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Teacher Perceptions of the Importance of Fitness Testing and the Relationship of Fitness Testing to Lifetime Fitness Goals for High School Students

Jennifer Thorp
Indiana University of Pennsylvania

TEACHER PERCEPTIONS OF THE IMPORTANCE OF FITNESS TESTING AND THE RELATIONSHIP OF FITNESS TESTING TO LIFETIME FITNESS GOALS FOR HIGH SCHOOL STUDENTS

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Jennifer Thorp

Indiana University of Pennsylvania

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Indiana University of Pennsylvania
School of Graduate Studies and Research
Department of Professional Studies in Education

We hereby approve the dissertation of

Jennifer Thorp

Candidate for the degree of Doctor of Education

_____ _____
Beatrice S. Fennimore, Ed.D.
Professor of Education, Advisor

_____ _____
Valeri R. Helterbran, Ed.D.
Professor of Education

_____ _____
Christine Black, Ph.D.
Professor of Health and Physical Education

ACCEPTED

_____ _____
Timothy P. Mack, Ph.D.
Dean
School of Graduate Studies and Research

Title: Teacher Perceptions of the Importance of Fitness Testing and the Relationship of Fitness Testing to Lifetime Fitness Goals for High School Students

Author: Jennifer Thorp

Dissertation Chair: Dr. Beatrice S. Fennimore

Dissertation Committee Members: Dr. Valeri R. Helterbran
Dr. Christine Black

The purpose of this mixed method study was to determine teacher perceptions of fitness testing and the relationship between fitness testing to their students making lifetime fitness goals. The first phase of the study consisted of a quantitative survey. From among the high school physical education teachers currently teaching in two Eastern states, 43 participated in this study by responding to the 27 question survey. The second phase of the study consisted of qualitative telephone interviews. Eleven high school physical education teachers were asked six open-ended questions using a semi-structured protocol. Analysis of the survey and interview data indicated a perceived need for fitness testing, teaching of lifetime fitness goals, and increasing student interest. Three themes emerged that affected these perceptions: fitness testing benefits, differentiated goal-setting instruction, and exposing students to a variety of activities. These themes were examined in relation to the participants' perceptions of fitness testing and lifetime fitness goals. Implications and recommendations for high school physical educators are discussed.

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The heights by great men reached and kept were not attained by sudden flight, but they, while their companions slept, were toiling upward in the night.

Henry Wadsworth Longfellow

I would first like to dedicate this dissertation in memory of my grandmother, Booga. Unfortunately she passed away before I finished this program. She was such an inspiration to me and I could not have asked for a better grandmother. I will never forget my first trip to IUP with her and the unforgettable memories. I know she would be proud of my accomplishment.

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DESCRIPTION OF THE STUDY

Introduction

The rising obesity rates in the United States give added importance to the existence of effective physical education curriculum in schools. According to the Centers for Disease Control (2010), the amount of obese adolescents has escalated from 5% in 1976-1980 to 18.1% in 2007-2008. In other words, over the last 30 years obesity rates for adolescents have more than tripled in the United States. As a result of these alarming rates, overall fitness has become an even more important concept for physical educators to teach their students. Physical fitness means that a person has or is trying to achieve a set of traits to perform a physical activity (Corbin, 2004). Moreover, physical fitness is an essential component, because improved fitness levels can prevent the onset of chronic disease, reverse a diagnosed chronic disease associated with inactivity, increase the immune system to ultimately decrease the chance of getting sick, and improve their self-esteem due to the endorphins (a natural chemical in the body that makes a person feel good) that are released during exercise (Corbin, 2002; Kotecki, 2011). The goal of physical education is to promote physical fitness by increasing physical activity and teaching fitness concepts so they will continue being active in adulthood thus decreasing the obesity rates (Keating, 2003). The Centers for Disease Control (2011) recommends that adolescents be active for at least 60 minutes or more every day. Then once adolescents become adults, it is recommended that they engage in a moderate-intensity exercise (e.g., a brisk walk) for at least 30 minutes a day 5 times a week to live an active lifestyle (Garber, Blissmer, & Deschenes, 2011).

Required high school physical education classes might represent the last opportunity for some students to have a regular, structured period of physical activity during the week. After

high school, most jobs and college programs do not require participation in exercise; therefore, students need a personal incentive to find ways to be active on their own. High school physical education programs are creating new curriculum that focuses on lifetime and personal fitness to aid in students being physically active in adulthood (Welk, 2008).

Fitness Testing

Utilizing fitness tests as a central component of physical education may be an effective way to motivate students to set goals for a lifetime of activity. Fitness testing is an assessment used to evaluate the five components of health-related physical fitness: flexibility, body composition, muscular strength, muscular endurance, and cardiovascular endurance (Welk, 2008). An example of one fitness test is the curl-up which is a partial sit-up done while lying on the floor with the legs bent. The students have their arms folded across their chest. Their ability to touch their elbows to their knees and then touch their shoulders back to the floor is tested. Strength and endurance in the core muscles is measured by the amount of curl-ups performed in one minute.

Research studies (Ha, Johns, & Shiu, 2003; Welk, 2008) have indicated that students consider fitness tests important and are motivated to do well the assessments. Fitness tests are an effective way for students to evaluate their own current fitness levels and begin to set personal goals (Silverman & Keating, 2004). These personal goals that are created by the students can be used to construct a personal fitness plan, an individual plan which is by designed to meet their physical desires and needs (Keating, 2003). However, the link between fitness testing and the construction of personal student goals has yet to be researched, and was one of the focal points for this study: to investigate teacher perceptions of the role of fitness testing in the development of lifetime fitness goals.

Statement of the Problem

The purpose of this study was to examine the beliefs of high school physical education teachers about the value of in-class fitness testing and the relationship between in-class fitness testing and student development of lifetime fitness goals. This dissertation also investigated perceptions of physical educators perceived their responsibilities were in regard to teaching lifetime fitness goals to their students, and determined which lifetime fitness goals are considered most important for students to learn. Finally, this study pinpoints strategies physical educators use to prioritize curriculum for student learning.

Purpose of the Problem

The purpose of this mixed methods study was to determine teacher perceptions of fitness testing and the relationship between fitness testing to their students making lifetime fitness goals. Currently, only one other study has focused on teacher attitudes of fitness testing. Researchers in this study found that teachers use fitness testing to determine student's fitness levels, keep track of physical progressions and regressions, and to measure the effectiveness of instruction (Keating & Silverman, 2004). In short, the study concluded that teachers have a more positive attitude toward fitness testing when teachers benefit by using fitness testing as a measurement of effective instruction and students benefit by using fitness testing to determine current fitness levels and track physical progressions and regressions. Since this study was conducted, physical education has become more focused on lifetime fitness activities as opposed to organized sports due to the increasing obesity rates in the United States. The goal of physical educators is to promote physical activities that students will continue to engage in throughout adulthood (Keating, 2003). Therefore, this study determined educator perceptions of the purpose and importance of fitness tests.

The second purpose of this study was to reveal if there is a perceived relationship between fitness testing and students making lifetime fitness goals among high school physical education teachers. Currently, no existing research has been published pertaining to this possible relationship. However, researchers recommend that physical education teachers use fitness tests to help students develop fitness goals (Keating, 2003; Keating & Silverman, 2004; Silverman, Keating, & Phillips, 2008). Since fitness tests assess health-related fitness components, lifetime fitness goals could possibly be created using these components and tests as a foundation. Therefore, this study determined physical educators' perception of an existing relationship between fitness tests and lifetime fitness goals.

Significance of the Study

The majority of physical educators implement some form of fitness testing in their classes (Keating & Silverman, 2004; Keating & Silverman, 2009; Morrow, Fulton, Brener, & Kohl, 2008). Some educators use fitness testing to determine current fitness levels, as a tool to track students' physical progressions, and for students to self-assess their physical abilities (Keating & Silverman, 2009). Fitness testing measures the five components of health-related fitness; what is necessary to maintain and improve each component to live an active lifestyle and should be integrated for lifetime fitness concepts in physical education. Even though physical educators implement these tests, they have been used as an isolated part of the physical education curriculum (Keating & Silverman, 2004). More recently, research indicates that physical education has given more importance to lifetime fitness, including fitness testing as a means of goal setting and progress monitoring, and suggests physical education curriculum be restructured to focus on teaching students to continue being physically active for a lifetime (Beyer, 2008; Ennis, 2010). Furthermore, there has been an increase in the number of resources that physical

educators can use to integrate lifetime and health-related fitness into the physical education curriculum (Corbin, & Lindsey, 2007; McCracken, 2011; National Association for Sport and Physical Education, 2005). Therefore, physical educators can meet these new standards by putting more effort into teaching lifetime fitness goals.

There are some states that mandate fitness testing in physical education while other states have recently added this requirement to the physical education curriculum. Previously, Texas and California were the only two states in the nation that mandated fitness testing in physical education (Morrow, Fulton, Brener, & Kohl, 2008). Now Alabama, Arkansas, Connecticut, Delaware, Georgia, Maine, Minnesota, Missouri, Mississippi, North Carolina, Pennsylvania, Rhode Island, Vermont, and West Virginia require school districts to implement some form of physical fitness assessment into their curriculum (National Association of State Boards of Education, 2012). Some states, such as California, require the fitness test results be reported to the school district while other states, such as Delaware, only require that these results be given to the student's parent, legal guardian, or caregiver. According to the Pennsylvania Code 4.52 (1999), school districts are required to develop and implement some form of physical fitness assessment, whether the tests are nationally recognized or created locally, to assess individual student achievement and for the purpose of high school graduation (Commonwealth of Pennsylvania, 1999). Nevertheless, more states have required physical fitness assessments in the past few years and some states have even gone so far as to create a lifetime wellness curriculum to help educate students on living an active lifestyle (Tennessee Department of Education, 2008).

Many teachers believe there are benefits to fitness testing. which is one of the reasons they have a positive attitude toward fitness testing (Keating & Silverman, 2004). This study determined the importance of fitness testing from the teacher's perspective. According to

physical educators, the purpose of fitness testing is to encourage student participation, keep records of students' physical abilities, and assess teacher instruction (Keating & Silverman, 2004). This study provided further understanding of the ways in which teachers value fitness testing in their curriculum.

One of the reasons why teachers value fitness testing is that it enables them to keep accurate records of physical abilities (Keating & Silverman, 2004). This study looked beyond existing research to determine other components of fitness testing. For example, teacher perception of how fitness testing relates to helping students make lifetime fitness goals has yet to be researched. This research study incorporated teacher perceptions of fitness testing and the relationship between fitness testing to their students making lifetime fitness goals. This inquiry also considered teacher views about the curricular responsibility to teach lifetime fitness goals. Prior research studies focused on how teachers are currently using fitness testing for physical education (Keating, 2003; Keating & Silverman, 2004, Silverman, Keating, & Phillips, 2008), but did analyze whether they feel obligated to include fitness testing in the curriculum. Moreover, this research study identified how teachers prioritize instructional goals in their physical education classes to ascertain what fitness knowledge they want their students to carry with them after graduation and into adulthood.

Research Questions

The following research questions were used to guide the study:

1. What are teacher perceptions of the importance of fitness testing in their high-school physical education classes?
2. What purpose does fitness testing serve according to physical education teachers?

3. What are teacher perceptions of their responsibility to teach lifetime fitness goals to their students?
4. What do high school physical education teachers believe are the most important lifetime fitness goals for the students?
5. How do teachers prioritize their goals in physical education in terms of what they feel is important for their students to learn?

Limitations of the Study

This mixed methods study provided an analysis of quantitative and qualitative data gained from a survey as well as interviews. A limitation of the study was a small number of survey respondents relative to the total number of potential respondents to whom the survey was sent. Although the surveys did yield substantial information, the researcher subsequently focused on gaining the richest possible data from the qualitative interviews. Thus, in Chapter Five, there is a strong focus on the themes that emerged in the qualitative data enriched by the survey data.

In terms of the above limitation regarding participants, 28% (43 teachers) began the survey but 7 apparently chose not to complete it. Thus, 36 total responses were used for data analysis. This relatively small return rate is not inconsistent with previous studies involving high school physical education teachers which had a return rate ranging from 15% to 40% (Gibbone, Rukavina, & Silverman, 2010; Keating & Silverman, 204; Meegan & McPhail, 2006).

Another limitation of the study was in the short answer section of the survey. The respondents gave a written rather than verbal response, which appears to have led to brevity of response and some lack of detail. Possibly a revision of the short answer section to encourage more detailed response may have been more effective in soliciting data.

The relatively small number of physical education teachers in high schools, compared to teachers of other subjects in many cases, added to the difficulty in finding a large number of potential respondents. Although email was effective in reaching out to a large number of potential respondents, the study may have been limited by the impossibility of making a more personal form of contact with physical education teachers.

A final limitation was the focus of the study on smaller sections of the United States. A nationwide study which included the states of California and Texas (which mandate fitness testing) may have yielded stronger results.

Definition of Terms

Terms central to this study are defined as follows:

Lifetime Fitness Goal--goals that are made in relation to physical activity that contributes to fitness and can be carried into adulthood (Fairclough, Stratton, & Baldwin, 2002).

Fitness Testing--assessment used to measure the five components of health-related fitness (National Association for Sport and Physical Education, 2005). Physical educators use the following types of fitness testing; President's Challenge, FITNESSGRAM, YMCA Youth Fitness Program, AAHPERD Physical Best, or Chrysler Fund-AAU Physical Fitness Test (Keating & Silverman, 2004)

Health-Related Fitness--is used to develop optimum health, helps to prevent the onset of chronic disease, or reversing a diagnosed chronic disease associated with inactivity, and is divided into five parts; flexibility, body composition, muscular strength, muscular endurance, and cardiovascular endurance which can be used to test current fitness levels (Kotecki, 2011).

Flexibility--ability to move a joint through its full range of motion (National Association for Sport and Physical Education, 2005).

Body composition--the amount of body mass (bone, muscle, organs, and body fluids) in comparison with the amount of body fat and is usually expressed using percentage of body fat (National Association for Sport and Physical Education, 2005).

Muscular Strength--amount of force a muscle or muscle group can exert with a single maximum effort (Kotecki, 2011).

Muscular Endurance--ability of a muscle or muscle group to exert repeated force against a resistance or to sustain muscular contraction for a given period of time (Kotecki, 2011).

Cardiovascular Endurance--ability of the circulatory and respiratory systems to supply oxygen and fuel to the body during sustained physical activity (Kotecki, 2011).

Methodology

Mixed methods research requires two different types of data collection and analysis; quantitative and qualitative. A study by Johnson and Omwuegbuzie (2004) defines mixed methods as, "the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language, into a single study" (p.17). The reason behind mixing quantitative and qualitative data is when a study incorporates both methods, they complement each other allowing the researcher to take advantage of each of the methods' strengths thus producing a stronger analysis (Ivankova, Creswell, & Stick, 2006). This study consisted of a two-phase data collection process: (1) the quantitative survey was sent to the participants and the data were analyzed, and (2) the qualitative interviews were conducted and the data were analyzed (Leech & Onwuegbuzie, 2009).

The first phase of the study consisted of a quantitative survey. The survey consisted of 27 questions and utilized other research instruments (Keating & Silverman, 2004; Zhu,Welk, Meredith, & Boiarskaia, 2010) along with original questions created by the researcher.

Permission was granted to use the research instruments via email from the researchers. The survey was created through *Qualtrics* and began with 15 Likert Scale questions where participants indicated their perception of the provided statements by responding with one of the following: strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree. Next, the participants were asked open-ended questions in regard to lifetime fitness goals and what goals are important in physical education. In this section, all three open-ended questions were created by the researcher. There are demographic questions in the survey which were predominately created using existing research instruments (Keating & Silverman, 2004; Zhu, Welk, Meredith, & Boiarskaia, 2010). It is recommended to have the demographic questions at the survey's end because some people do not feel comfortable answering this type of question. If they are at the beginning of the document, there is an increased chance that people may not participate in the survey (Muijs, 2004). The *Qualtrics* survey was converted into the Statistical Package for the Social Sciences (SPSS) computer software to analyze the Likert Scale and demographic questions. The short answer questions were analyzed using a systematic process to create codes and categories followed by a thematic analysis. Since this study utilized a mixed methods design, there was also a qualitative research instrument.

The second phase of the study consisted of telephone interviews. These interview questions were based from the research questions to gain more in-depth knowledge. The interview protocol consisted of six open-ended questions. The interview questions were open-ended so the participant could provide more detailed information because they were able to completely express their opinions and experiences while allowing the principle investigator to ask follow-up questions when needed (Turner, 2010). The interviews were recorded using a

digital voice recorder and transcribed. Then, the data were analyzed using a systematic process to determine the codes and categories followed by a thematic analysis to find emergent themes.

Summary

This study utilized a two-phase data collection process which consisted of a quantitative survey instrument and qualitative interviews. The quantitative instrument was an online survey composed of 27 open- and closed-ended questions and was created in *Qualtrics*. The qualitative instrument consisted of telephone interviews in which the participants were asked six open-ended questions. Both instruments were original and pilot studies were conducted to increase validity, reliability, and clarity.

Fitness testing assesses the five components of health-related fitness and is used by physical educators to assess their instruction, determine students' current fitness levels, and to assess students' physical progressions. These tests can also help students begin to make personal fitness goals. The link between testing and students making lifetime fitness goals has yet to be researched so the study focus was to determine how physical education teachers perceived the relationship between fitness testing and students making lifetime fitness goals.

Fitness tests are mandated by some states. Texas, for example, has a law that students are to take fitness tests each year (Silverman, Keating, & Phillips, 2008). More states are creating a law that requires school districts to implement some type of physical fitness assessment (National Association of State Boards of Education, 2012). National standards have also been created to ensure fitness testing be implemented to create and develop personalized physical activity program (Silverman, Keating, & Phillips, 2008; Welk, 2008). By incorporating fitness and fitness testing in physical education programs to promote lifetime fitness, obesity rates will hopefully stop increasing and, one day, start decreasing in the United States.

CHAPTER 2

REVIEW OF THE RELATED LITERATURE

Introduction

With the increasing obesity rates in the United States, physical education curriculum has now become an even more important focus of improving fitness levels in young people. According to the Centers for Disease Control (2010a), 37% of adults are overweight and 29% are obese, identified using the body mass index, in the United States. Currently, there are approximately 18% of adolescents who are obese in the United States (Centers for Disease Control, 2009b). The increase is clear, as only 5% of adolescents were obese between 1976 and 1980 (Centers for Disease Control, 2009b). Therefore, fitness concepts have become more of a focus not just for physical educators to teach their students but also needs to extend to lifetime goals. Physical fitness is an essential component because if a person improves their fitness level, they can prevent the onset of chronic disease, reverse a diagnosed chronic disease associated with inactivity, increase the immune system to ultimately decrease the chance of getting sick, and improve their self-esteem due to the endorphins (a natural chemical in the body that makes a person feel good) that are released during exercise (Corbin, 2002; Kotecki, 2011).

