for all the students.

Curriculum

Figley (1985) attempted to identify the aspects of physical education which

students viewed as positive and negative. Figley used the critical incident report form (Flanagan, 1954). 100 college students enrolled in elementary physical education courses classified specific categories (such as teacher, curriculum, atmosphere of the classroom, peer behavior, and perceptions of self) as being positive or negative. These classifications were based on the experiences the participants had toward their own personal K-12 physical education programs. The study found two categories influenced the attitudes of these students towards physical education: curriculum content and teacher behavior. In the category of curriculum content, a majority of the positive attitudes were created by a curriculum that contained a wide variety of activities and also the introduction of new activities. In the category of teacher behavior, the teacher's reinforcement (positive and negative) and personal character were the strongest predictors of positive and negative attitudes in the participants.

Luke and Sinclair (1991) conducted a similar study to identify potential determinants of adolescent attitudes toward school physical education programs. This study used the critical incident report form (Flanagan, 1954) to test 488 grade 11 students from a large metropolitan area in Canada. These students were asked to comment on their school physical education experiences from kindergarten to grade 10. The results suggested curriculum most influenced positive and negative attitudes towards physical education. Curriculum that involved team sports received the highest positive support but was also identified negatively by some of the students. Males indicated they enjoyed learning rules, techniques, and strategies of sports and games, while females identified

areas such as aquatics as areas they enjoyed.

The main goal when developing a physical education curriculum is to try to develop positive attitudes toward physical education in order to develop positive behaviors. In turn, these positive attitudes will carry into adult life and facilitate individuals' desire to be physically active throughout life. "The physical education of junior and senior high students reflects a heavy emphasis on group sports/competitive games and other activities that they are not likely to continue throughout adulthood" (Massengale, 1987, p. 56). When focusing only on team sports, the resources to use these throughout life would be very difficult for most people.

Phillipp, Piland, Seidenwurm, and Smith (1989) examined the effectiveness of an experimental curriculum that emphasized the community resources available to the students. The study consisted of two groups of students, one group was enrolled in a traditional physical education program and one group was enrolled in an experimental physical education program. The experimental group used community facilities to do activities. The experimental curriculum involved taking students to various community locations in order to do physical activity. These places included an ice skating rink, aerobic gym, supermarket (nutrition), medical center (testing cholesterol), and a hiking trail. This program illustrated the many resources students have in their community that could be used to incorporate physical activity into their daily lives. Both groups of students were evaluated by taking before-and-after physical fitness measures and health risk appraisals.

The results of the study indicate there was no difference between the experimental and control groups on various physical fitness parameters. The statistical data were collected at the beginning and end of the physical education course. One of the main objectives of the experiment was to instill lifelong commitment to physical fitness and health behaviors. Data collection was done too early to see if this objective was met and the study did not assess attitudes or commitment to physical activity.

Physical Dimensions

The Physical Dimension Curriculum was developed by Harris, Ermler, Mehrhof and Allen (1997). It is endorsed by KAHPERD (Kansas Association of Health, Physical Education, Recreation, and Dance) and is funded by the Kansas Health Foundation. The challenge of the program was to incorporate three different dimensions (Health-Related Fitness, Lifetime Physical Activity, and Health/Wellness Concepts and Skills) into a well-rounded and effective physical education curriculum. The principle goal is to create an atmosphere that will enable a person to have the knowledge and ability to be physically fit throughout life.

The curriculum consists of three dimensions. Dimension One, Health-Related Fitness, focuses on enhancing cardiorespiratory endurance, muscular strength and endurance, flexibility, and body composition. Each of the segments contribute to lifetime fitness. Activities in this dimension include aerobics, strength and conditioning, orienteering, self-defense, and walking/jogging.

Dimension Two, Lifetime Physical Activity, focuses on skill development, fitness

reinforcement, and participation in a variety of physical activity with lifelong significance. This curriculum differs from the more traditional curriculums where team sports are the main focus. It still emphasizes the fact that team sports promote physical activity and are important in physical fitness. At the same time, it also introduces many individual sports and activities that can be used throughout a lifetime. These segments are used to develop skills in such areas as line and social dance, golf, swimming, tennis, badminton, volleyball, and new team sports.