Increasing awareness of obesity and other health problems has made it more important not only for students to be active but for physical education to provide positive opportunities and increase motivation for lifelong fitness. When implementing the physical education curriculum, educators constantly try to increase the amount of physical activity in their classes. This is why physical education, including fitness concepts, is even more important now; to provide adolescents with the knowledge, skills, and tools they will need to increase physical activity in their lives in hopes these trends continue throughout adulthood. With the importance of lifelong

fitness, physical education curricula have changed accordingly. Physical education has broadened from organized sports to focus on fitness activities which include helping students make lifetime goals (Bibik, Goodwin, & Omega-Smith, 2007). The reason for this change is that children and adolescents have continued to decrease physical activity in their lives which contributes to the escalating obesity rates. Therefore, high school physical education programs are creating a new curriculum that focuses on lifetime and personal fitness to aide in students being physically active in adulthood (Bibik, Goodwin, & Omega-Smith, 2007; Keating & Silverman, 2004).

A fitness unit in physical education enables students to learn the necessary information to help them live healthy lifestyles. One of the main goals is to provide students with activities and knowledge, such as lifelong physical activity, that can be used after graduation and carried into adulthood (Corbin, 2002). With the promotion of lifetime goals and activities, lifetime fitness concepts are an essential component to fitness units. Lifetime fitness activities are activities that students participate in outside of school and can continue throughout adulthood.

Physical educators can incorporate lifetime fitness concepts into their fitness unit by providing students with opportunities to make lifetime fitness goals. Moreover, educators can also incorporate health-related fitness concepts that also promote lifelong fitness, such as fitness tests (McCracken, 2011). Fitness tests are currently implemented in physical education classes and can be used as a starting point for lifetime fitness goals by determining students' current fitness levels. This dissertation has a focus on the relationship of fitness testing in physical education classes to the development of personal lifetime fitness goals.

This chapter explores key research and current information related to the dissertation topic. In addition, the theoretical foundation of the research is discussed. First, the current

health concerns about adolescents in the United States are presented. Next, there is a review on what influences high school students' motivation in physical education which include: (1) gender, (2) body image, and (3) enjoyment. Then, there is an examination of fitness testing in relation to physical education, teachers, and students. Components include perceptions of fitness testing and how fitness tests are used in physical education. Finally, there is a discussion on lifetime fitness in relation to students and how lifetime fitness goals can be used to create a personal fitness plan. A definition of lifetime fitness goals and a universal format students can follow to help them create effective goals is provided. A theoretical framework was created using behavior theories and utilized as a structure for this study. This chapter begins by presenting framework which was derived from three behavior theories: (1) Self-Efficacy Theory (SET), (2) Self-Determination Theory (SDT), and (3) Theory of Planned Behavior (TPB).

Health Concerns of High School Population

Adolescents are almost at the end of childhood growth. Their gains in physical fitness during this period are likely to enhance their wellness in adulthood. Because of trends in sedentary activities such as video games, many adolescents may not be maximizing their fitness levels (Li, Treuth, & Wang, 2010). Currently, 33% of adolescents watch three or more hours of television and 25% are using computers every day in the United States (Centers for Disease Control, 2009b). These statistics indicate that adolescents are less active than they used to be which ultimately helps contribute to the rising obesity rates in this age group (Centers for Disease Control, 2009c). In Pennsylvania, only 54% of adolescents were active at least 60 minutes per day less than 5 days per week (Centers for Disease Control, 2009c). Nationally, the recommended amount of physical activity for adolescents is 60 minutes of moderate to vigorous activity every day (Centers for Disease Control, 2011). However, only 18% of adolescents are

getting this recommended amount of exercise (Centers for Disease Control, 2009b). Therefore, it is critical for adolescents to learn healthy habits they can carry over into adulthood.

Adolescents choose healthier behaviors, have higher grades, and improve their self-esteem when they exercise regularly. When adolescents engage in vigorous physical activity, they are more likely to participate in behaviors that are health promoting and less likely to engage in risky behaviors, such as drug use, that affect their health (Delisle, Werch, Wong, Bian, & Weiler, 2010). Moreover, adolescents also choose healthier foods, have better skills to manage stress, and sleep better when they were active vigorously than the adolescents who had little to no vigorous activity (Delisle, Werch, Wong, Bian, & Weiler, 2010; Kristjánsson, Sigfúsdottir & Allegrante, 2010). There is also a link between academic achievement and physical activity. Studies have found that when adolescents are physically active, they will have a higher academic achievement (Chomitz, Slining, McGowan, Mitchell, Dawson, & Hacker, 2009; Kristjánsson, Sigfúsdottir & Allegrante, 2010; Smith & Lounsbery, 2009; Van, Kelder, Kohl, Ranjit, & Perry, 2011). Another benefit of physical activity is improved self-esteem (Kristjánsson, Sigfúsdottir & Allegrante, 2010) which is an important component as adolescence can be an uncomfortable period due to the physical and emotional changes that occur.

To help advocate physical activity, national initiatives such as *Fuel up to Play 60* specifically address the needs of children and adolescents by promoting the recommended amount of 60 minutes of physical activity every day (National Dairy Council & National Football League, 2011). This particular program is appealing to adolescents because National Football League (NFL) athletes are the motivational spokesman. Physical educators are also trying to decrease obesity rates by making physical education a positive learning experience and giving students the knowledge they will need to continue being active throughout adulthood.

For example, physical educators implement fitness testing, which will be further discussed later in this chapter, to promote physical fitness in their classes and help students determine their current fitness levels.

In short, adolescents continue to live a sedentary lifestyle which is one of the many reasons why physical education programs focus on promoting lifelong physical activity. Like physical educators, national programs, such as *Fuel up to Play 60*, are encouraging adolescents to change their sedentary behaviors and be active at least 60 minutes a day, which is the recommended amount of daily physical activity. Nationally, only 18% of adolescents are meeting these physical activity recommendations. If adolescents increase the amount of time they are physically active, they will increase their self-esteem, get higher grades, and choose healthier behaviors. With adolescent health behaviors identified, this study took into consideration three theories to provide a rationale for why behaviors occur.

Overview of the Theories

This study was based on human behavior as it relates to teacher perception of fitness testing and lifetime fitness goals. However, an overview is discussed to explain the rationale each theory provides for these actions. First, the Self-Efficacy Theory (SET) takes into consideration that humans behave in a way that is efficacious to their needs. Second, the Self-Determination Theory (SDT) explains that learners need to be interested which increases when the information intrinsically meets their desires. Third, the Theory of Planned Behavior (TPB) describes that human actions are based on beliefs and perceptions.

The Self-Efficacy Theory, created by Bandura, utilizes efficacy as the main determinant of human behavior (Martin & Kulinna, 2004). Bandura defines efficacy as, "a generative capability in which cognitive, social, emotional, and behavioral subskills must be organized and

effectively orchestrated to serve innumerable purposes" (1997, p. 36-37). In other words, cognitive, social, emotional, and behavior are mixed together and aligned to achieve goals through behaviors. Self-efficacy refers to how a person perceives their capability of a particular task (Froman & Owen, 1991). Bandura (1977; 1997) proposed that self-efficacy influences which behaviors humans actually attempt. Therefore, if someone feels efficacious about a particular task, they will more likely attempt this behavior and exert more effort because of their positive perception.

The Self-Determination Theory provides an explanation on human motivation which ultimately influences behavior. Self-determination is defined as, "the experience of freedom in initiating one's behavior" (Deci & Ryan, 1985, p. 31). In other words, humans choose how they behave. This theory also encompasses intrinsic motivation and autonomy as the main determinants on how humans determine these behaviors (Deci & Ryan, 1985; Deci & Ryan, 2000; Hardre & Sullivan, 2009). Intrinsic motivation is defined as the motivation that provides innate needs for competence (Deci & Ryan, 1985). Autonomy means that humans will choose behaviors that are interesting and coincide with their personal values (Deci & Ryan, 2002). Therefore, humans will more likely choose behaviors that are interesting, identify with their personal values, and intrinsically motivate them.

The Theory of Planned Behavior is constructed from perceived control which influence and predict behaviors through a perception of control over how it is performed thus motivating individuals to perform this specific behavior (Ajzen, 1991; Montano & Kasprzyk, 2008). It is thought that behavioral beliefs, which produce attitude, normative beliefs, which lead to subjective norm, and control beliefs, which gives perceived behavioral control, guide the considerations that humans make about their behaviors (Ajzen, 2002). Therefore, the more

positive the attitude and determination, the more likely chance that humans will engage in the intended behavior (Ajzen, 1991). While each theory discusses different aspects of human behavior, they are all connected and were used as a foundation for this study.

Relationship of Theories to Study

These three theories, Self-Efficacy Theory, Self-Determination Theory, and Theory of Planned Behavior, were used as a framework for this study. Each theory discusses how they relate to this study. First, the SET explains how efficacy can be directly related to overall fitness. Next, the SDT determines how intrinsic motivation and autonomy affects behaviors in regard to exercise. Then, the TPB provides an explanation for why these behaviors are executed. Finally, how these theories connect to create a framework which is used to the structure this dissertation is presented.

The motivation that drives students to learn and teachers to teach about fitness concepts begins with their value of self-efficacy. According to the Self-Efficacy Theory, when individuals feel efficacious, they are more likely to perform at a higher activity level, try new behaviors, put more effort toward these new behaviors, and persevere longer when challenges arise (Gao, Lee, & Harrison, 2008; Martin & Kulinna, 2004). In relation to physical education, teachers who are efficacious about giving students opportunities of high physical activity levels, such as promoting fitness concepts, will be more likely to do so as opposed to teachers who do not have this same view (Martin & Kulinna, 2004). This research study determined teacher perceptions of how fitness testing relates to their high school students making lifetime fitness goals. If teachers have a positive perception of this relationship, then they will provide positive opportunities for students to make these goals so they can continue living physically active lifestyles after they graduate high school. Also, the SET is thought to determine what activities

are chosen including a willingness to participate, perform, and persist at the chosen activity (Gao, Lee, & Harrison, 2008). Not only is the selection of activities derived from the SET but it also acts as a go-between that affects goal setting and behavior (Tiwari, Rathor, & Singh, 2007). A study found that self-efficacy is directly and indirectly related to achievement goals and fitness testing scores (Gao & Xiang, 2007). Therefore, if teachers are efficacious about their students making goals and fitness testing, then their high school students will make effective goals and perform fitness testing with more effort and will gain better results. The SET is thought to predict human behavior and considered to be related to the Self-Determination Theory.

The Self-Determination Theory explains that humans choose how they behave and will more likely engage in behaviors that are autonomous and intrinsically motivate them. When physical educators encourage self-determination motivation, students increase their physical activity levels, promote self-initiated physical activity behaviors, and ultimately improve their health (Lonsdale, Sabiston, Raedeke, Ha, & Sum, 2009; Pihu, Hein, Koka, & Hagger, 2008). Moreover, intrinsic motivation is the prime type of motivation that affects determination and is achieved when the learner's own needs and desires are met (Hardre & Sullivan, 2009; Power, Ullrich-French, Steele, Daratha, & Bindler, 2011). When physical education teachers incorporate fitness concepts such as fitness testing into the curriculum, students' motivation to learn and achieve increases. This is because fitness concepts intrinsically motivate students because the results are designed to give them the necessary information to meet their fitness needs and desires (Hein & Hagger, 2007; Keating & Silverman, 2009). For example, when students take the physical fitness tests, the results reveal their own current fitness levels. Therefore, students are interested in what increases autonomy because these tests find out what physical components of health-related fitness needs to be improved. The SDT also affects life

goals that humans develop, including long-term physical activity goals, because their goals will be made to meet their intrinsic and autonomy needs (Deci & Ryan, 2008). This study focused on students making lifetime fitness goals which can be created more effectively when they are intrinsically motivated. Motivating students is essential because they need support and opportunities to participate and be active during class. Taylor, Ntoumanis, and Standage (2008) suggest that teacher's motivation could have an indirect effect on their motional strategies toward students. In other words, the way teachers are self-determined and motivated, such as how they are motivated to exercise and be physically fit, could affect the way they motivate their students to exercise and be physically fit. This is one of the reasons why this research study focused on the teacher's perceptions; because their perceptions have an influence on their behavior which in turn influences how they motivate their students.

The Theory of Planned Behavior explains that teacher perceptions directly affect and can predict their behaviors, including healthy behaviors (Montano & Kasprzyk, 2008; Rikard & Banville, 2006; Stewart Stanec, 2009). This means that if teachers have a positive perception, their behaviors will also be positive. A study by Martin and Kulinna (2004) concluded that if teachers have positive attitudes toward a curriculum that incorporates physical activity, they are more likely to teach classes that increase activity which ultimately contribute to the fitness and health of their students. Therefore, teachers need a positive perception of the importance of fitness testing as the central method of helping students to ultimately build lifetime fitness goals. The TPB has been utilized as a basis to predict physical education teacher perceptions, attitudes, and behaviors. This research incorporated the Self-Efficacy Theory, Self-Determination Theory, and Theory of Planned Behavior because perception directly influences behavior meaning that physical education teachers' perception will influence how they implement fitness concepts.

Three behavior theories, Self-Efficacy Theory, Self-Determination Theory, and Theory of Planned Behavior, provided the foundation for this study. First, when teachers feel efficacious about fitness, they are more likely to implement fitness lessons including fitness tests and helping students make lifetime fitness goals (Gao, Lee, & Harrison, 2008; Martin & Kulinna, 2004). Next, the SDT is the motivation that drives behavior because fitness is interesting and intrinsically motivates individuals. Therefore, SDT affects teacher perceptions about fitness and when teachers perceive fitness positively, they are more likely to implement fitness testing positively. Then, the TPB is used to explain how teachers implement fitness lessons which include fitness testing and how they provide opportunities for students to make lifetime fitness goals (Lonsdale, Sabiston, Raedeke, Ha, & Sum, 2009; Stewart Stanec, 2009). These three theories affect teachers' perceptions and behaviors which are expressed when they implement fitness concepts, including fitness tests. Moreover, this ultimately leads to how students think, feel, and act in relation to fitness including performance on fitness tests and physical activity behavior (Pihu, Hein, Koka, & Hagger, 2008). First, the SET suggests that if students feel efficacious about doing well on fitness tests, they will put energy into their performance on the tests (Gao, Lee, & Harrison, 2008; Martin & Kulinna, 2004). Next, the SDT affects how students perceive fitness which is influenced by motivation. Fitness tests intrinsically motivate students which increases their determination yielding more accurate results of fitness testing (Hardre & Sullivan, 2009; Martin, Ede, Morrow, & Jackson, 2010). Currently, adolescents are motivated to participate in a fitness unit because they picked fitness as one of the most important concepts in physical education (Ha, Johns, & Shiu, 2003; Welk, 2008). When teachers implement fitness testing in a positive way, students perceive these tests positively which is demonstrated through their behaviors. Then, the TPB explains that students' behavior will

coincide with their perception and motivation (Montano & Kasprzyk, 2008; Rikard & Banville, 2006). A study on the use of fitness tests in physical education reveals that teachers think students try their best on fitness testing at least 66% of the time (Keating & Silverman, 2004). Students' behaviors are influenced by perception and intrinsic motivation which physical educators can enhance through strategies, such as positive feedback, to increase the chance that they will engage in healthy behaviors, such as increasing the time they spend being active (Pihu, Hein, Koka, & Hagger, 2008; Tassitano, Barros, Tenorio, Bezerra, Florindo, & Reis, 2010). Ultimately, this dissertation focused on teacher perceptions and behaviors which affect students' perceptions and behavior which is why the SET, SDT, and TPB are an integral part of the study. The theoretical framework was used systematically as a basis for this study which is visually represented in Figure 1.

These theories discuss perceptions and behaviors which are influenced by several factors including motivation. In relation to this study, motivation is affected by factors in physical education. If students are motivated in physical education classes, they will exert more effort during class, their activity levels will increase, and as a result, their caloric expenditure rate will be higher. In turn, students will be closer to getting the recommended 60 minutes of daily activity (Centers for Disease Control, 2011).

Student Motivation in Physical Education

A review of the literature reveals that three variables--(1) gender, (2) body image, and (3) enjoyment--are most influential in motivating students to engage fully in physical education classes. Males and females are motivated differently because of their activity preferences (Azzarito & Solmon, 2006). Body image refers to how an individual views and what their attitude is toward their own body (Lodewyk, Gammage, & Sullivan, 2009). Enjoyment increases

student motivation when they are interested in the activity and want to participate (Smith & St. Pierre, 2009).