Dimension Three, Health/Wellness Concept and Skills, analyzes health issues that are currently impacting youth and adults. In these units, the students learn to assess their own health behaviors as well as develop personal and social skills to enhance their health. These segments are taught in a classroom setting where the teacher covers such topics as nutrition, personal safety, stress management, and critical health issues (Harris, Ermler, Mehrhof and Allen, 1997).

The Physical Dimensions Curriculum is available to schools and teachers at training workshops. Currently there are over 400 trained teachers are implementing the curriculum in 120 high schools across the state of Kansas. This curriculum has gained national attention and interest.

Rationale

There has been much information and research in the area of attitudes and physical education. Physical activity needs to be a part of every individual's lifestyle in order to reduce many health-related conditions. Physical education programs need to

focus on adolescents and their attitudes in an effort to reduce sedentary lifestyles and the medical costs that are associated with these health concerns.

Based on the literature that was reviewed, there were three hypothesis developed for this study. The following hypotheses served as a basis for this investigation:

(1) There is no difference between traditional physical education curriculum and the experimental physical education curriculum on the attitude scores of ninth grade students.

(2) There is no difference from week one to week nine on the attitude scores of ninth grade students between traditional and experimental physical education curriculums.

(3) There is no difference from week one to week nine on the attitude scores between ninth grade males and females in traditional and experimental physical education curriculums.

Chapter 2

Method

The attitudes of students are important to the success of any physical education program. If the students do not have a positive attitude towards physical activity, they are not likely to be physically active over the course of a lifetime. A physical education program that can affect students' attitudes, along with their behaviors, would be more apt to develop lifelong, physically active individuals.

Participants

The participants of this study were male and female students from six high schools in the state of Kansas, who were enrolled in either a traditional ninth grade physical education program (N=459) or in the ninth grade Physical Dimensions program (N=289).

Procedures

Permission to conduct this study was obtained from the Institutional Review Board for the Treatment of Human Subjects at Emporia State University, Emporia, Kansas (See Appendix A). In addition, permission to conduct the study was obtained from the physical educators at the six schools.

The selection of the schools in this study occurred in several steps. First, the director of the Physical Dimensions program was contacted. She was asked for a list of names of schools that were using the Physical Dimension curriculum and the teachers who had been trained in the use of the curriculum. From the list that was provided by the director, three schools were randomly selected. The selection of these three schools were based on the size of the schools; one small school (1-2A), one medium school (3-4A),

and one large school (5-6A) were selected from the pool of schools using the Physical Dimensions program. The researcher contacted the physical education teachers in the three schools and asked if they would be interested in being a part of this study. All three teachers from the initially selected schools using the Physical Dimension program agreed to be part of the study.

The selection of three schools using the traditional curriculum occurred by selecting schools not on the Physical Dimensions list and then matching the size of the school. Once the three traditional schools were selected, the physical education teacher was called to make sure the school had a required ninth grade physical education program, and the physical education classes were co-ed. If the programs met these qualifications, the researcher asked the teachers if they would be interested in being a part of the study. All three teachers in the initially selected schools with traditional physical education programs agreed to be part of the study.

After permission to conduct the study was obtained from each school, an initial meeting was scheduled with each physical educator. At this meeting, the researcher brought the correct number of assessments, informed consent forms (Appendix B) and discussed the procedures and time schedule of the study.

Prior to testing, the teachers were asked do three things. The first thing they needed to do was assign numbers for the students to use on their questionnaires. This process would assure confidentiality of the students involved. The second thing the teacher needed to do was to have the students and parents sign and return their informed consent forms prior to the first test. The last thing they needed to do was to administer the tests on the assigned date and return the tests to the researcher.

All testing sessions were administered by the physical education teacher at the school. The testing session schedule was:

Testing Session #1: The first tests were administered within the first week of school. This test established a base attitude toward physical education before the students were involved in either the Physical Dimensions or the traditional physical education program.

Testing Session #2: The second test was given 3 weeks after the initial test was administered.

Testing Session #3: The third test was given 6 weeks after the initial test was administered.

Testing Session #4. The final test was given 9 weeks after the initial test was administered.

After each session, all tests were placed in a self-addressed and stamped manila envelope and mailed to the researcher.

Instrumentation

The instrument used to assess participants' attitude toward physical education was the Wear Attitude Scale (Wear, 1955) (See Appendix C). Since this scale was developed in 1955, the wording of some of the items was outdated. The researcher substituted more current terms for items 2, 3, 4, 6, 8, 9, 12, 15, 19, 20, 21, 23, 25, 27, 28, and 30. This substitution was made in order to make the statements more understandable to the students (See Appendix D). These word changes were then approved by the researcher's committee and did not affect the validity or the reliability of the scale.

The instrument measures student attitudes toward physical education. The scale consists of 30 questions. Each item is rated on a Likert-like 5 point scale, ranging from strongly agree (1) to strongly disagree (5). The total score is the sum of the scores of the 30 items on the survey. Positively worded items were scored 5-4-3-2-1 and negatively worded items are scored 1-2-3-4-5. A higher total score reflected a more positive attitude toward physical education.

Wear (1951) used participants from physical education courses for men at the State University of Iowa to determine reliability and validity of the scale. The initial assessment of 120 items was later reduced to 30 items. The reliability of the scale was determined by the split-halves technique, where he divided the assessment into two equal halves for scoring. This technique takes the scores from each half of the assessment and correlates it to the other half to determine reliability of the assessment. A Spearman-Brown correlation was used to estimate the reliability for the entire test (Kirkendall, Gruber & Johnson, 1987).

Validity of the assessment was established by "(a) the use of certain criteria in the wording of statements; (b) a comprehensive sampling or tapping of important outcomes; (c) the demonstration of a substantial relationship between scores made on the Inventory and certain other data regarding attitudes toward physical education; (d) the demonstration of significant differences between attitudes as evaluated by the individuals who might presumably differ" (Wear, 1951, p. 122). Validity was tested on the 120 item assessment and pairs of statements were eliminated that seemed to have approximately the same aspect of attitude. Also the statements that went below a pre-selected level of discrimination were eliminated. From this, the assessment was reduced to a list of 40

items. Later, the assessment was reduced even further to 30 items (Wear, 1951). The face validity is described as good, and the reliability is high ($r = 0.94$, Safrit, 1986).

Analysis of Data

The purpose of this study was to determine if there is a difference between traditional physical education curriculums and an experimental physical education curriculum (Physical Dimensions) on the attitudes of ninth grade students toward physical education. The difference between traditional physical education curriculum and the experimental physical education curriculum on the attitude scores on ninth grade students was analyzed through the use of a one-way analysis of variance (Hypothesis 1). The difference from week one to week nine on the attitude scores of ninth grade students between traditional and experimental physical education curriculums was analyzed through the use of repeated measures analysis of variance (Hypothesis 2). The difference from week one to week nine on the attitude scores of ninth grade males and females in the traditional and in the experimental physical education curriculums was analyzed through the use of repeated measures analysis of variance (Hypothesis 3). All data were analyzed at $p < .05$ level of significance.

Chapter 3

Results

The purpose of this study was to determine if there was a difference between traditional physical education curriculums and an experimental physical education curriculum (Physical Dimensions) on the attitudes of ninth grade students toward physical education. The subjects were male and female students from six different schools in Kansas, who were enrolled in either a traditional ninth grade physical education program or in the ninth grade Physical Dimensions program. At every school, four copies of the attitude assessment were distributed to the students. The initial assessment was administered in the first week of school and the remaining three were completed every three weeks after the initial assessment.

This chapter presents an analysis of the attitude scores obtained from the testing of the two curriculum programs, as well as the differences in gender. A one-way analysis of variance (ANOVA) was performed on the attitude scores collected during the final testing period (test 4) to determine whether a difference between the traditional physical education curriculum and an experimental physical education curriculum (Physical Dimensions) existed for the ninth grade students. Two repeated measures ANOVAs were used to determine the difference from week one to week nine on the attitude scores of ninth grade students between traditional and experimental physical education curricula and the difference between week one and week nine on the attitude scores of ninth grade males and females in the traditional and experimental physical education curriculums, respectively. All data were analyzed at the $p < .05$ level of significance.