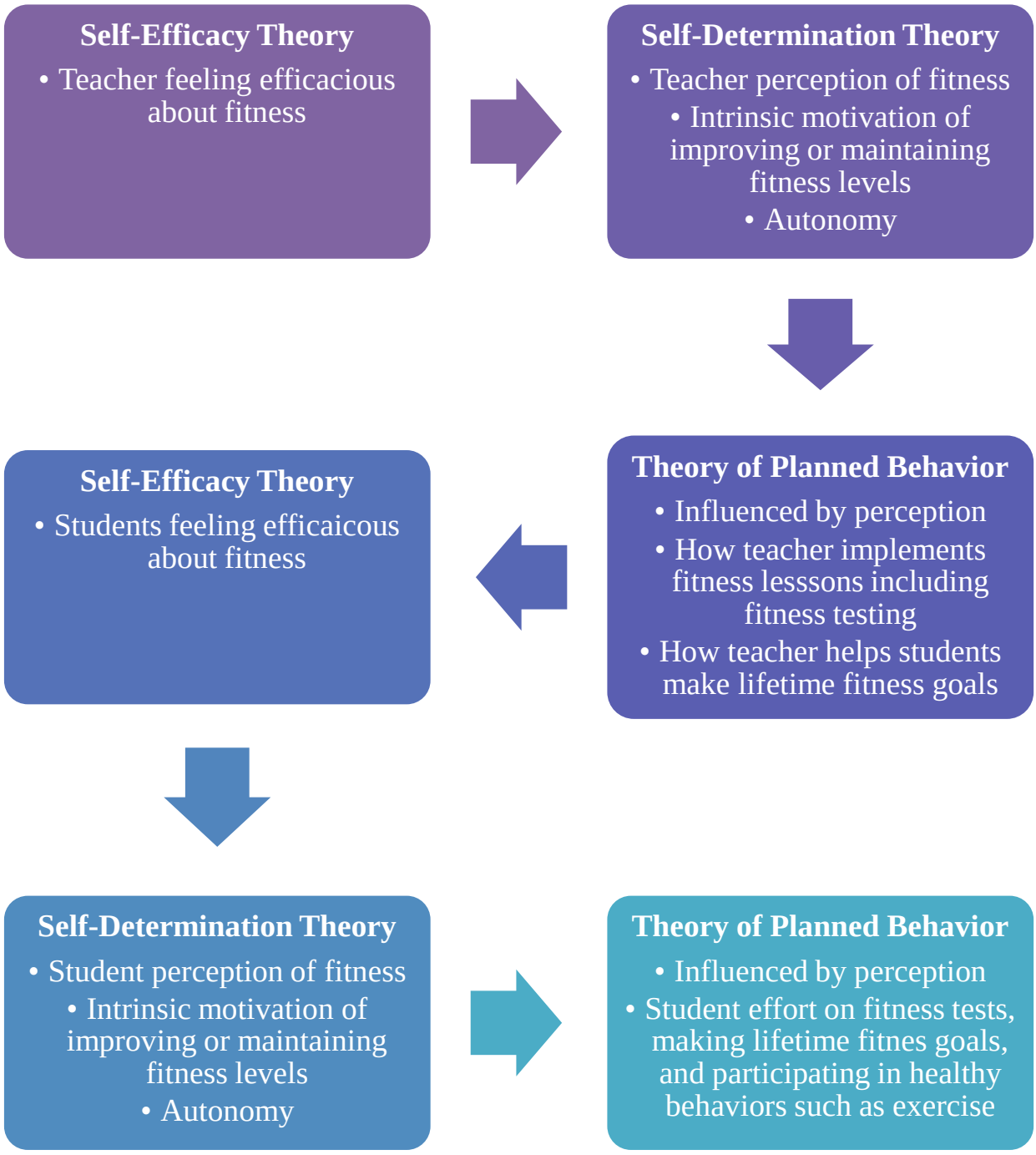

Figure 1. Motivation and behavior influences on perceptions of fitness.

Gender and Student Motivation

Researchers (Azzarito & Solmon, 2005; 2006; Couturier, Chepko, & Coughlin, 2007; Ruiz, Graupera, Moreno, 2010) explain that males and females will increase their motivation and participation when the activities they engage in are gender preferred. A study (Couturier et al., 2007) of high school students reveal that 63% of females choose activities**,** such as aerobics and dance**,** which is a significant difference when compared to 15% of males. Physical educators create units so that females are offered more lifetime activities than team games whereas males are offered more team games than lifetime activities (Fairclough, Stratton, & Baldwin, 2002). A study of student preferred units found that there was a discrepancy among males and females; females indicated that they prefer lifetime activities whereas males did not share this same perspective (Courtier et al., 2007). This means that some school districts place more emphasis on team games for males at the expense of lifetime fitness activities (Fairclough, Stratton, & Baldwin, 2002). Even though there is an imbalance of team games to lifetime fitness activities, students are still being exposed to some lifetime fitness concepts. In short, adolescents are strongly influenced by external forces which denote gender appropriate activities and personas so physical educators change their curriculum accordingly.

Body Image and Student Motivation

The culture of fitness and media has created a perception of what an ideal body type looks like. Moreover, this culture designates which type of activities males and females should participate in (Azzarito & Solmon, 2006). Research studies (Azzarito & Solmon, 2006; 2009; Constantinou, Manson, & Silverman, 2009) indicate that females are more likely to have body image concerns than males and seek a smaller more petite frame (Lodewyk, Gammage, & Sullivan, 2009). Due to this body size discrepancy, motivation is directly affected. Furthermore,

when students have a low self-image, they are less likely to be motivated to participate in sports; therefore**,** they are less likely to participate in physical education activities (Azzarito & Solmon, 2006; Lodewyk et al., 2009). Constantinou and colleagues (2009) survey reveals that body image is directly related to self-efficacy, which leads to a change in motivation, particularly in physical education. A similar study found a significant positive correlation between self-esteem and body image (Ping, Pan, Zhou, & Tian, 2011). Therefore, the higher an adolescent's self-esteem, the more positive their body image will be which leads to increased motivation in physical education. In relation to the Self-Efficacy Theory, if students feel efficacious about having a certain body physique, they will find ways to achieve this body type and one of the most healthy and effective ways is to increase the amount of time they spend being physically active.

Enjoyment and Student Motivation

Enjoyment positively encourages students' behavior and motivates them to participate in physical activity. Smith and St. Pierre's (2009) qualitative study indicated there are four categories that influence enjoyment; teacher impact, student characteristics, class activities and content, and classroom environment. Through interaction with students and instruction, teachers have the power to create or enhance student enjoyment (Smith & St. Pierre, 2009). Teachers increase enjoyment by enthusiasm, sense of humor, and outgoing personality traits (Smith & St. Pierre, 2009). When a teacher makes physical education class fun, students enjoy participating (Shen, Li, Sun, & Rukavina, 2010; Smith & St. Pierre, 2009). Students will also choose activities they enjoy. High school students chose fitness as one of the top units in physical education and indicated that they liked fitness because it is fun and they can improve on their fitness levels (Ha, Johns, & Shiu, 2003; Rikard & Banville, 2006). These results coincide with

the Self-Efficacy, Self-Determination, and Theory of Planned Behavior theories for this study because students have the desire to participate in fitness activities and want to improve on their fitness levels.

Fitness Testing in Physical Education

Fitness testing is an assessment used to measure the five components of health-related fitness; flexibility, body compositions, muscular strength, muscular endurance, and cardiovascular endurance (National Association for Sport and Physical Education, 2005). An example is how long it takes for a student to run one mile which determines cardiovascular endurance. The goal of fitness testing is to encourage student participation, keep records of students' physical abilities and progress, and assessing teachers' instruction (Ferguson et al., 2007; Keating, 2003). Fitness testing can take many forms such as the President's Challenge, FITNESSGRAM, YMCA Youth Fitness Program, AAHPERD Physical Best, or Chrysler Fund-AAU Physical Fitness Test (Keating & Silverman, 2004). Even though only 8% of states mandate fitness testing, 65% of physical education teachers implement some form of fitness testing in their classroom (Morrow, Fulton, Brener, & Kohl, 2008). Texas and California, for example, enacted a law stating that students need take fitness tests each year (Silverman, Keating, & Phillips, 2008) and recently more states are mandating some type of physical fitness assessment for students (National Association of State Boards of Education, 2012). Some states even require the results be reported to the national fitness test association, such as the FITNESSGRAM or to the adolescents' parent or guardian (National Association of State Boards of Education, 2012).

Educators spend a vastly different amount of time when teaching fitness. In a quantitative survey designed to determine the instructional component of fitness in physical

education, the teachers indicated that they spend anywhere between 40 to 4,860 minutes per semester on personal fitness which averages to around 82 minutes per week (Stewart & Mitchell, 2003). Of course physical education units depend on resources. In fact, this is one of the main complaints physical education teachers have in regard to teaching fitness and why they do not spend more time teaching it (Stewart & Mitchell, 2003).

Controversy over Fitness Testing

There are views that fitness testing is not valid or reliable and that the time allocated in physical education for fitness testing could be better spent (Cale & Harris, 2009). These authors argue that some fitness tests such as the beep test are not reliable or valid and that they could be a misdirected effort in promoting physical activity. The beep test determines cardiovascular endurance by having a student run 20 meters between beeps over and over. These beeps constantly get faster and the test is over when the student is too exhausted to continue. This study could be valid because of the misleading information that students get; that exercise means exhaustion. However, other studies found that criterion-reference and health-related physical fitness tests are reliable, valid, and safe to be performed in schools (España-Romero, Artero, Jimenez-Pavón, Cuenca-Garcia, Ortega, Castro-Piñero, & Ruiz, 2010; Martin, Ede, Morrow, & Jackson, 2010; Morrow, Martin, & Jackson, 2010). The majority of educators (61%) use national fitness tests, which are either norm-reference or criterion-reference (Keating & Silverman, 2004). The FITNESSGRAM does use a Progressive Aerobic Cardiovascular Endurance Run (PACER) which is a variation of the beep test. Students run 20 meters between beeps which get faster and the test ends when the student cannot keep pace with beeps (FITNESSGRAM, 2012). However, physical educators who use the FITNESGRAM can choose three different ways to test aerobic capacity; PACER test, one-mile run/walk, or the walk test.

Continued Importance of Fitness Testing

Even though some school districts require fitness testing, other schools that do not have this requirement still implement some form of fitness testing (Keating & Silverman, 2004). Personal fitness instructors use fitness testing to determine current fitness levels prior to creating a plan to meet the needs of their client (Clark, National Academy of Sports Medicine, Lucett, & Sutton, 2011). If this type of testing is not done, then the fitness plan would not accurately be personalized because the professional does not know the client's physical capabilities. Therefore, fitness tests can be used to determine students' current fitness levels just like a personal fitness trainer would have their clients take prior to making a fitness plan. In fact, this is the main reason physical educators implement these tests (Keating & Silverman, 2004).

Physical Education Teachers, Students, and Fitness Testing

Teachers play a key role in making fitness testing an educational and beneficial experience for students. The majority of teachers use fitness testing in physical education (Brener, Fulton, Kohl, & Morrow, 2008; Keating & Silverman, 2004). There are factors that determine whether educators will implement fitness testing. These reasons are listed from most to least influential; district requirements, secondary students, coaching responsibility, having an undergraduate degree in kinesiology or physical education, having a graduate degree in kinesiology or physical education, staff development training on fitness testing, and living in suburban areas (Brener et al., 2008; Keating & Silverman, 2009). Teachers perceive that fitness testing is beneficial to them because it can be used to assess their instruction (Keating & Silverman, 2004; Keating & Silverman, 2009). Moreover, teachers perceive fitness tests can also benefit students because they promote student participation, keep track of students' physical

capabilities and ultimately promote physical activity (Keating & Silverman, 2004; Mahar & Rowe, 2008; Silverman, Keating, & Phillips, 2008).

There are factors that influence the use of fitness testing in physical education programs including the teacher's purpose for using fitness tests for their students, an aspiration to motivate, evaluate, and diagnose students and teachers (Keating & Silverman, 2009). Teachers think fitness tests benefit students because they can see their current fitness levels (Keating & Silverman, 2004; Mahar & Rowe, 2008). Factors that influence the use of fitness testing include the grade level (more commonly in secondary school level), having an undergraduate degree in kinesiology of physical education and staff development (Brener, Fulton, Kohl, & Morrow, 2008). There are different approaches to teaching fitness testing in physical education and one of the most common approaches is letting students know when the tests will occur (Keating & Silverman, 2004). Most educators test students once a year and use the recommended criterion-referenced based tests such as the FITNESSGRAM (Keating & Silverman, 2004; Mahar, & Rowe, 2008; Wiersma, & Sherman, 2008). Teachers implement fitness testing in different ways for different purposes and students follow this pattern as well.

The Theory of Planned Behavior explains that human behavior is directly affected by attitude and behaviors toward fitness tests depend on the student's attitude and interest. Students think learning about fitness is fun and their overall fitness improves which means adolescents have a positive attitude toward fitness (Rikard & Banville, 2006). A study on student interests in physical education reveal that 46% of students identified they liked the amount of time teachers spent on fitness (Rikard & Banville, 2006). Moreover, students were asked to choose which units they liked the best in physical education and personal fitness was one of the top chosen units (Ha, Johns, & Shiu, 2003; Rikard & Banville, 2006). Students want to learn and participate

in fitness development because their perception is that they can benefit from it (Rikard & Banville, 2006).

Ultimately one of the goals in lifetime fitness is to provide students with the knowledge to live an active lifestyle. Teachers feel that fitness testing is important but implement and use the results of these tests differently. Professional trainings and grade level are just a few of the factors that affect the implementation of fitness testing. There are also different approaches students can execute when using the results of fitness tests. Students can use it to determine their fitness levels, physical progressions and regressions, and their health-related fitness knowledge (Keating & Silverman, 2004).

Lifetime Fitness Goals

Physical education curricula offer a different array of units of study that are implemented and how much time is allotted for each unit. Each school district has its own curriculum which means some schools teach different units than others. For example, one school might teach gymnastics while another school district does not because they do not have proper equipment. Regardless of what units are included in a physical education curriculum, lifetime fitness is mostly commonly implemented to promote lifelong physical activity (Corbin, 2002). One component of this unit is for teachers to give opportunities to help students make lifetime fitness goals.

Lifetime fitness goals, often called achievement goals orientation, are goals that are made in relation to physical activity that contributes to fitness and can be carried into adulthood (Fairclough, Stratton, & Baldwin, 2002). There are various ways a student can identify and make their lifetime fitness goals. An example of a positive lifetime fitness goal would be for an adolescent to improve on their cardiovascular endurance by performing activities, such as

running on a treadmill, which utilizes 40% to 60% of their maximum heart rate (MHR) for 30 to 40 minutes three times per week. However, there are steps that need to be taken before making effective lifetime fitness goals like the example provided.

First, adolescents determine their current fitness levels, which is most likely achieved by fitness testing (Keating & Silverman 2004; 2009). Next, students need to figure out the fitness levels on which they should improve. The student can compare their results to criterion-referenced standards, such as the President's Challenge, which include the health-related fitness components. For example, when a student's cardiovascular fitness test results indicate these levels do not meet the criterion-referenced standards, it is important to include their heart rate to ensure the activity chosen was effective in improving their cardiovascular endurance. Cardiovascular endurance is important because it is one component of health-related fitness. Moreover, since heart disease is one of the leading causes of death in the United States (Centers for Disease Control, 2010c), improving this endurance can decrease the chance that a person could be diagnosed with this chronic illness. Once the current fitness levels are identified, students can make lifetime fitness goals using a universal format.

Students can make lifetime fitness goals using the FITT (frequency--how many times a week, intensity--how hard the workout is, time--how long the workout is, and type--what kind of activity or exercise) principle as a foundation (Bulger, 2011). Students can also use fitness testing periodically to determine their current fitness levels then continue to test in order to keep track of their physical progressions (Wiersma & Sherman, 2008). However, there are suggestions that fitness testing should not be used as a means for tracking physical progression and regression as well as students should only be tested on their fitness once a year

(Keating, 2003). It is also important to note that lifetime fitness goals are also changing as fitness levels improve. Depending on how the fitness unit is implemented, students will update these goals approximately every few weeks (Clark et al, 2011). Ultimately, the purpose of exposing adolescents to lifetime fitness activities is for students to be able to continue participation in these activities into adulthood.

One way lifetime fitness goals can be used authentically is through developing and implementing a personal fitness plan. First, fitness levels need to be determined. Next, lifetime fitness goals will be created based on the students' desires, needs, and current fitness levels. Then, an exercise plan is created to meet the lifetime fitness goals. These concepts are an essential part of a fitness unit in physical education (Keating, 2003; Silverman, Keating, & Phillips, 2008; Stewart & Mitchell, 2003). The majority of educators (92%) indicate that they enjoy and want to teach personal fitness (Stewart & Mitchell, 2003). This study coincides with the Self-Determination Theory because teachers will choose personal fitness units in physical education because they enjoy and want to teach it. When physical educators implement personal fitness units, they are providing students with lifetime fitness concepts that can be used after graduation and carried into adulthood. This dissertation includes what physical education teachers feel are the most important lifetime fitness goals students need to learn in their classes.

Adolescents and Lifetime Fitness Goals

Adolescents need to become more independent in terms of being active and self-motivated to live an active lifestyle. After high school, most jobs and college programs do not require participation in exercise; therefore, students need to find ways to be active on their own (Steele, 2011). If students have positive physical education experiences, they will more likely stay active after they graduate from high school (Azzarito & Solmon, 2006; Lodewyk,

Gammage, & Sullivan, 2009). By making personal goals, such as the lifetime fitness goals, they are increasing their independence by creating and implementing their own exercise routine (Steele, 2011).

According to the Self-Determination Theory, personal fitness goals are designed to meet adolescents' desires and needs which intrinsically motivate them to improve their self-esteem (Hardre & Sullivan, 2009; Hein & Hagger, 2007). To make more effective goals, students can perform fitness tests to measure their current fitness levels. If learners understand the concept that fitness testing measures the components of health-related fitness which will then be used to create personal goals to ultimately create a personal fitness plan, they are more likely to put forth more effort when taking the tests (Stewart & Mitchell, 2003). Furthermore, student motivation increases when they keep track of their fitness tests throughout the year to see their physical improvements (Wilkinson & Hunter, 2008). A study by Stewart and Mitchell (2003) reveals that 57% of students could identify health-related fitness components and design a personal fitness plan but when asked to write an exercise prescription for goal setting students could complete this task with an error of 62% (Stewart & Mitchell, 2003). If students understand why they are performing fitness tests, they are more likely to try harder for the tests and make effective goals because they are intrinsically motivated.

The National Association for Sport and Physical Education (NASPE) created standards that can be met through having students make personal fitness plans (National Association for Sport and Physical Education, 2010). For example, NASPE standard four states, "achieves and maintains a health-enhancing level of physical fitness" and standard five states, "exhibits responsible personal and social behavior that respects self and others in physical activity settings" (National Association for Sport and Physical Education, 2004). Physical educators can

meet these national standards through implementing a lifetime fitness unit which can include lifetime fitness goals. Students can use their lifetime fitness goals to make a personal fitness plan which promotes lifetime physical activity, intrinsically motivates students, and ultimately meeting adolescents' needs.

Conclusion

This study utilized the Self-Efficacy Theory, Self-Determination Theory, and the Theory of Planned Behavior as a framework. The theoretical framework begins with the SET because if teachers and students feel efficacious about fitness, they are more likely to implement and engage in fitness behaviors. Next, the intrinsic motivation and autonomy affect the determination. The SDT will determine how intrinsic motivation and autonomy affects behaviors humans choose. Then, the TPB utilizes attitude and determination that affect why these behaviors occur. Ultimately, these theories are related to provide an explanation for why humans choose certain behavior. In relation to this study, humans will choose exercise behaviors if they feel efficacious, are intrinsically motivated, and are interesting which will be utilized for exercise behaviors such as performance on fitness testing.