Sample Analysis

A total of 748 participants (459 participants in traditional, 289 participants in Physical Dimensions) were involved in this study. The number of participants vary over the course of the four assessments for two reasons; some students were absent on the days that the assessment was distributed at their school and some students did not complete the whole assessment. Therefore, analysis of data is based on the number of participants that completed each individual assessment and not on how many of the assessments each participant completed.

Statistical Analysis

Descriptive statistics, including means and standard deviations, were computed for both curriculums (traditional and Physical Dimensions) and also for both genders in each of the two curriculums. These statistics are represented in Table 1.

Table 1

Mean and Standard Deviations for the Attitude Scores of Male and Female Ninth Grade Students in Traditional and Experimental Curriculums

	Test 1		Test 2		Test 3		Test 4	
	M	SD	M	SD	M	SD	M	SD
Traditional	102.92	17.39	99.35	19.43	98.36	19.62	97.23	18.28
Experimental	108.99	14.76	108.07	16.14	108.06	16.70	108.42	16.82
Male Traditional	105.86	17.25	102.70	18.51	99.67	19.95	99.72	17.08
Female Traditional	101.11	17.29	97.29	19.76	97.54	19.43	95.69	18.88
Male Experimental	109.67	16.70	105.67	16.75	104.48	17.58	104.27	17.06
Female Experimental	108.58	13.50	109.54	15.65	110.26	15.84	110.96	16.25

Hypothesis 1 stated there would be no difference between traditional physical education curriculums and the experimental physical education curriculum on the attitude scores of ninth grade students. This hypothesis was tested by using a one-way analysis of variance. The results indicated that Hypothesis 1 was rejected. The independent variable was the physical education curricular programs and the dependant variable was the attitude scores of Test 4. Table 2 indicates the ANOVA results for this hypothesis. The results indicate a significant difference between the groups $\underline{F}$ (1,538) = 38.21, $\underline{p} < .001$. The attitude scores of traditional and experimental physical education programs for the fourth testing session significantly differed (see table 2).

Table 2

One-way Analysis of Variance Showing the Difference Between the Traditional and Experimental Physical Education Curriculums on Test Four

Source	SS	df	MS	F
Between Groups	12278.74	1	12278.74	38.21*
Within Groups	172894.20	538	321.37	
Total	185172.91	539		

* $p < .001$

Hypothesis 2 stated there was no difference from week one to week nine on the attitude scores of ninth grade students between the traditional and the experimental physical education curriculums. To test Hypothesis 2, three dependent variables were computed by subtracting the scores from the first, second, and third test, respectively, from the score on the fourth test. The scores were then compared on the basis of curriculum. These dependent variables were analyzed using a repeated measures analysis of variance. Only the difference between the fourth and first tests for the traditional and experimental groups were statistically significant. Table 3 indicates the results of the repeated measures analysis of variance. The results indicate a difference between the groups across time $F\ (1, 398) = 5.62,\ p < .05$. There was a difference between week one and week nine on attitude scores between traditional and experimental physical education curriculums.

Table 3

Test of Within-Subjects Contrasts Showing Difference From Week One to Week Nine on Attitude Scores Between Traditional and Experimental Physical Education Curriculums

Source	Transformed Variable	SS	df	MS	F
Test 4	Test 1	879.92	1	897.92	5.62*
Program	Test 2	15.13	1	15.13	.14
	Test 3	3.01	1	3.01	.04

* $p < .05$

Hypothesis 3 stated there was no difference from week one to week nine on the attitude scores between ninth grade males and females in the traditional and experimental physical education curriculums. This hypothesis was also tested with the use of repeated measures analysis of variance. This analysis compared the difference between male and female students in both curriculums week nine's attitude scores (Test 4) to week one's attitude scores (Test 1). To test Hypothesis 3, three dependent variables were computed by subtracting the scores from the first, second, and third tests, respectively, form the scores of the fourth test. The scores were then compared on the basis of curriculum and gender. These dependant variables were analyzed using a repeated measure analysis of variance. No significant difference was found between males or the females involved in the traditional or the experimental programs, indicating that this hypothesis was not rejected at the $p < .05$ level of significance.