Teachers and students benefit from fitness testing even though it is predominately implemented as an isolated part of the physical education curriculum. Since the majority of the teachers feel that fitness testing benefits students, they will be more likely to choose this as a unit in the curriculum (Ferguson et al., 2007). Teachers benefit from fitness tests because they can be used to assess their instruction. Students can benefit from fitness tests because it is a great way for them to see physical improvements or regression annually (Keating & Silverman, 2004; Silverman, Keating, & Phillips, 2008). Ultimately the goal of physical educators is to increase physical activity in their students. It is important to also recognize that adolescents not only need

an increase in physical activity but they also need healthy dietary habits to live healthy, active lifestyles. Physical education teachers can integrate lifetime fitness units and concepts such as nutrition and having them make a personal fitness plan.

With the change to lifetime and personal fitness in physical education programs, fitness testing is an ideal form of assessment because it measures the five components of health-related fitness. By developing and implementing a personal fitness plan, educators can use fitness testing as an integral part of the curriculum. Lifetime fitness units and concepts are becoming more popular in physical education. The amount of time teachers spend on personal fitness ranges from 40 to 4,860 minutes and averages around 82 minutes per week (Stewart & Mitchell, 2003). Physical education has become more of an accredited subject especially with the increasing obesity rates. The National Association for Sport and Physical Education (2010) developed standards to incorporate fitness testing to create and develop personalized physical activity. In order to aide in decreasing obesity rates and sedentary lifestyles, some states now require regular fitness testing. By teaching lifetime fitness and increasing physical activity in physical education programs, obesity rates will more likely stop increasing and, hopefully one day, start decreasing in the United States.

CHAPTER 3

METHODOLOGY

The study's purpose was to determine high school physical education teacher's perception of fitness testing and the relationship between fitness testing and their students creating lifetime fitness goals. The majority of teachers use fitness testing to determine students' fitness levels (Keating & Silverman, 2004). Additionally, some utilize these tests to give students the ability to track personal fitness progress (Keating & Silverman, 2004). Fitness testing encourages student participation, provides records of students' physical abilities, and assesses teacher instruction (Keating, 2003). Moreover, physical educators implement some form of fitness testing whether criterion-referenced such as President Physical Fitness Testing and FITNESSGRAM, norm-referenced or some other fitness test that educators deem appropriate for their classroom (Keating & Silverman, 2004). This study determined the importance of fitness tests according to physical educators, and how these tests relate to high school students making lifetime fitness goals.

Fitness activities and knowledge of fundamental physical components enable students to learn the necessary information to help them live healthy lifestyles. These fitness units can also be classified as lifetime fitness because of the promotion of lifetime goals and activities. Lifetime fitness activities are activities that students participate in outside of school and can continue throughout adulthood. One component physical educators now incorporate into their fitness unit requires students to set lifetime fitness goals. Currently, physical educators implement fitness tests as a starting point for goal setting, which determines students' current fitness levels (Keating & Silverman, 2004). This dissertation focused on the relationship

between fitness testing in physical education classes and the development of personal lifetime fitness goals.

Today, required physical education in high school may be the last structured exercise and physical activity experience in the lives of many students. Physical education teachers need to make sure they are teaching students how to lead healthy, active lifestyles. Fitness testing helps to achieve this goal because each fitness test measures five components of health-related fitness; muscular strength, muscular endurance, flexibility, body composition, and cardiovascular endurance (Keating & Silverman, 2004). The components of health-related fitness are what individuals need to incorporate for a quality work out and can be used to determine current fitness levels, physical progressions and regressions, and make lifetime fitness goals (Keating, 2003).

This chapter focuses on the mixed methods approach for the collection of participant information and data analysis. This chapter explains the purpose of the study and how the mixed methods study design will be used for the study. A discussion is included detailing how quantitative and qualitative research was gathered and mixed to provide rich and meaningful data. Following this, an explanation reveals participant selection combined with the discussion of the creation of the research instruments. This chapter's conclusion explains the methods used that analyzed the quantitative and qualitative data.

Introduction to Methodology

This mixed methods research design utilized quantitative and qualitative methods. The 170 high school physical education teachers received the quantitative survey which consisted of 27 questions. Created by the researcher, the survey used original questions and questions from existing research instruments (Ferguson, Keating, Bridges, Guan, & Li, 2007; Keating &

Silverman, 2004). Before the survey was sent to participants, a pilot study was conducted. The questions were converted into the Statistical Package for the Social Sciences (SPSS) computer software for analysis. The software package utilized descriptive and inferential statistics to report the data (Creswell, 2009). The qualitative portion of the research consisted of telephone interviews with 11 people. Using a semi-structured protocol, each participant was asked six open-ended questions. The interview mode provided participants with the opportunity to express their opinions and experiences while allowing the researcher to ask follow-up and probing questions as needed (Turner, 2010). A digital voice recorder captured the interviews which were then transcribed and analyzed through an inductive approach.

Research Design

Johnson and Onwuegbuzie (2004) define mixed methods as, "the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language, into a single study" (p.17). This research design incorporates both methods that complement each other by allowing the researcher to take advantage of each methods' strengths, thus producing a stronger analysis (Ivankova, Creswell, & Stick, 2006). In this study, a mixed method research approach focused on a survey and corresponding interviews. This survey was completed by high school physical education teachers in two Eastern states. In addition, telephone interviews were later conducted with subjects who volunteered to participate on their survey form.

Miller and Fredericks (2006) recommend that to increase the quality of a mixed methods study, the researcher must first use quantitative data collection and analyze this data. Thus, the quantitative survey was distributed to the participants followed by the qualitative telephone interviews. The data analyzed from the quantitative survey and qualitative interview were

analyzed and then combined to produce comprehensive information. A conceptual framework of this research study is found in Figure 2.

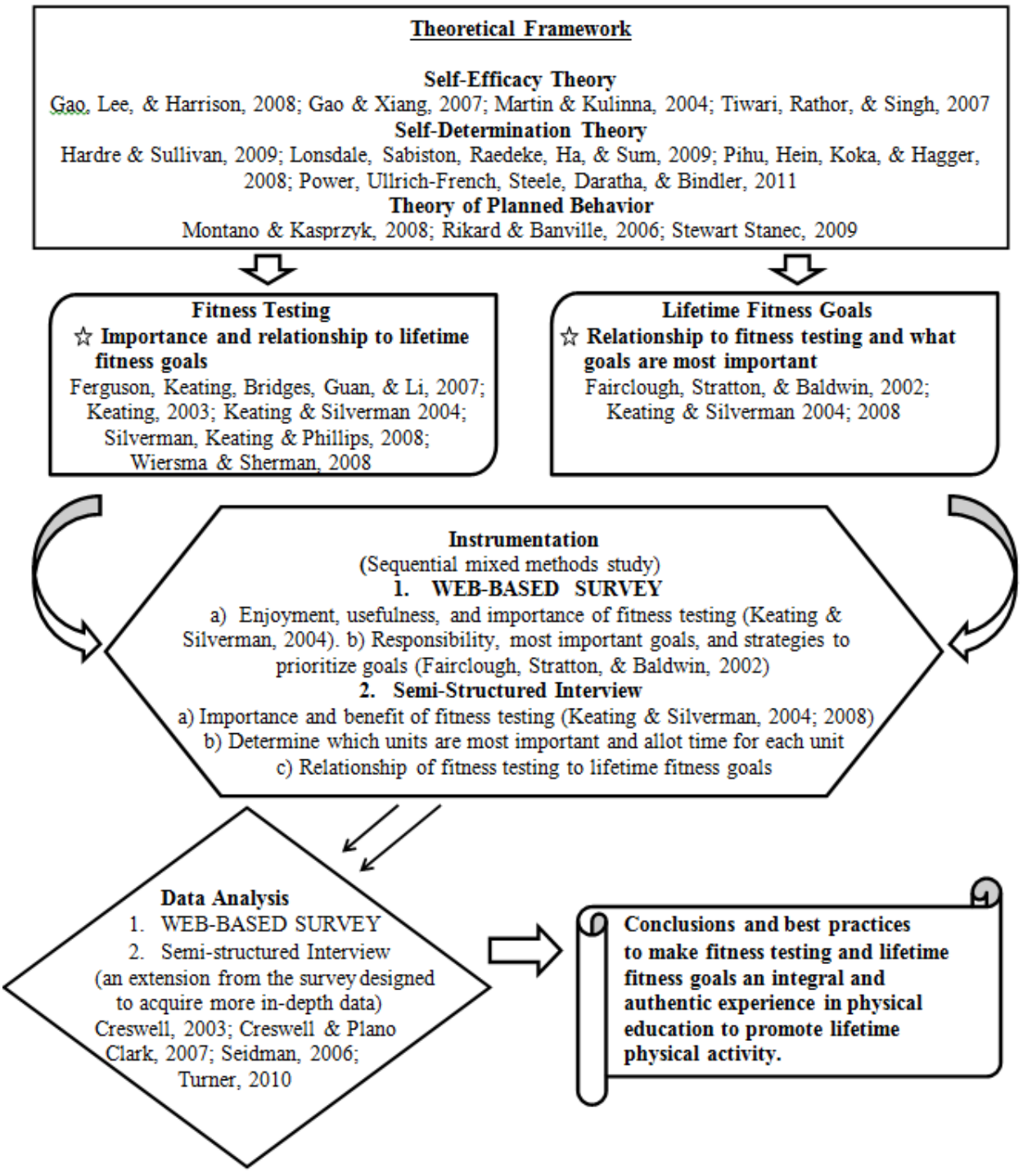

Figure 2. Conceptual framework.

Quantitative Research

Defined as, "a means for testing objective theories by examining the relationship among variables . . . [which] can be measured, typically in instruments, so that numbered data can be analyzed using statistical procedures," quantitative data provided the researcher with a broad understanding of the problem by using closed-ended information (Creswell, 2009, p .4). The strengths of quantitative research include that: 1) it provides accurate, numerical data, 2) the results of the research are independent of the researcher, and 3) it focuses on deduction and explanation through statistical analysis (Johnson & Onwuegbuzie, 2004).

This study utilized a quantitative survey because it provided a numeric depiction of opinions or in this study, perspectives of a population by studying a sample of this population (Creswell, 2009). This study focused on the perception of high school physical education teachers, thus the survey was distributed to a sample of physical educators. Through this quantitative survey, teachers' perceptions of fitness testing and lifetime fitness goals were measured, along with how teachers perceive the relationship of fitness testing to their students making lifetime fitness goals. To determine this perception, the survey was comprised of Likert Scale, short answer, and demographic questions. The data used descriptive and inferential numeric analysis (Creswell, 2007; Keating & Silverman, 2004).

Qualitative Research

Qualitative research can be defined as, "a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem . . . [through] emerging questions and procedures" (Creswell, 2009, p. 4). Qualitative data provides the researcher with an in-depth understanding of the research study which is then analyzed by coding and identifying themes (Creswell, 2011; Creswell & Plano Clark, 2011). The strengths of qualitative research

are that: 1) it provides understanding and description of people's personal experiences, 2) participants can describe these experiences in rich detail, and 3) cross-case comparisons and analysis can be conducted (Johnson & Onwuegbuzie, 2004).

The qualitative data were collected through telephone interviews. The questions were open-ended and based on the research questions. Each participant was asked six questions as well as three follow-up questions. Probing questions were also asked as needed. The interviews were analyzed systematically and thematically (Creswell, 2009). The purpose of the qualitative interview was to explore more deeply the information based on the research questions that was acquired in the survey.

Research Questions

1. What are teacher perceptions of the importance of fitness testing in their high-school physical education classes?
2. What purpose does fitness testing serve according to physical education teachers?
3. What are teacher perceptions of their responsibility to teach lifetime fitness goals to their students?
4. What do high school physical education teachers believe are the most important lifetime fitness goals for the students?
5. How do teachers prioritize their goals in physical education in terms of what they feel is important for their students to learn?

Selection of Research Participants

High school level educators were chosen to be the participants for this study because fitness testing is one of the main focal points of the research study and is primarily implemented at the secondary levels (Keating & Silverman, 2009). This population is specialized and has

very few teachers at each school district. The criteria set for this research were health and physical education certified teachers who currently teach in two Eastern states. The researcher located the participants using individual school entities' websites and contacted them through their work email addresses. Sometimes only one or two physical educators were currently teaching at the high school level at each school district.

The first phase of this research study was to send the quantitative survey to the participants. Surveys were sent to 167 teachers; 156 were accessible for the study, as some emails were returned as undeliverable and some teachers sent a reply indicating that they were no longer teaching physical education or using fitness testing. Of the 156 remaining potential research subjects, 27.6% (43 teachers) returned the survey, five of these potential participants read the consent form and did not choose to participate in the study, and two did not complete survey. Thus, 36 responses were used for data analysis.

Since the participants were selected using convenience sampling, the investigator cannot assume that they represent the population and the results should be used as a generalization (Creswell & Plano Clark, 2011). The researcher did not have an existing relationship with the selected school districts or any of the participants. Purposeful sampling was used to select the qualitative participants because of the key concepts explored throughout the study: lifetime fitness goals and fitness testing.

Prior to contacting the high school physical education teachers, the researcher obtained permission from the school districts. First, 15 school districts were randomly selected and called to establish a contact person and acquire site approval. Therefore, the researcher contacted 112 superintendents via email (Appendix A: Site Approval Form). All school districts were public and 59 (53%) were rural, 49 (44%) were suburban, and 4 (4%) were urban (NCES, 2012). Of

the 112 superintendents that were emailed, 43 replied favorably. Moreover, 19 (44%) of these schools were rural, 23 (53%) were suburban, and one (2%) was urban (NCES, 2012). Approval was obtained from each school district via email (Appendix B: School District Site Approval). All 48 school districts were public schools and identified as 45% rural, 20% suburban, and 35% urban (PDE, 2012; NCES, 2011). After securing administrative approval, 170 surveys were distributed via email to the high school physical education teachers; the participants were informed that their responses would be strictly confidential and how to access the survey (Appendix C: Survey Email). At the beginning of the survey, the participants electronically gave their consent to permit the researcher to use their results for analysis (Appendix D: Survey Informed Consent Letter).

At the end of the survey, participants were asked to volunteer for a telephone interview (Appendix E: Qualtrics Survey Screen Captures). Eleven participants volunteered to be interviewed by providing their name and phone numbers. The researcher contacted the physical educators via telephone to acquire their mailing addresses to send the packet of materials. This package contained an informed consent form on the Indiana University of Pennsylvania's letter head, two voluntary consent forms, and a self-addressed stamped envelope (Appendix F: Interview Informed Consent Form; Appendix G: Voluntary Consent Form). There was also a directions sheet which explained the contents of the packet and what needed to be sent back. (Appendix H: Directions Sheet). On the voluntary consent form, the participants listed the day and time they preferred to be contacted and the researcher interviewed them at the designated day and time. The interviews were recorded using a digital voice recorded with permission from the participants prior to conducting the interviews. Then, they were transcribed to analyze the data.

Steps Taken to Increase Return Rates

With a specialized population used for this study, the researcher took steps to increase survey retention rates. The number of site approvals from the school districts was increased by sending a follow-up email to each superintendent (Appendix I: Site Approval Follow-Up Email). A notification email was sent to each potential participant stating that they would receive an email with a survey link to increase retention rates for the survey (Appendix J: Notification of Survey; Jin, 2011). The actual survey email was sent two weeks after the notification email was sent (Appendix C: Survey Email). Since the retention rates were still low, a third email was sent indicating additional survey responses would benefit the study.

In order to acquire more participants for the interviews, a second email invitation was sent and five more survey respondents volunteered. The researcher sent an interview informed consent form to each participant (See Appendix F). Then, of the 16 total participants who agreed to be interviewed, 11 sent back the consent forms and were subsequently contacted for the interview.

Survey

The survey was created in *Qualtrics* and consisted of three sections: 1) a closed-ended section which explored teachers' perceptions of fitness testing and lifetime fitness goals, 2) an open-ended section of three questions in regard to lifetime fitness goals, and 3) a demographic section for demographic information. After the survey instrument had been approved by the Institutional Review Board, a pilot study was conducted to determine reliability.

Survey Pilot Survey

The purposes of the pilot study were to determine the following: (a) increase reliability, (b) increase clarity of directions, (c), and increase clarity of questions (Fowler, 2009). The

survey was sent to ten physical education teachers who were not included the study. Each physical educator was asked to take the survey and provided feedback.

The pilot study participants were 10 physical education teachers who were not later included as study participants. After receiving feedback via email from the pilot participants the survey was revised accordingly. This included changing one Likert scale question, one spelling error, and wording in the directions. Question number 15 originally said, "I think fitness tests are important because they assess my physical activity/fitness instruction." Some responders suggested that this question should focus on students' physical activity because they are the ones who are taking the fitness tests. Question eight, although negatively worded, asked participants for the same answer; therefore, Question number 15 was then changed to, "I think fitness tests are important because they assess students' physical activity." A few of the pilot study participants misinterpreted the directions for the Likert scale questions. The directions were changed from "on the next two pages" to "on the next three pages, including this page," to increase clarity and prevent misunderstandings. Finally, some of the pilot study participants stated that the wording in questions five and eight in the Likert scale portion needed to be changed because of the negative format. However, since these two questions were taken from a previous research instrument and the purpose of the negatively worded questions was to prevent response sets, they were not changed in the quantitative survey.

After the participants gave electronic consent, the survey asked participants Likert scale questions to facilitate responses in regard to fitness testing and lifetime fitness goals. The next section consisted of short answer questions in regard to lifetime fitness goals. The last part of the survey contained demographic questions to find out information about each participant. Participants were then asked to volunteer for the telephone interviews before submitting the

survey. Completed surveys were returned electronically through *Qualtrics*. The survey is found in Appendix K.

Interviews

According to Patton (1990):

> We interview people to find out from them those things we cannot directly observe. . . We cannot observe feelings, thoughts, and intentions. The purpose of interviewing is to allow us to enter into the other person's perspective. (p. 196)

The second phase of the study consisted of telephone interviews. The qualitative interviews helped the researcher to gain deeper insight into teacher perceptions. The following six interview questions were based on the research questions:

1. What is your perception of the purpose of fitness testing? Why?
2. Do you believe that fitness testing is important in high school physical education classes? Why?
3. Do you think there is a relationship between fitness testing and students making lifetime fitness goals?
4. Do you believe you have a responsibility to teach lifetime fitness goals to your students? Why?
5. What do you think are the most important lifetime fitness goals?
6. How do you prioritize your goals in physical education in terms of what you feel is important for your students to learn?