Table 4 indicates the results of the repeated measures analysis of variance. The results indicate there was no difference between male and female students between groups and across time $F(1, 398) = 2.83$, $p > .05$.

Table 4

Test of Within-Subjects Contrasts Showing Difference from Week One to Week Nine on Attitude Scores Between Males and Females in Traditional and Experimental Physical Education Curriculums

Source	Transformed Variable	SS	df	MS	F
Test 4	Test 1	442.55	1	442.55	2.83*
Gender	Test 2	44.12	1	44.12	.41
Curriculum	Test 3	141.29	1	141.29	1.77

*$p < .05$

Summary

Hypothesis 1 used a one-way analysis of variance ANOVA to determine the difference between the traditional physical education curriculums and the experimental physical education curriculum. The results of this study indicated a significant difference did exist between the traditional curriculums and the Physical Dimensions curriculum.

Hypothesis 2 used repeated measures ANOVA to determine the difference from week one to week nine on the attitude scores of ninth grade student between traditional and experimental physical education curriculums. The results of this study indicated a significant difference did exist between the two curriculums week one's attitude scores and week nine's attitude scores.

Hypothesis 3 used repeated measures ANOVA to determine the difference from week one to week nine on the attitude scores between ninth grade males and females in traditional and experimental physical education curriculums. The results of this study indicated there was no significant difference between male and female student's attitude scores between week one and week nine in each curriculum.

Chapter 4

Discussion

The purpose of this study was to determine if there was a difference between traditional physical education curriculums and an experimental physical education curriculum (Physical Dimensions) on the attitudes of ninth grade students toward physical education. Based on the results of the study, it appears that a significant difference in attitudes does exist between the two curriculums. There was also a significant difference from week one to week nine on the attitude scores of the ninth grade students between traditional and experimental physical education curriculums. No significant difference existed from week one to week nine on the attitude scores between ninth grade males and females in the traditional and the experimental physical education curriculums. The following chapter will discuss these results and offer recommendations for future research.

Discussion

An adolescent's attitude toward physical activity is an important reason for schools to focus on developing effective physical education programs. An effective physical education curriculum could improve the attitudes adolescents have toward their physical education classes. As a result, their lives could be more fulfilling, productive, and healthy.

Traditionally, physical education focused on team sports and the athletic development of students. However, many alternative physical education curriculums have been developed that emphasize lifelong health-enhancing skills. These developments in curriculum content have been implemented with the idea that if

adolescents are taught skills that can be used throughout life, they will more likely be physically active as adults. With this idea in mind, a physical education program that incorporates lifelong skills and improves attitudes towards physical activity can be beneficial on the future physical health of the students.

The main goal when developing a physical education curriculum is to try to develop positive attitudes toward physical education in order to develop positive behaviors. In turn, these positive attitudes will carry into adult life and facilitate individuals' desire to be physically active throughout life. When focusing only on team sports, the resources to use these throughout life would be very difficult for most people.

The curriculum of a physical education program is or can be detrimental to the attitudes the students develop with regards to their own physical fitness. Traditional physical education programs that focus on team sports do not create an atmosphere where every student develops more positive attitudes. When testing the difference between traditional programs and the Physical Dimensions program on Test 4, the Physical Dimensions program had a higher positive attitudes scores (Hypothesis 1). Throughout the nine week period, the results showed the Physical Dimensions program mean score remained constant while the traditional programs mean score declined (Table 1)and that there was a significant difference from week one to week nine between the two curriculums (Hypothesis 2). One reason could be that in the Physical Dimensions program many new activities prevent boredom throughout the nine week period. Learning new activities and games makes class more exciting and interesting. Even though the curriculum has team sports, individual sports and health/wellness concepts are also incorporated into the program. This diversity could be good for students who are not

necessarily good at team sports and may have resulted in more positive experiences in the other dimensions of the program.

The Physical Dimensions program has a variety of activities the students can engage in after they leave school. Individual sports and activities that have community access make it easier to use the skills learned in class when outside of the school. This promotes lifelong skills and physical fitness beyond the high school years. That is very important to the future health of the students.

When testing the differences between males and females in each of the curriculums (Hypothesis 3), no significant difference was found. There was a difference between females enrolled in the different programs. Table 1 shows the mean scores in all six categories throughout the four tests declined or remained consistent over the nine week period, in both curriculum and gender categories, except for the females enrolled in the Physical Dimensions curriculum. The mean scores of the females in the Physical Dimensions curriculum indicate the only increase in scores over the nine week. This increase may reflect a difference between the curriculums when it comes to females. The attitudes of females enrolled in traditional physical education programs declined throughout the nine weeks from 101.11 to 95.69; the lowest mean score calculated in all of the six categories. On the other hand, the attitudes of females enrolled in the Physical Dimensions curriculum program increased through the nine weeks from 108.58 to 110.96; the highest mean score in all of the six categories.

Curriculum impacts attitudes. Programs that mainly focus on team sports are specifically designed for the students who are athletically inclined, but there are many students that are not athletically inclined. A curriculum that creates more of an

opportunity for all students to have a positive experience, while being physically active, would have more success at developing more positive attitudes toward physical education. The more positive experiences a person has toward physical fitness, the more likely they are to continue that behavior. Curriculums that combine team sports with lifelong skills and a variety of different activities has a chance to create an atmosphere where there can be more positive experiences for the students. Health and physical fitness curriculums are adapting to the changes in our society.

Further Recommendations

Through the data collection and the information received, this study has identified several issues for future consideration.

1. In this study there was no attention given to the actual activities used in the traditional physical education curriculums. Further investigation into the different traditional programs may lead to different findings.
2. Explore attitude differences of females in a traditional and experimental physical education curriculum.
3. Use only a pre- and post-test format at the beginning and ending of a school year. Use a second measurement scale to assess the students.

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APPENDIX A

Emporia State University Institutional Review Board for Treatment of Human Subjects Approval

EMPORIA STATE UNIVERSITY
1200 COMMERCIAL EMPORIA, KANSAS 66801-5087 316/341-5351
FAX 316/341-5909
RESEARCH AND GRANTS CENTER - BOX 4003

September 25, 1997

Shawna Smith
Campus Box 4013

Dear Ms. Smith:

The Institutional Review Board for Treatment of Human Subjects has evaluated your application for approval of human subject research entitled, "The Relationship Between Attitudes of Ninth Grade Students Toward the Physical Dimensions Curriculum as Opposed to the Attitudes of Ninth Grade Students Towards a Traditional Physical Education Curriculum." The review board approved your application which will allow you to begin your research with subjects as outlined in your application materials.

Best of luck in your proposed research project. If the review board can help you in any other way, don't hesitate to contact us.

Sincerely,

John O. Schwenn, Dean
Graduate Studies and Research

pf

cc: Kathy Ermler

APPENDIX B

Informed Consent Form

Parent Informed Consent Form

The Department of Health, Physical Education and Recreation at Emporia State University supports the practice of protection for human subjects participating in research and related activities. The following information is provided so that you can decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdrawal at any time, and that if you do withdraw from the study, you will not be subjected to reprimand or any other form of reproach.

This is a study on the 9th grade students attitudes towards an experimental curriculum as opposed to the traditional curriculum used for the 9th grade. A new curriculum, called Physical Dimensions, is currently being used by various schools in Kansas. This study has selected three schools that use the Physical Dimensions 9th grade curriculum and three schools that use a traditional 9th grade curriculum. With these six schools, every three weeks the 9th grade students will be given a physical education assessment to see if there is any differences between the attitudes toward the two curriculums.