The interviews were recorded with permission from each participant. The researcher used a six questions protocol to conduct each interview while asking the same follow-up questions, based on the results from the pilot study (See Appendix L). Participants were also

asked probing questions as needed to ensure each interview question was answered thoroughly. After the data were collected, the interviews were transcribed and analyzed. The data were placed into categories based on patterns and analyzed to find emergent themes.

Interview Pilot Study

The pilot study's purposes are to: (a), practice interviewing skills, (b) increase clarity of directions, (c), increase clarity of questions (d), ensure the technology tools worked properly (Creswell & Plano Clark, 2011; Turner, 2011). The pilot study consisted of 10 physical education teachers.

The pilot study participants were 10 physical education teachers who were not later included as study participants. The researcher made changes to the interview protocol after conducting the pilot study. First, it was suggested to change the order of questions one and two provide sequential order for thought processing. Next, there was an addition to questions one, two, and four to encourage a fuller response instead of a "yes" or "no" answer. A "Why?" addition was asked at the end of each question in the event of the participants providing one word answers. A follow-up question was added to question one which asked the interviewee to provide long-term purposes, if any, of fitness tests and to elaborate on their answer. This question was added because the participants of the pilot study stated current benefits of fitness testing without stating information on long-term purposes. The purpose of this follow-up question was to find out if there are any future purposes of fitness testing. Finally, the researcher added follow-up questions to numbers three, four, and five because the pilot study participants did not provide in-depth answers; therefore, participants had an opportunity to provide this in-depth information during the research study interviews. The pilot study provided the researcher

with a higher quality interview protocol and ensured that the technology tools worked sufficiently.

Question Design

Survey Questions

The questions from the survey were designed primarily from existing research instruments with permission of the authors (Appendix L: Research Instrument Permission). The majority of the Likert scale questions were taken from an existing research instrument (Keating & Silverman, 2004). The open-ended questions were created by the researcher based on the research questions. The demographic questions were based from two other existing instruments (Keating & Silverman, 2004; Zhu, Welk, Meredith, & Boiarskaia, 2010).

The survey consisted of 27 open- and closed-ended questions. The survey started with 15 Likert scale questions and 10 of these questions were selected from 15 original survey questions to explore the focus of this study. Next, there were three open-ended questions created by the researcher that pertained to lifetime fitness goals and what goals are important in physical education. Then, there were 9 demographic questions and the researcher selected four from the 15 demographic questions in the School Physical Education Environment and Policy Survey (Keating, et al., 2008) and 2 questions were selected from the 15 demographic questions in the same survey that the Likert scale questions were selected from (Keating & Silverman, 2004). The demographic questions were located at the end to meet the research recommendations for increasing retention rates. Mujis (2004) suggest that the demographic questions need to be at the end of a research instrument to increase the comfort level of the participants.

Interview Questions

The interview protocol consisted of six open-ended questions created by the researcher, conducted over the telephone, and recorded using a digital voice recorder (Appendix M: Interview Protocol). The interview questions were constructed to correspond with the research questions so the participants could provide more detailed information. They were able to completely express their opinions and experiences while allowing the researcher to ask follow-up questions when needed (Turner, 2010). The questions asked participants about the purposes and importance of fitness testing, the relationship between fitness testing and lifetime fitness goals, the most important lifetime fitness goals, and how they prioritize their learning goals. The interview protocol, including the open-ended questions, can be found in Appendix M.

Data Analysis

Quantitative Data

To analyze quantitative data effectively, one must utilize statistical analysis. There are two types of statistical analysis; descriptive and inferential. Descriptive statistics refers to the frequency, mean, and standard deviation of the data (Creswell, 2009). Inferential statistics refers to significances where one variable has a statistical significance with another variable (Creswell, 2009). In order to conduct statistical analysis, the researcher can use a computer software program (Creswell, 2009). Utilizing these two types of statistics provides the researcher with results which could be interpreted to formulate conclusions.

The researcher analyzed the quantitative data first and presented the results. Two of the three parts of the quantitative survey utilized a statistical analysis and were converted into the SPSS (Creswell, 2009; Creswell & Plano Clark, 2011). This computer software allowed the researcher to conduct a descriptive and inferential statistical analysis. The frequency, mean, and

standard deviation from the Likert scale questions determined descriptive statistics (Creswell, 2009; Creswell & Plano Clark, 2011). The variances of these responses revealed the general trends in the data (Creswell, 2009; Creswell & Plano Clark, 2011). Analyzing the quantitative data consisted of determining the frequency of each demographic question. The statistical information was analyzed and the findings were reported. The data were then re-examined to answer each research question. The short answer section of the survey consisted of qualitative data and was analyzed using the same methodology as the interview data.

Qualitative Data

To analyze qualitative data effectively, one must examine several components. The researcher first focused on reading through all the data to gain an understanding of the overall meaning (Creswell, 2009). Coding was then used for a detailed analysis. Researchers use coding to organize the qualitative data by finding segments of words or phrases from the data (Creswell, 2009). Using a systematic process, these segments were coded based on patterns that emerged from the data.

Systematic Process and Thematic Analysis

Conducting a systematic process coupled with a thematic analysis provided the researcher with detailed assistance with organizing and analyzing the qualitative data (Attride-Stirling, 2001; Creswell, 2009). This analysis presented the researcher with a thorough understanding of the meaning behind the data, the categories, and emerging themes. Creswell (2009) recommends that the researcher use eight steps to code the data. During this systematic process, codes were created and the corresponding data were added. Then, categories were created and presented as major findings of the study.

For the qualitative survey data, the researcher created codes based on patterns from the data. This qualitative codebook was then used as a foundation for the interview data analysis because the researcher used preexisting codes based on literature and codes used from the short answer section of the survey. Creswell (2009) recommends that if using preexisting codes, the researcher can create a qualitative codebook which will develop and change through the analysis of the data. Using this coding process enabled the researcher to generate categories. The analysis of these categories emerged as major findings in this study (Creswell, 2009). After identifying the categories, the researcher conducted a thematic analysis which consisted of identifying themes (Attride-Stirling, 2001). The qualitative data from the interviews were analyzed using the same method as the survey qualitative data. A narrative passage presented the analyzed data. In the passage, the researcher detailed about how the themes that emerged are related to the major findings of this study (Creswell, 2009).

Data Analysis to Answer Research Questions

Analyzing the data, the researcher answered the research questions based on the major findings form the study and emergent themes. Table 1 and Table 2 provide a data matrix on how the questions from the quantitative and qualitative research instruments were organized to answer each question. The data were organized into tables based on the data matrix (Creswell & Plano Clark, 2011). Evidence of the findings was presented based on the data.

Table 1

Survey Data Matrix

Research Question	Survey Instrument Questions
What are teacher perceptions of the importance of fitness testing in their high-school physical education classes?	I enjoy implementing fitness in my classes.
	I enjoy watching my students taking fitness tests.
	I care about my students' fitness tests.
	I ignore the results of my students' fitness tests.
	I think it is important for students to learn lifetime fitness goals in physical education classes.
	I think fitness tests are important because they are beneficial to my student's physical activity.
What purpose does fitness testing serve according to physical education teachers?	I use fitness tests to evaluate my students' health-related fitness.
	I keep the results of my students' fitness tests so that I can track students' progress on tests.
	I keep the results of my students' fitness tests to modify my physical activity/ fitness instruction.
	I dislike using the results of my students' fitness tests to modify my physical activity/fitness instruction.
	The results of fitness tests motivate my students to participate in physical activity on a regular basis.

Table 1 (continued)

Survey Data Matrix

Research Question	Survey Instrument Questions
	The results of fitness testing help my students understand their health-related fitness.
	I think fitness test results should help students set up their future fitness goals.
What are teacher perceptions of their responsibility to teach lifetime fitness goals to their students?	I think physical educators have a responsibility to provide opportunities for students to make lifetime fitness goals.
	What are the most important goals that students need to set for themselves in physical education to help them live active lifestyles throughout adulthood?
What do high school physical education teachers believe are the most important lifetime fitness goals for the students?	What content do you believe is most important in terms of teaching lifetime goals to their students?
How do you prioritize your goals in physical education in terms of what you feel is important for your students to learn?	In what other ways can physical education help students to develop lifetime fitness goals?

Table 2

Interview Data Matrix

Research Questions	Interview Instrument Questions
What are teacher perceptions of the importance of fitness testing in their high-school physical education classes?	Do you believe that fitness testing is important in high school physical education classes? Why?
What purpose does fitness testing serve according to physical education teachers?	What is your perception of the purpose of fitness testing? Why? Do you think there is a relationship between fitness testing and student making lifetime fitness goals?
What are teacher perceptions of their responsibility to teach lifetime fitness goals to their students?	Do you believe you have a responsibility to teach lifetime fitness goals to your students? Why?
What do high school physical education teachers believe are the most important lifetime fitness goals for the students?	What do you think are the most important lifetime fitness goals?
How do you prioritize your goals in physical education in terms of what you feel is important for your students to learn?	How do you prioritize your goals in physical education in terms of what you feel is important for your students to Learn?

Reliability. Creswell and Plano Clark define reliability as, "scores received from participants [that] are consistent and stable over time" (2011, p. 211). A definition of lifetime fitness was provided at the beginning of the open-ended question section of the survey to make sure that each physical educator understood what the researcher meant when the questions asked about lifetime fitness (Fowler, 2009). Finally, each question was re-examined to avoid multiple

components in a single question (Fowler, 2009). To increase reliability in this study, the Likert scale questions were primarily based from a previous research study, and the results were compared (Keating & Silverman, 2004). Moreover, Keating and Silverman (2004) recommend negatively worded questions to avoid response sets (Keating & Silverman, 2004). A test was conducted in SPSS to determine internal reliability which checks to make sure the Likert scale scores are consistent (Creswell & Plano Clark, 2011).

Validity. Quantitative validity refers to the quality of the research study. Validity is increased when the instrument questions are reliable (Fowler, 2009). A pilot study was conducted to test for content validity and improve the questions and format (Creswell, 2009; Fowler, 2009). The researcher used the feedback to restructure the questions accordingly. The format of the survey consisted of multiple types of questions to answer the same subjective state (Fowler, 2009). To increase validity, the data responses received must measure what the researcher intended to measure (Creswell & Plano Clark, 2007; Creswell & Plano Clark, 2011; Onwuegbuzie & Johnson, 2006). This allows the researcher to formulate inferences along with meaningful and practical implications derived from the data to the population. Finally, criterion-related validity was assessed by comparing the results of the Likert scale questions to the results of the previous research instrument (Creswell, 2009; Keating & Silverman, 2004).

Validity in qualitative research also refers to the accuracy of the collected data (Creswell & Plano Clark, 2011). To increase validity in this research study, disconfirming evidence was provided and the emergent themes are defined and connections were made to the existing literature (Creswell, 2009). Disconfirming evidence is evidence that

conflicts with the evidence being established (Creswell & Plano Clark, 2007; Creswell, 2009). Due to using open-ended interviews, participants had the opportunity to provide positive and negative information. The open-ended format also allowed participants to elaborate these perceptions. Validity was increased by the use of multiple methods (survey and interview). Likewise, the researcher clarified the bias role through a process called reflectivity. In this process, the researcher self-reflected through open and honest narrative that provided gender, culture, and socioeconomic origin (Creswell, 2009).

Summary

The purpose of this study was to determine teachers' perceptions of fitness testing, and the relationships between fitness testing to high school students creating lifetime fitness goals. Participants of this study consisted of high school physical education teachers who currently teach in the Eastern part of the United States. Before conducting the study, an informed consent letter and form was distributed to the potential participants. Electronic consent was used for the survey, and a mailed consent form was used for the interviews.

The survey was taken online and participants' names remained anonymous. This online survey measured teachers' perception of fitness testing and how it relates to students making lifetime fitness goals. Survey questions consisted of open- and closed-ended questions. The survey consisted of quantitative data which was analyzed using SPSS. The Likert scale questions were converted into SPSS and utilized descriptive and inferential statistics. The demographic section was converted into SPSS to determine the frequencies and variables. The Likert scale and demographic questions were then analyzed to find statistical significance. Short answer questions were analyzed qualitatively.

The next phase of the study consisted of telephone interviews. The purpose of this qualitative research component was to gain an in-depth knowledge from the perspectives of the participants. The open-ended interview questions allowed participants to completely express personal opinions and experiences. In turn, this enabled the researcher to ask follow-up questions when needed (Turner, 2010). Transcribed telephone interviews were analyzed using a systematic process followed by a thematic analysis. The data was then used to answer the research questions based on a data matrix.

Chapter 4 presents results from the survey and interview instruments. The data is summarized and the chapter concludes with presenting the categories that were created based on patterns from the qualitative data.

CHAPTER 4

DATA ANALYSIS AND FINDINGS

This chapter presents the dissertation research study data results and the development of categories for the analysis of the data. The purpose of this study was to determine high school physical education teacher perceptions of fitness testing the relationship between fitness testing and their students making lifetime fitness goals. Another aspect of this study was to determine how teachers prioritize learning goals. This mixed method study collected data on high school physical education teachers' perception through surveys and interviews. Data collected provided an understanding of the perceptions of high school physical educators.

This chapter contains the results of the surveys and interviews from high school physical education teachers currently teaching in two Eastern states. The surveys were conducted over a two-month period from August 2012 to October 2012, and the interviews were held throughout November 2012.

Research Questions

1. What are teacher perceptions of the importance of fitness testing in their high-school physical education classes?
2. What purpose does fitness testing serve according to physical education teachers?
3. What are teacher perceptions of their responsibility to teach lifetime fitness goals to their students?
4. What do high school physical education teachers believe are the most important lifetime fitness goals for the students?
5. How do teachers prioritize their goals in physical education in terms of what they feel is important for their students to learn?

In a mixed methods study, the quantitative and qualitative data are analyzed to find commonalities (Creswell & Plano Clark, 2011). The quantitative and qualitative data were analyzed separately to gain an overall understanding of the results and findings that were consistent with previous research studies (Keating & Silverman, 2004).

The researcher created survey questions primarily using existing research instruments (Keating, Guan, Ferguson, Chen, & Bridges, 2008; Keating & Silverman, 2004). Research instrument permission was sought and received via email from the authors (See Appendix K: Research Instrument Permission). The survey instrument consisted of 27 questions directly related to the study research questions. The first section consisted of Likert scale questions designed to elicit the respondents' perception of the importance and purposes of fitness testing. Also, there were selected questions designed to measure the perceptions of lifetime fitness goals in relation to fitness testing. Both positive and negative interpretations are presented in this section. Negative questions were intermixed with positively stated questions. There were 2 negative questions and 13 positive questions. The second section of the survey consisted of short answer responses designed to elicit information in regard to the importance of lifetime fitness goals. This portion of the survey utilized qualitative analysis. The demographic survey questions were designed to find statistical significances between the Likert scale questions. Nine questions such as gender, years of teaching, and education level attained were designed to find statistical significances between Likert scale questions.

Semi-structured interviews asked the participants open-ended questions. The interviews were audio taped by the researcher then professionally transcribed. The six interview questions were based on the five research questions and designed to expand teachers' perceptions in regard to fitness testing and lifetime fitness goals. The interview transcriptions were organized

according to the questions. Each participant's response was categorized based on response similarities. Finally, patterns were then found throughout the categories.

Survey

The survey was distributed to 156 accessible physical education teachers currently teaching in two Eastern states of the United States. Forty-three teachers returned the survey with a return rate of 28%. However, five of the participants did not give consent and were taken directly to the end of the survey. Two did not complete the survey; therefore, 36 responses were used to analyze the data.

The 15 questions in the first part of the survey had a five point Likert scale response, strongly agree, agree, neither agree/disagree, disagree, and strongly disagree. Each question is stated and the response analysis follows:

1. I use fitness tests to evaluate my students' health-related fitness.

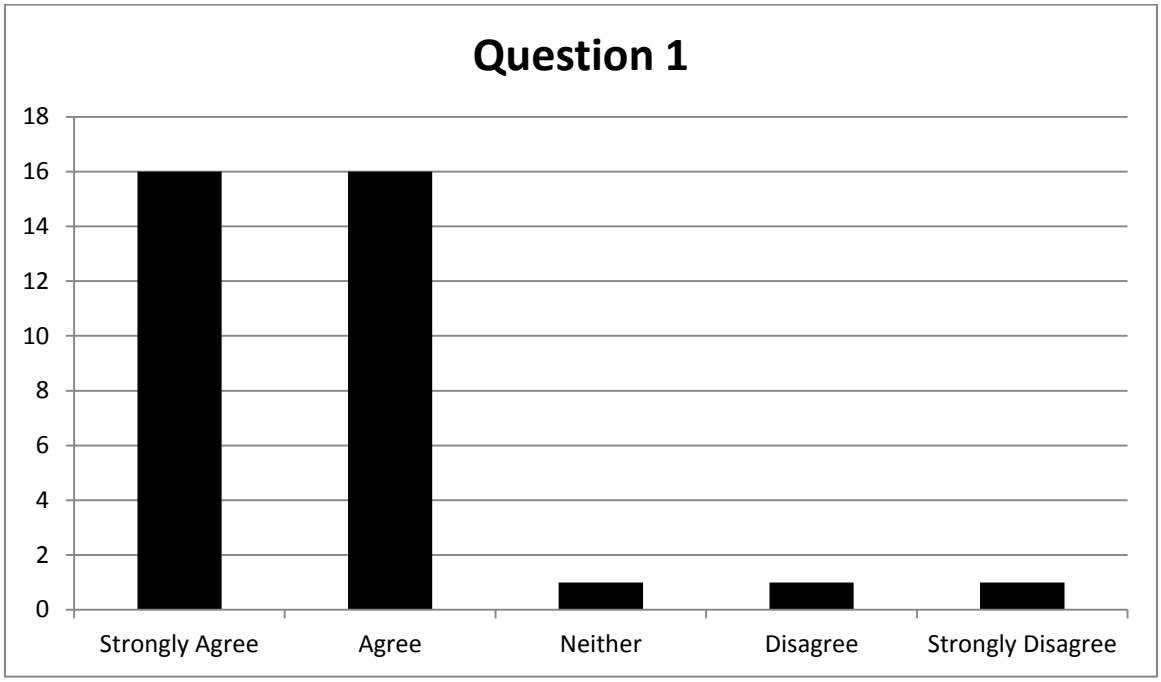

Figure 3. Fitness testing to evaluate health-related fitness.

An equal amount of participants strongly agreed and agreed that they use fitness tests to evaluate their students' health-related fitness. One participant responded with neither agreed nor disagreed, one disagreed, and one strongly disagreed. Therefore, 32 participants agreed and two participants disagreed indicating the majority of physical educators use fitness tests to evaluate students' health-related fitness (See Figure 3).