All that is expected of the subjects (the 9th grade students) is to give their honest responses to the statements on the questionnaire. The physical education assessment is not a knowledge-based test, but rather an opinion-based questionnaire. The first assessment will be given at the beginning of the year to see how the subjects feel before the school year begins. Then there will be an assessment given every three weeks after that for nine weeks. At the end of the nine weeks, all assessments will be collected and the data compiled to give us results on how the subjects responded to the different physical education curriculums. With this being an attitude assessment, there are no risks involved in the study.

"I have read the above statement and have been fully advised of the procedures to be used in this project. I have been given sufficient opportunity to ask any questions I had concerning the procedures and possible risks involved. I understand the potential risks involved and I assume them voluntarily. I likewise understand that I can withdraw from the study at any time without being subjected to reproach."

_____ _____

Parent and/or authorized representative Date

Student Informed Consent Form

The Department of Health, Physical Education and Recreation at Emporia State University supports the practice of protection for human subjects participating in research and related activities. The following information is provided so that you can decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdrawal at any time, and that if you do withdraw from the study, you will not be subjected to reprimand or any other form of reproach.

This is a study on the 9th grade students attitudes towards an experimental curriculum as opposed to the traditional curriculum used for the 9th grade. A new curriculum, called Physical Dimensions, is currently being used by various schools in Kansas. This study has selected three schools that use the Physical Dimensions 9th grade curriculum and three schools that use a traditional 9th grade curriculum. With these six schools, every three weeks the 9th grade students will be given a physical education assessment to see if there is any differences between the attitudes toward the two curriculums.

All that is expected of the subjects (the 9th grade students) is to give their honest responses to the statements on the questionnaire. The physical education assessment is not a knowledge-based test, but rather an opinion-based questionnaire. The first assessment will be given at the beginning of the year to see how the subjects feel before the school year begins. Then there will be an assessment given every three weeks after that for nine weeks. At the end of the nine weeks, all assessments will be collected and the data compiled to give us results on how the subjects responded to the different physical education curriculums. With this being an attitude assessment, there are no risks involved in the study.

"I have read the above statement and have been fully advised of the procedures to be used in this project. I have been given sufficient opportunity to ask any questions I had concerning the procedures and possible risks involved. I understand the potential risks involved and I assume them voluntarily. I likewise understand that I can withdraw from the study at any time without being subjected to reproach."

_____ _____

Student and/ authorized representative Date

APPENDIX C

Wear Attitude Scale

Form A of the Wear Attitude Scale

1. If for any reason a few subjects have to be dropped from the school program, physical education should be one of the subjects dropped.
2. Physical education activities provide no opportunities for learning to control the emotions.
3. Physical education is one of the more important subjects in helping to establish and maintain desirable social standards.
4. Vigorous physical activity works off harmful emotional tensions.
5. I would take physical education only if it were required.
6. Participation in physical education makes no contribution to the development of poise.
7. Because physical skills loom large in importance in youth, it is essential that a person be helped to acquire and improve such skills.
8. Calisthenics taken regularly are good for one's general health.
9. Skill in active games or sports is not necessary for leading the fullest kind of life.
10. Physical education does more harm physically than it does good.
11. Associating with others n some physical education activity is fun.
12. Physical education classes provide situations for the formulation of attitudes, which make one a better citizen.
13. Physical education situations are among the poorest for making friends.
14. There is not enough value coming from physical education to justify the time consumed.
15. Physical education skills make worthwhile contributions to the enrichment of living.
16. People get all the physical exercise they need in just taking care of their daily work.
17. All who are physically able will profit from an hour of physical education each day.
18. Physical education makes a valuable contribution toward building up an adequate reserve of strength and endurance for everyday living.
19. Physical education tears down sociability by encouraging people to attempt to surpass each other in many of the activities.
20. Participation in physical education activities makes for a more wholesome outlook on life.
21. Physical education adds nothing to the improvement of social behavior.
22. Physical education class activities will help to relieve and relax physical tensions.
23. Participation in physical education activities helps a person to maintain a healthful emotional life.
24. Physical education is one of the more important subjects in the school program.
25. There s little value in physical education as far as physical well-being is concerned.
26. Physical education should be included in the program of every school.
27. Skills learned in physical education class do not benefit a person.
28. Physical education provides situations for developing character qualities.
29. Physical education makes for more enjoyable living.
30. Physical education has no place in modern education.

APPENDIX D

Physical Education Assessment Form

Physical Education Assessment

For each of the statements below, circle the response that best applies to you. The choices for each statement are:

SA = Strongly agree
A = Agree
U = Undecided
D = Disagree
SD = Strongly Disagree

---

1. If for any reason a few subjects have to be dropped from the school program, physical education should be one of the subjects dropped.	SA	A	U	D	SD
2. Physical education activities provide no opportunities for learning to control stress.	SA	A	U	D	SD
3. Physical education is one of the more important subjects in helping to establish and maintain desirable interpersonal behavior.	SA	A	U	D	SD
4. Vigorous physical activity works off negative physical and psychological stress.	SA	A	U	D	SD
5. I would take physical education only if it were required.	SA	A	U	D	SD
6. Participation in physical education makes no contribution to the development of self-control.	SA	A	U	D	SD
7. Because physical skills loom large in importance in youth, it is essential that a person be helped to acquire and improve such skills.	SA	A	U	D	SD
8. Regular exercise is good for one's general health.	SA	A	U	D	SD
9. Skill in active games or sports is not necessary for leading a quality life.	SA	A	U	D	SD
10. Physical education classes provide more harm physically than it does good.	SA	A	U	D	SD
11. Associating with others in some physical education activity is fun.	SA	A	U	D	SD
12. Physical education classes provide situations for the formulation of attitudes and behaviors which make one a more cooperative team player.	SA	A	U	D	SD
13. Physical education situations are among the poorest for making friends.	SA	A	U	D	SD
14. There is not enough value coming from physical					

education to justify the time consumed.	SA	A	U	D	SD
15. Physical education skills make worthwhile contributions to the quality of life.	SA	A	U	D	SD
16. People get all the physical exercise they need in just taking care of their daily work.	SA	A	U	D	SD
17. All who are physically able will profit from an hour of physical education each day.	SA	A	U	D	SD
18. Physical education makes a valuable contribution toward building up an adequate reserve of strength and endurance for daily activities.	SA	A	U	D	SD
19. Physical education tears down cooperation by encouraging people to attempt to compete against others in many of the activities.	SA	A	U	D	SD
20. Participation in physical education activities makes for a more healthy outlook on life.	SA	A	U	D	SD
21. Physical education adds nothing to the improvement of interpersonal skills.	SA	A	U	D	SD
22. Physical education class activities will help to relieve and relax physical tensions.	SA	A	U	D	SD
23. Participation in physical education activities helps a person to maintain or improve a person's self-esteem.	SA	A	U	D	SD
24. Physical education is one of the more important subjects in the school program.	SA	A	U	D	SD
25. There is little value in physical education as far as developing physical fitness is concerned.	SA	A	U	D	SD
26. Physical education should be included in the program of every school.	SA	A	U	D	SD
27. Skills learned in physical education class do not benefit a person.	SA	A	U	D	SD
28. Physical education provides situations for developing a sense of right or wrongness.	SA	A	U	D	SD
29. Physical education makes for more enjoyable living.	SA	A	U	D	SD
30. Physical education has no place in the educational system.	SA	A	U	D	SD

I, Shawna Deann Smith, hereby submit this thesis/report to Emporia State University as partial fulfillment of the requirements for an advanced degree. I agree that the Library of the University may make it available to use in accordance with its regulations governing materials of this type. I further agree that quoting, photocopying, or other reproduction of this document is allowed for private study, scholarship (including teaching) and research purposes of a nonprofit nature. No copying which involved potential financial gain will be allowed without written permission of the author.

Shawna D. Smith
Signature of Author

July 27, 1998
Date

The Difference Between Traditional Physical Education Curriculums and an Experimental Physical Education Curriculum (Physical Dimensions) on Attitudes of Ninth Grade Students Toward Physical Education
Title of Thesis/Research Project

Mary Cooper
Signature of Graduate Office Staff

July 31, 1998
Date Received