2. I enjoy implementing fitness tests in my classes.

Twenty-seven respondents strongly agreed or agreed that they enjoy implementing fitness tests in their physical education classes. Six neither agreed nor disagreed, one disagreed, and one strongly disagreed. Consequently, of the 35 teachers who responded to this survey question, more enjoy implementing fitness tests in their physical education classes (See Figure 3).

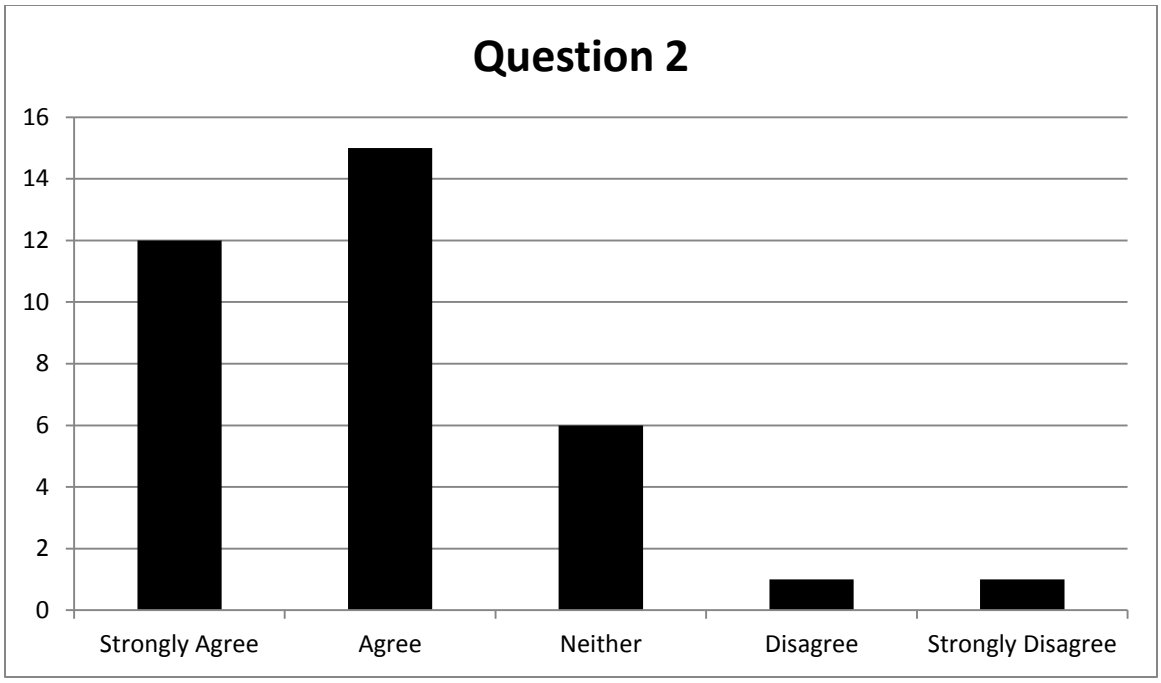

Figure 4. Enjoyment of implementing fitness testing.

3. I enjoy watching my students taking fitness tests.

Nine participants strongly agreed and 14 agreed that they enjoy watching their students take the fitness tests. Of the 35 participants who responded to this statement, six neither agreed or disagreed and two strongly disagreed. None of the participants indicated that they disagreed with the statement. The results indicate the majority of surveyed teachers enjoy watching their students take fitness tests (See Figure 4).

4. I care about my students' fitness test results

Twenty-one of the respondents replied that they strongly agreed and 11 agreed with the statement that they care about their students' fitness test results. There were two respondents who did not agree or disagree and one strongly disagreed. Resultantly, more teachers than not care about their students' fitness test results (See Figure 5).

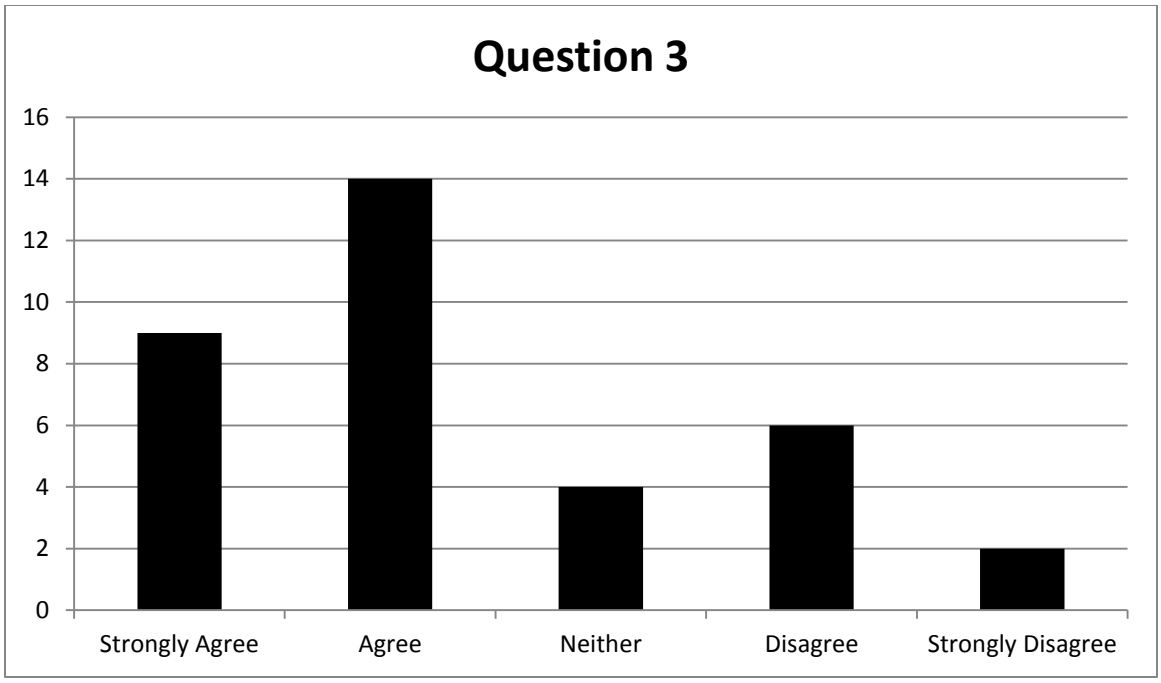

Figure 5. Enjoyment of watching students take fitness tests.

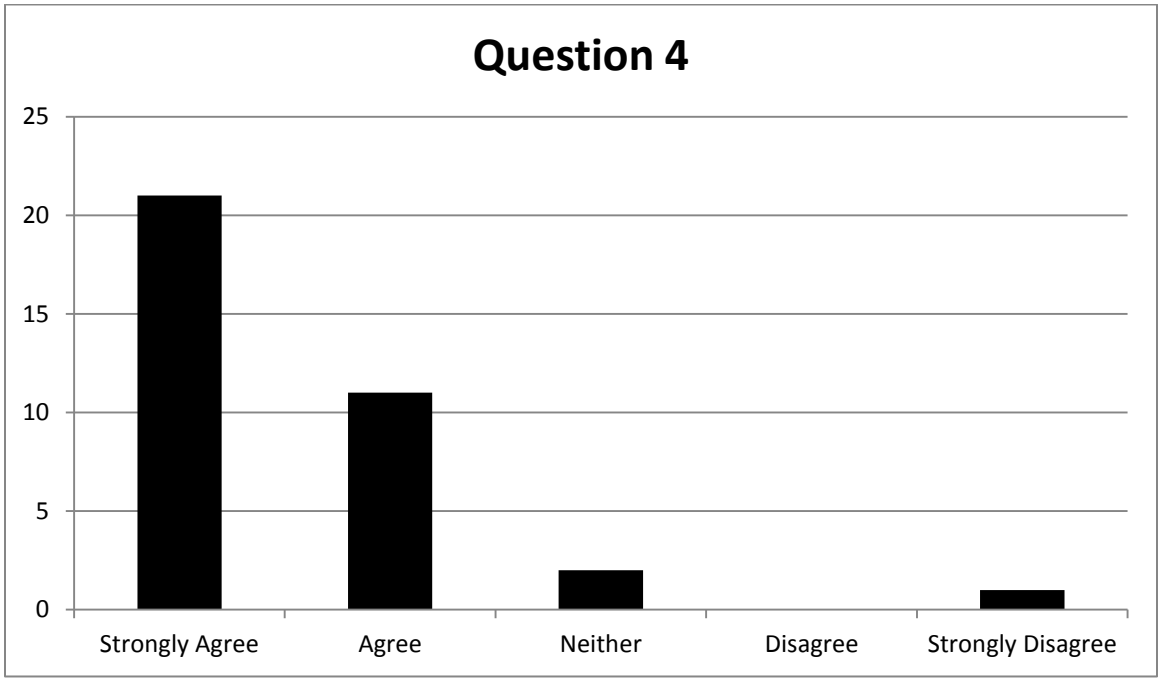

Figure 6. Caring about fitness test results.

5. I ignore the results of my students' fitness tests.

Of the 35 participants who responded to this negatively worded question, 13 strongly disagreed and 19 disagreed that they ignored the results of their students' fitness tests. Two neither agreed nor disagreed and one agreed. None of the respondents strongly agreed to this statement. Therefore, the majority of teachers do not ignore the results of their students' fitness tests (See Figure 6).

6. I keep the results of my students' fitness tests so that I can track students' progress on tests.

An equal number of participants strongly agreed and agreed that they keep the results of their students' fitness tests to track student progress (See Figure 7). Two participants neither agreed nor disagreed. None of the participants disagreed or strongly disagreed to this statement.

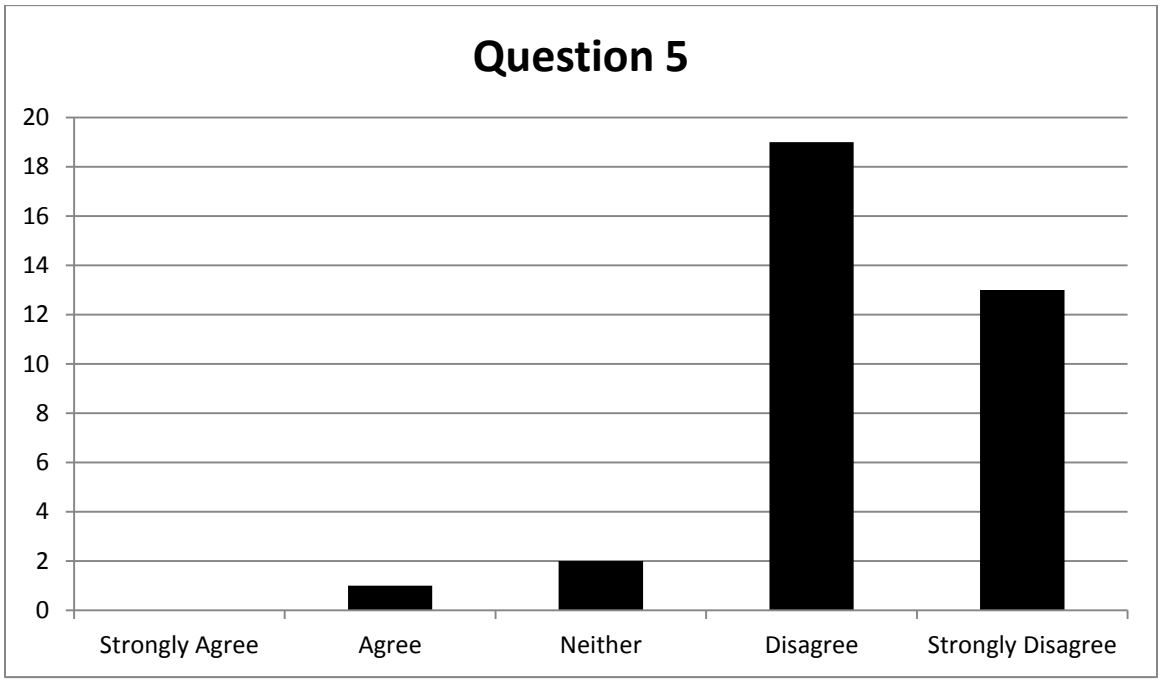

Figure 7. Ignoring the results of fitness tests.

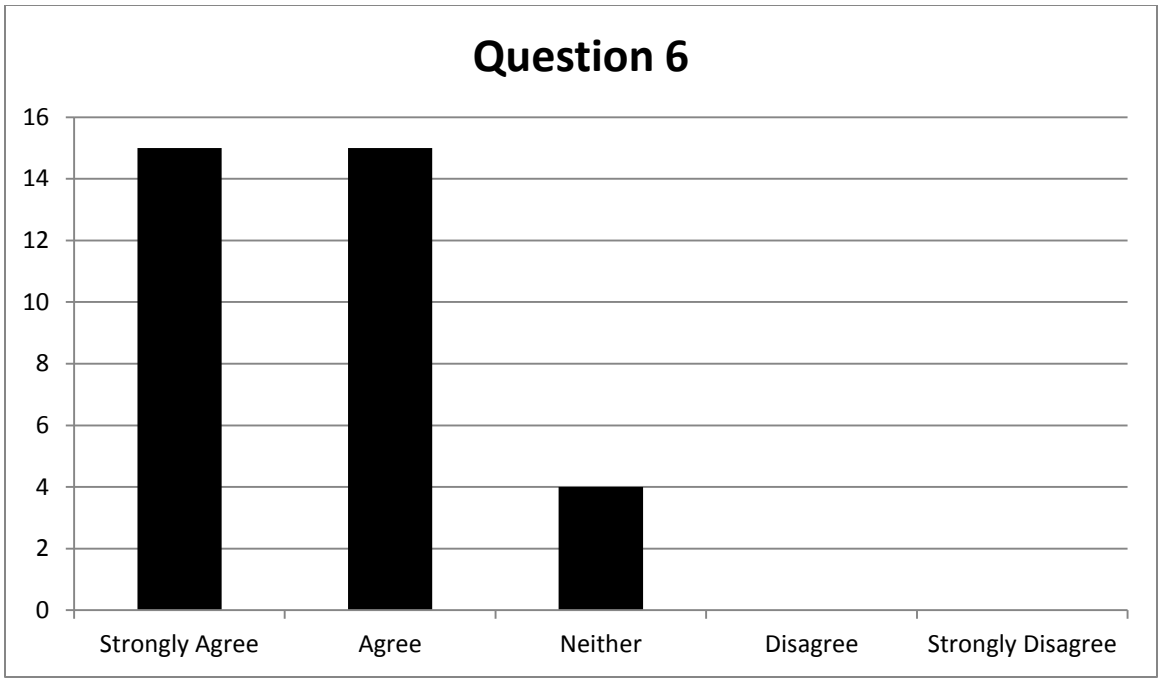

Figure 8. Keeping fitness test results to track students' progress.

7. I keep the results of my students' fitness tests so that students can track their progress on fitness tests.

Of the 34 physical educators who responded to this statement, 17 strongly agreed and 13 agreed that they keep the results so that students can track their progress on fitness tests. Three neither agreed nor disagreed and one disagreed. None of the respondents strongly disagreed to this statement. The results indicate the majority of the respondents keep the results of fitness tests so their students can track their progress (See Figure 8).

8. I dislike using the results of my students' fitness tests to modify my physical activity/fitness instruction.

There were 34 participants who responded to this negatively worded question. Ten strongly disagreed, while 16 disagreed with this statement, implying that they use the results of

fitness testing to modify their physical activity and physical instruction. Eight neither agreed nor disagreed and none of the participants agreed or strongly agreed with this statement.

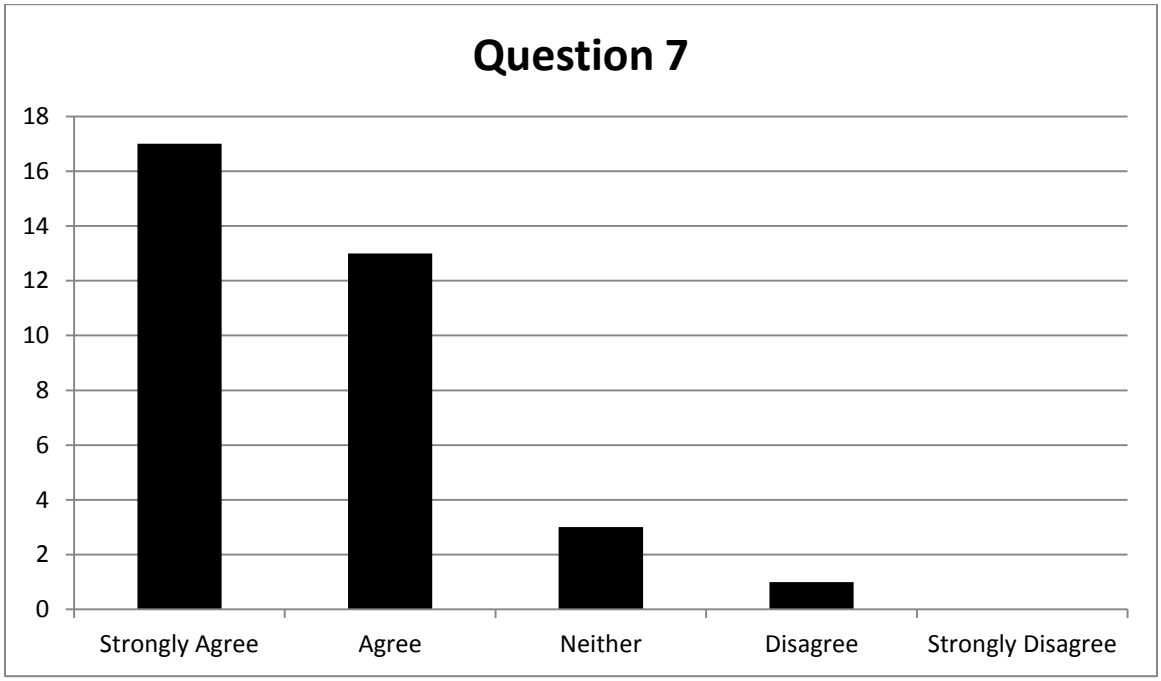

Figure 9. Keeping the results of fitness tests so students can track progress.

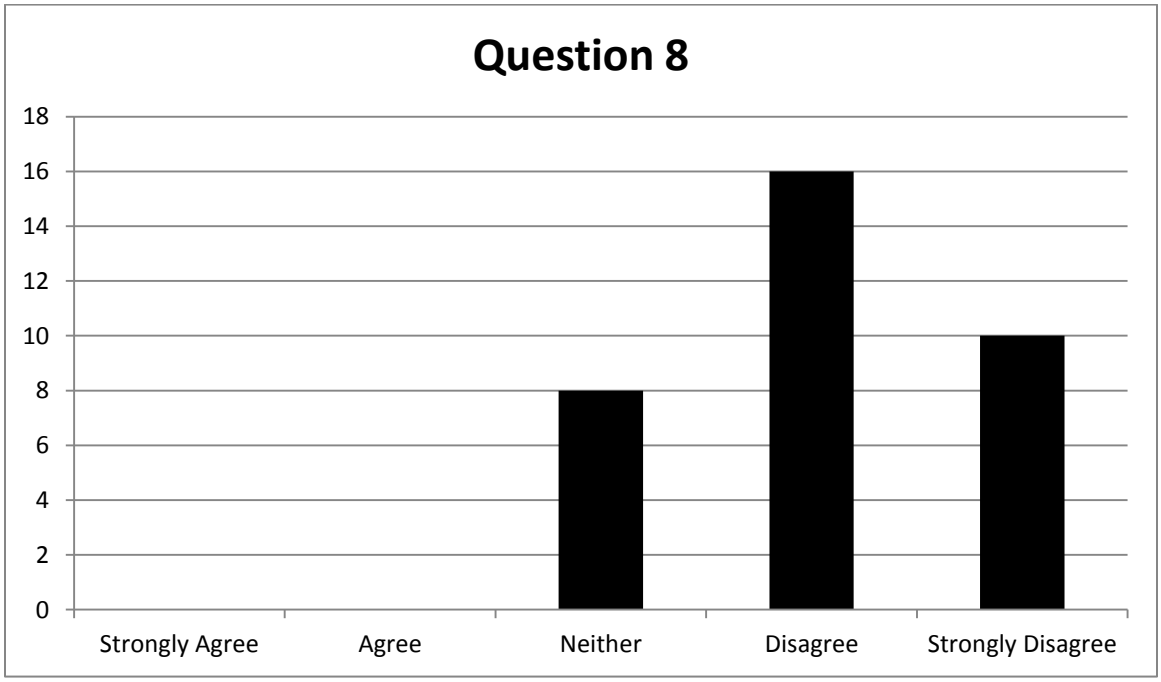

Figure 10. Dislike using the results to modify physical activity/fitness instruction.

9. The results of fitness tests motivate my students to participate in physical activity on a regular basis.

Seventeen respondents neither agreed nor disagreed with this statement, 12 agreed, but none of them strongly agreed with this statement. Five disagreed and none of the respondents strongly disagreed. Though a large number of respondents did not definitely answer one way or the other, of those who did, the largest number agreed that fitness test results motivate their students to participate in physical activity on a regular basis (See Figure 10).

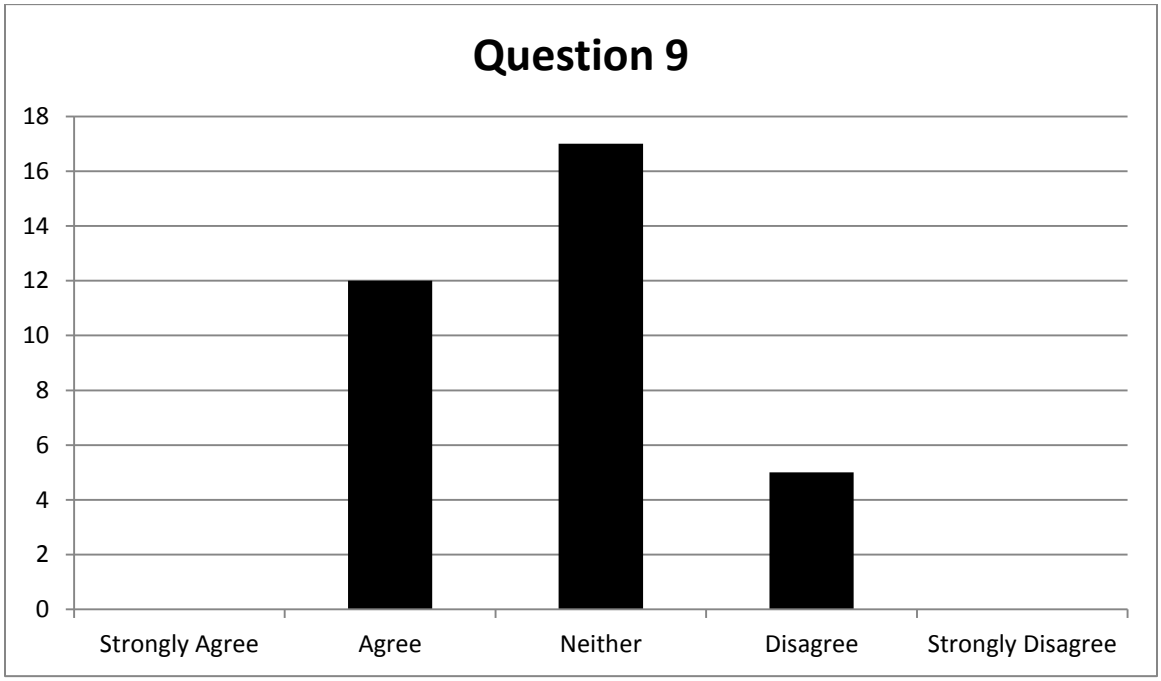

Figure 11. Fitness test results motivate students to be active on a daily basis.

10. The results of fitness testing help my students understand their health-related fitness.

Of the 34 participants who responded to this statement, six strongly agreed and 20 agreed to this statement. Five neither agreed nor disagreed. Three disagreed and none of the participants strongly disagreed to this statement indicating that the majority of physical educators feel that fitness test results motivate students to be active on a daily basis (See Figure 11).

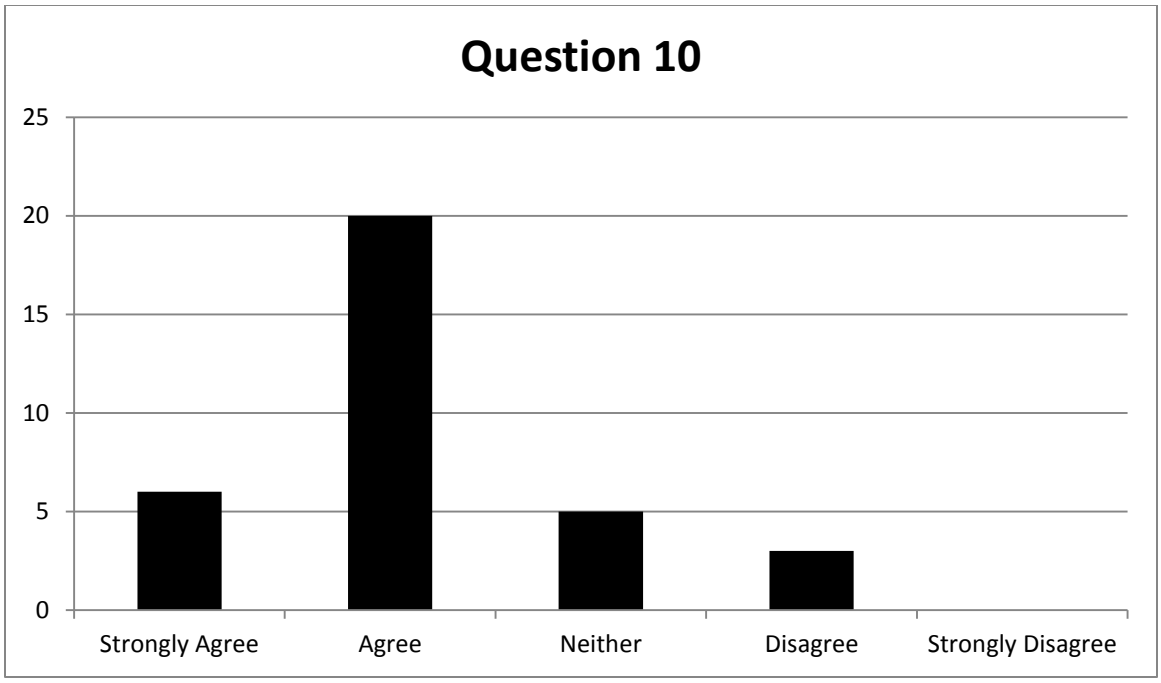

Figure 12. Fitness test results help students understand their health-related fitness.

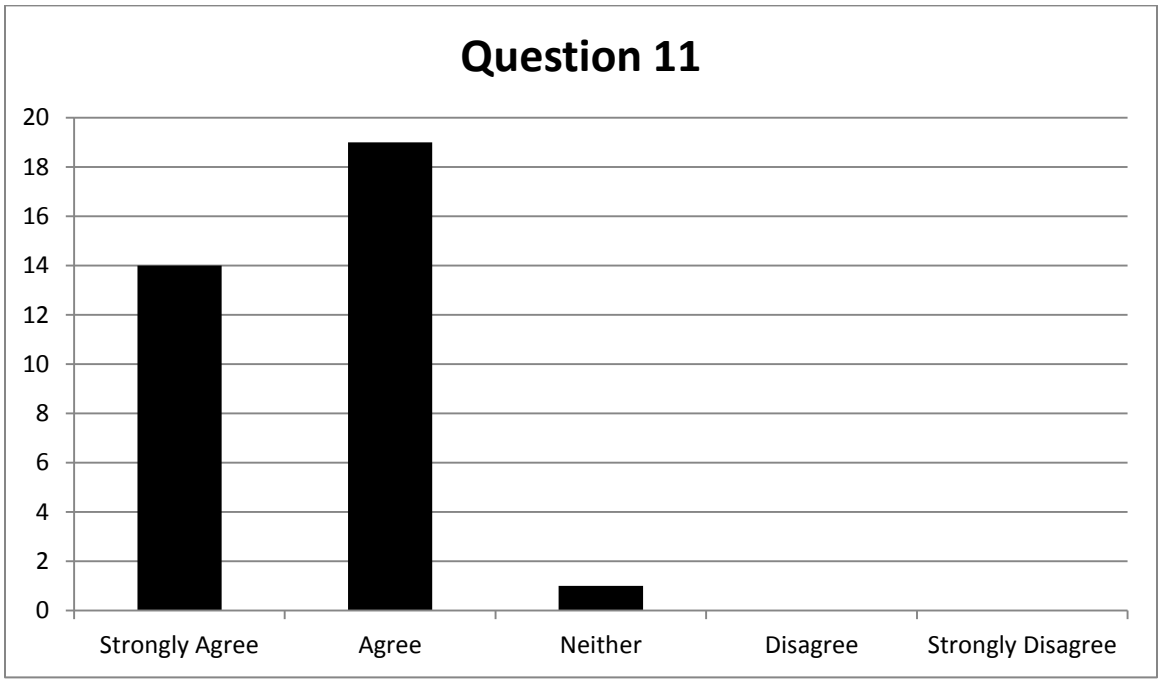

Figure 13. Fitness tests helping students set up their future fitness goals.

11. I think fitness test results should help students set up their future fitness goals.

Fourteen of the physical educators strongly agreed, while 19 agreed with this statement, implying that fitness test results should help students set up their future fitness goals. Only one participant neither agreed nor disagreed. None of the participants disagreed or strongly disagreed with this statement. Therefore, the majority of respondents feel that fitness test results should help students set up their future fitness goals (See Figure 13).

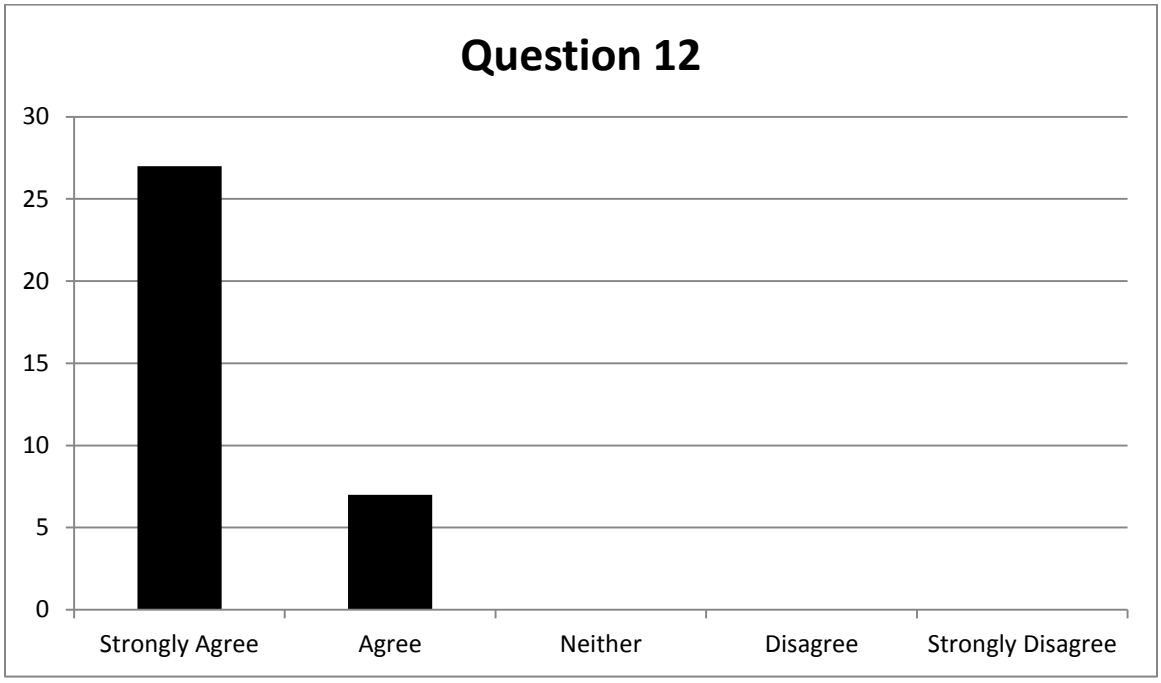

Figure 14. Importance of students learning lifetime fitness goals in physical education.

12. I think it is important for students to learn lifetime fitness goals in physical education classes.

All of the participants who responded to this statement strongly agreed or agreed to this statement. Since 27 strongly agreed and 7 agreed, all of the physical educators who responded to this question feel it is important for students to learn lifetime fitness goals in physical education classes (See Figure 14).

13. I think physical educators have a responsibility to provide opportunities for students to make lifetime fitness goals.

Twenty-seven respondents strongly agreed and six agreed that they think physical educators have a responsibility to provide opportunities for students to make lifetime fitness goals. Only one respondent neither agreed nor agreed. None of the respondents disagreed or strongly disagreed. Therefore, 97% of the respondents feel it is their responsibility to provide students with opportunities for them to make lifetime fitness goals (See Figure 15).

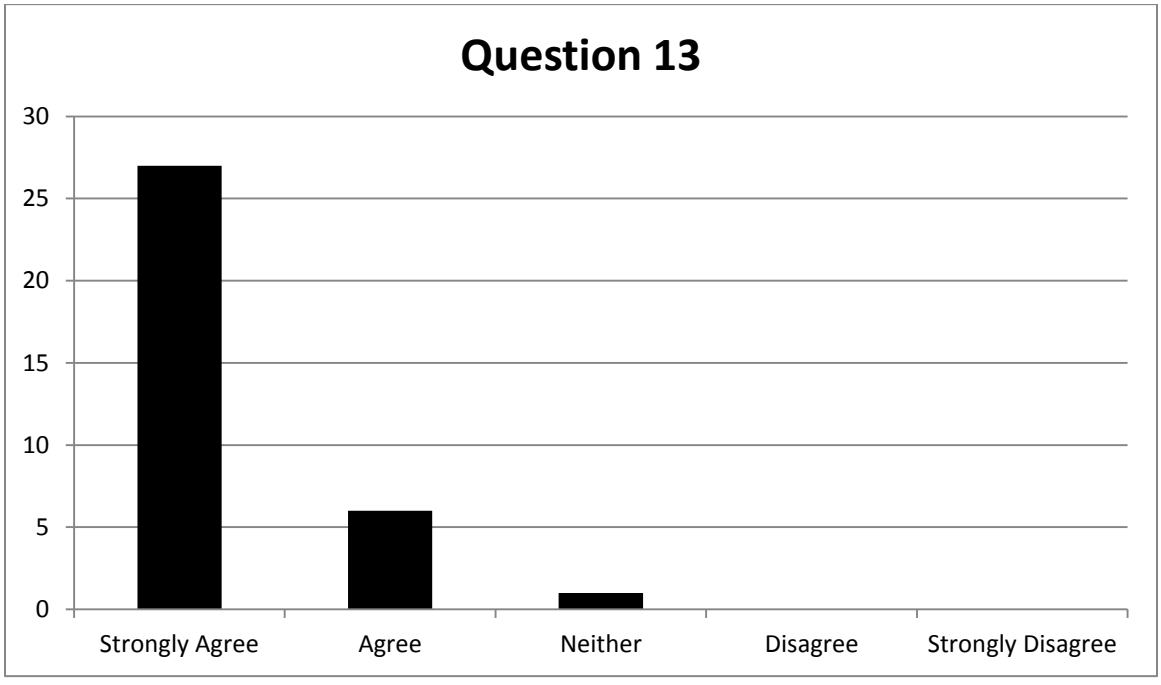

Figure 15. Physical educator's responsibility in providing opportunities for lifetime fitness goals.

14. I think fitness tests are important because they are beneficial to my students.

There were 34 participants who responded to this question and over half of the respondents strongly agreed and agreed with this statement. Ten strongly agreed, while 20 agreed that fitness tests are important because they are beneficial for their students. An equal number of respondents neither agreed nor disagreed (See Figure 16).

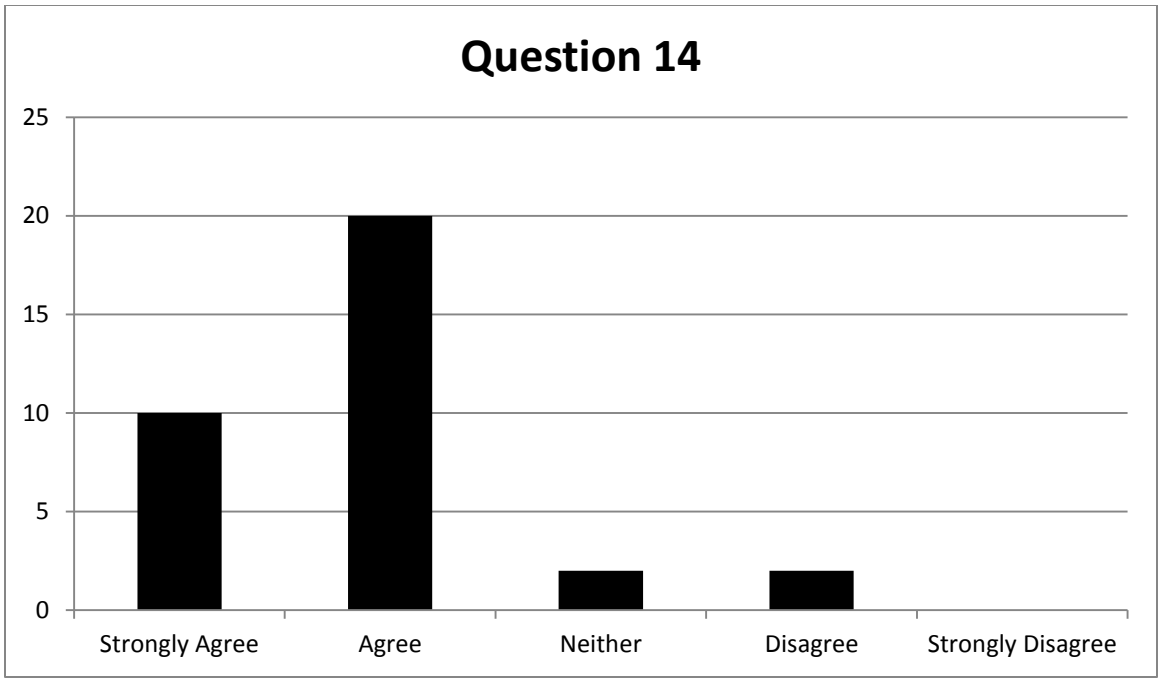

Figure 16. Fitness tests are important because they benefit students.

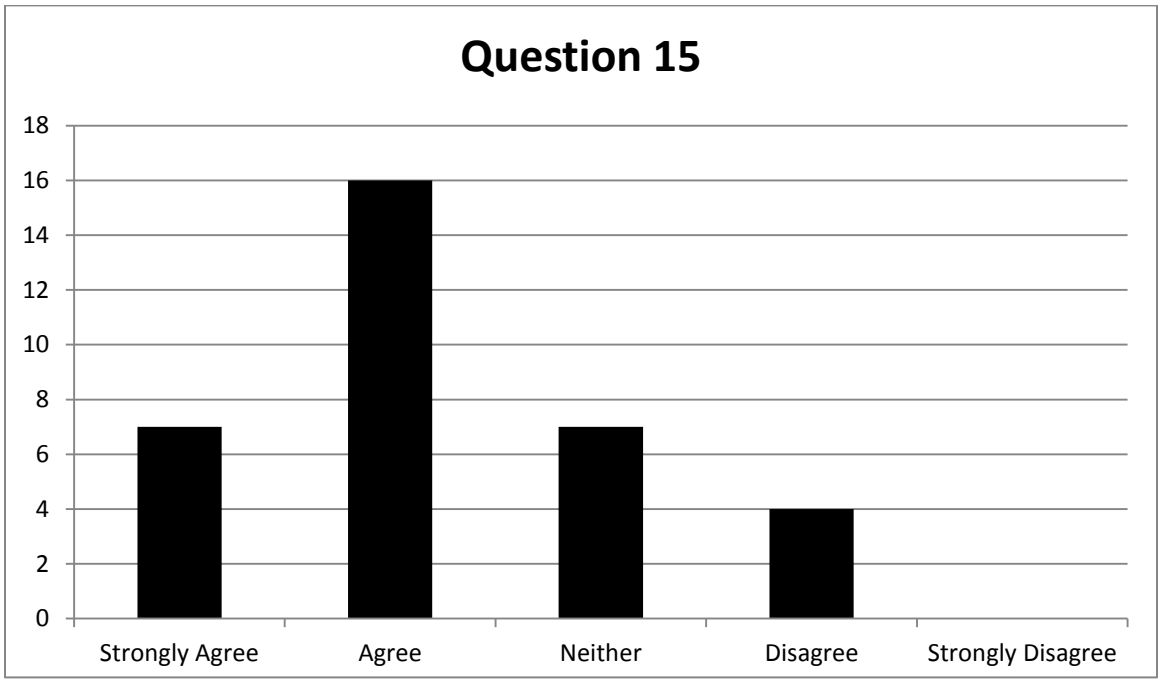

Figure 17. Fitness tests are important because they assess physical activity/instruction.

15. I think fitness tests are important because they assess my student's physical activity

Seven participants strongly agreed and 16 agreed to this statement. Seven neither agreed nor disagreed and four disagreed. Consequently, the respondents think fitness tests are important because they assess their student's physical activity.

Demographic Information

Table 3 includes information on the participants of the survey. An analysis of the data indicates that 58.1% of participants were male and 41.9% were female. The majority of survey participants have been teaching for 20 or more years (61.3%). The education level of the participants indicated that 32.3% had a Bachelor degree, 41.9% had a Master's degree, and 25.8% had a Specialist degree. These questions were designed to obtain information pertaining to the participant. The majority of the participants did not belong to professional organizations, 86% of the participants chose other when asked to specify what organization they belonged to, and then stated they did not belong to an organization.

The next part of the demographic information was designed to elicit information about each participant's classes and school district (See Table 4). All of the participants currently teach 9th through 12th grade physical education. The typical teaching load for high school physical education teachers is five to six classes per day (69.5%). High school physical education classes typically consisted of at least 14 students (16.2) and some classes contained more than 29 students (20.8%). The teaching load and students per class questions required an open-ended response, and the researcher created ranges to organize and report the data.

Table 3

Demographic Characteristics of Participants (N = 36)*

Characteristic	N	%
Respondent's Sex		
Male	18	58.1
Female	13	41.9
Years of Training		
0-4 years	1	3.2
5-9 years	4	12.9
10-19 years	7	22.6
20+ years	19	61.3
Educational Level		
Bachelor's	10	32.3
Master's	13	41.9
Specialist (Master's + 36)	8	25.8
Professional Organizations		
AAHPERD	5	11.6
State AAHPERD	3	7
NASPE	3	7
Other	37	86

Note. Totals of percentages for demographic information are not always 100 because of rounding. *The total number of participants for the questions might not always equal 36 because some chose more than one answer for the questions.

Since the two Eastern states do not have state mandated fitness testing, there were questions on the survey that asked the participants if their school district required these tests. There were 48.8% school districts that did not require fitness testing, but the majority of the acting teachers (74.4%) implement fitness testing in their physical education classes. Some of the districts utilized their own type of fitness testing either in place of or in addition to one of the national fitness tests such as the FITNESSGRAM. However, more than half of the physical educators implement nationally recognized fitness tests, President's Challenge (37.2%) and FITNESSGRAM (27.9%).

Table 4

Demographic Characteristics of Classes and School Districts (N = 36)*

Characteristic	N	%
Current Teaching Grade Levels		
9th	29	100
10th	29	100
11th	29	100
12th	29	100
Teaching Load (Class Per Day)		
3-4	4	9.3
5-6	21	69.5
7-8	6	7.0
Teaching Load (Students Per Class)		
14-18	7	16.2
19-23	4	9.3
24-28	11	25.6
29+	9	20.8
Type of Physical Education Class		
Co-Educational	17	54.8
Segregated (All Boys or All Girls)	2	6.5
Both Co-Educational and Segregated	12	38.7
School District Require Fitness Testing		
Yes	10	32.3
No	21	48.8
Kind of Fitness Tests		
The President's Challenge	16	37.2
FITNESSGRAM	12	27.9
Original Tests	32	74.4

Note. Totals of percentages for demographic information are not always 100 because of rounding. *The total number of participants for each question might not always equal 36 because some participants chose not to answer the demographic questions and some chose more than one answer for selected questions.

Summary of Survey Quantitative Data Analysis

- Ninety-one percent of physical educators use fitness tests to evaluate students' health-related fitness.

- Seventy-seven percent of participants enjoy implementing fitness tests in their physical education classes.
- The majority of respondents enjoy watching their students take fitness.
- Ninety-one percent of teachers care about their students' fitness test results.
- Ninety-one percent of teachers do not ignore the results of their student's fitness tests.
- Ninety-four percent of participants keep the results of students' fitness tests so they can track their progress.
- The majority of physical educators keep the results of fitness tests so their students can track their progress.
- Seventy-six percent of educators use the results of fitness testing to modify their physical activity and physical instruction.
- The majority of participants neither agree nor disagree that fitness test results motivate student participation in physical activity on a regular basis. The majority who did respond, believe the tests motivate students to be active.
- The majority of physical educators acknowledge that fitness test results help students understand their health-related fitness.
- Ninety-seven percent of participants perceive that fitness test results will help students set future fitness goals.
- All study respondents consider it important for students to learn lifetime fitness goals in physical education classes.
- Ninety-seven percent of survey respondents presume responsibility for providing student opportunities to make lifetime fitness goals.

- Eighty-eight percent of the respondents deem fitness tests important and beneficial to their students.
- The majority of educators conclude that fitness tests are important because they assess student's level physical activity.

Quantitative Analysis

Two survey items were negatively worded to increase reliability. Question stated, "I ignore the results of my students' fitness tests" and 91.4% strongly disagreed or disagreed. Question eight stated, "I dislike using the results of my students' fitness tests to modify my physical activity/fitness instruction" and 76.5% strongly disagreed or disagreed. The optional negatively worded survey questions had to be recoded to determine their significance and appropriateness. The researcher conducted an inferential analysis, and statistical significance when comparing the demographic questions to the Likert scale questions. However, a statistical significance was not found between the variables; therefore, only descriptive statistics were used for this study which consisted of determining the frequencies of each question.

The Cronbach Alpha Value was .870. This value is acceptable because it is greater than .70. With the removal of this question, the Cronbach Alpha Value was recalculated to .876, providing evidence of the survey's internal reliability.

Qualitative Analysis

Survey

The survey also consisted of three short answer questions. The researcher analyzed the data qualitatively by coding and categorizing the data for each question. The open-ended questions resulted in answers consisting of multiple components, but the typed answers did not provide thick and rich answers to the questions as the researcher intended for in obtaining this

qualitative data. The anonymous survey avoided the need for participant pseudonyms. Short answer survey questions and response analysis follows:

1. What are the most important goals that students need to set for themselves in physical education to help them live active lifestyles throughout adulthood?

Thirty survey contributors responded to this survey question. Over half or 53% stated that students need to set goals and implement them on a daily basis so it becomes a routine. Forty-three percent of the participants stated that most important goals need to include enjoyable activities. Sixteen participants stated that the goals need to be part of a routine. One respondent said, "Students need to . . . make an honest effort to include exercise in their daily lifestyle." Another stated, "Learning to start a daily physical activity and make it fun, so that they can continue to do something for the rest of their lives." Another responder said, "You need to put it into your daily schedule, and make it a part of your lifestyle." Of the 13 participants who responded that enjoyment was an important goal, over half or 62% also stated that to ensure lifetime of fitness maintenance, enjoyable activities are a necessity. One respondent said, "Students need to focus on setting long term goals of finding physical activities that are personally meaningful and fulfilling, so they can stay active for their entire life span." A second participant stated, "Fitness needs to be enjoyable most of the time, or individuals won't follow a routine." Another said, "To find activities they enjoy and will engage in on a regular basis in order to keep fit."

2. What content do you believe is most important in terms of teaching lifetime goals to their students?

There were 30 participants who answered this question with a variety of answers. The codes with the most references are explained. Six participants stated that health-related fitness

components and nutrition are important for students to learn. Five respondents said that the importance and benefits of physical activity, explaining fitness level assessments, and educating students on fitness concepts are priorities. Health-related fitness answers included, 1) "Aerobic fitness as related to ability to age without giving up freedoms also linked to strength maintenance," 2) "Cardiorespiratory, muscular strength, flexibility, resting heart rate, blood pressure, and enjoyment," and 3) Health-related components of physical fitness and their importance to overall health." Respondents of nutrition said, 1) "what they put in their bodies . . . are the most important," 2) "Nutrition and overall wellness components, i.e. sleep, exercise, nutrition and mental preparation," and 3) "Helping students understand that recovery, nutrition and rest are just as important as exercise." The importance and benefits of physical fitness are necessary curricular elements. One respondent stated, "Staying active will help promote quality of life and possibly quantity of life." A second participant said, "Prevention of health related disorders and diseases is directly related to exercise." Another respondent stated, "The most important content is for them to understand why it is important to have lifetime fitness goals (prevent disease, prevent injury, self-esteem, feel better, etc.)." Five respondents described student need to learn to assess personal fitness levels. For example, one respondent stated, "I believe the most important content starts with understanding what a workout entails and how to track or self-evaluate not only in terms of personal progress but also personal safety and health issues that might affect the individual's goals." Another participant said:

> Teachers should talk with students about setting goals to improve their performance on the tests that are administered . . . and other pre-class routines that will help the students improve when they take the post-test later on in the year or when they may take the tests the following year.

A third respondent said, "The physical fitness testing that many teachers use in their classroom is great, but for it to be as beneficial to the students as possible teachers need to build in goal setting and continued work on improvement." Overall, there were a variety of responses to this question and the above examples are the most referenced codes. Five respondents stated that fitness education is important for students to learn lifetime fitness goals. One participant stated, "I believe the most important content starts with understanding what a workout entails." A second respondent said, "Principles of fitness" while another said, "fitness education."

3. In what other ways can physical educators help students to develop lifetime fitness goals?

Twenty-one participants completed this question. Participants agreed that physical educators need to offer in school fitness opportunities and encourage students to be active outside of school; students need to be exposed to a variety of activities, and physical educators need to be good role models. Almost half or 48% of those surveyed stated that physical educators need to give students opportunities to be active and help them find ways to be active outside of school. One participant said, "I teach 2 classes of FEMALE Weight Training classes . . . ." Another said, "Offer fitness classes before and after school." Another participant said, "I offer individualized exercise programs to any student who wishes to improve his/her health or fitness level." A participant stated, "Encourage students to workout outside of class by joining fitness clubs in the community" and corresponding with this encouragement, a responder included "Encourage students to get involved in community recreation programs or to use community facilities."

Thirty-eight percent of participants said that physical educators need to expose students to a variety of activities. One participant said, "Physical educators should be exposing students

to the greatest number of lifetime physical activities as possible throughout their K-12 tenure in hopes that every student finds at least one outlet they enjoy for physical activity." A second respondent stated, "We can introduce them to a wide variety of physical activities that they can use to reach their goals." Another participant said, "Making sure they are exposed to a number of activities - both team and individual. Everyone has different likes and dislikes." One-third of participants stated that physical educators need to be good role models. One said:

> I believe the best way to influence students to develop lifetime fitness goals is to be a positive role model that encourages all students to try new activities and understand personal limits. For example, a student that has a high BMI and unable to maintain a continuous jog would be applauded for his/her effort to sustain a power walk as an optional activity, and I as a teacher would walk along.

A second stated, "Be a good role model. If you are fit and regularly exercise it shows students that their goals can be achieved." Another said, "By being an example ourselves and showing them examples of lifetime activities." Therefore, physical educators can be good role models to students.

Summary of Data Analysis

- Fifty-three percent of the respondents indicated a student need to find enjoyable activities to increase the chance of continued active lifestyles.
- Forty-three percent of the participants stated that the most important goals need to include enjoyable activities.
    - Of the 13 participants who responded that enjoyment was an important goal, over half (62%) also stated that a lifetime of personal fitness maintenance includes enjoyable activities.

- Forty-eight percent of participants concluded that physical educators need to give students opportunities to be active during and after school hours.
- Thirty-eight percent of participants said that physical educators need to expose students to a variety of activities.
- One-third of participants stated that physical educators need to be good role models for their students.

In regard to determining the most important information students need in order to make lifetime fitness goals, respondents' answers varied. Because of this variety, there were more codes with a fewer number of references. The references with the most codes include:

- Twenty percent of participants concurred that health-related fitness components and nutrition are important for students to learn.
- Seventeen percent of respondents said that student's physical education should include the importance and benefits of physical activity, how to assess personal fitness levels, and related fitness concepts such as heart rate.

A possible explanation for this answer variability is that multiple components to creating lifetime fitness goals exist, and educators perceive which components are most important differently. Participant perceptions could be attributed to variances in educational background and professional experiences.

Interview

During the interview process, volunteer participants provided detailed and in-depth information because they were able to fully express their opinions. Pseudonyms were assigned for each participant to maintain confidentiality. Each interview question is stated and the analysis of the responses follows:

1. What is your perception of the purpose of fitness testing? Why?

Nine interviewees perceived that the purpose of fitness testing is to identify the physical strengths and weaknesses. Over half or 55% of teachers felt that fitness testing keeps track of physical progressions and helps students set fitness goals. Logan stated, "So the battery of tests that we do, kind of gives us an idea of where students start . . . so I think it's very important that we share that with the students." Harley said:

> Well, we use fitness testing specifically for – to help kids become aware of those specific things, so that in the future that they know what things that they can do to develop their muscle strength, to develop their muscle endurance.

Morgan said, "I think the true purpose of fitness testing – and as a matter of fact, I do a lot of it – is to point out your strengths as well as your weaknesses." Six of the teachers perceived that fitness testing shows progressions and regressions. Jordan said:

> The purpose of fitness testing, to me, is to have a pre and a post test to see where the students are at the beginning of the year, and to see if they've progressed at all to get more physically fit by the end of the year.

Morgan stated:

> I think that if you do this on a regular basis, for example, we do one every nine weeks, and it shows a progression or a regression, depending on how much work they put in between tests. So we then bring success and the kids are pretty excited when they see that the amount of push-ups, the amount of sit-ups or the amount of distances they can cover in a pacer test, for example, the ease of the length of course running and so forth. So by doing this, you can show growth.

Terry said, "Well, the purpose is to record results and show students where they stand …and retest throughout the year and you can see them improve." Fifty-five percent of teachers

perceived that the purpose of fitness testing is to help students make personal or fitness goals. Stacey stated that, "Students identify what health-related fitness components need to be improved and then they can make goals based on these needs." Casey said, "I think the fitness tests kind of to give kids an idea of where they're at fitness-wise, and for them to set goals in the future of where they want to be." Alex stated that:

> I believe the purpose is to get some kind of base line back on where student's present fitness level is and to give them some goals to see where they could get their fitness in the future. What I mean was goals that can be used for a lifetime. Because when students see the results from the fitness tests, they can see where they need to improve and make goals to strengthen these weaknesses.

When asked about the long-term purposes of fitness testing, nine of the participants stated that fitness testing can be used throughout adulthood as a baseline to give individuals information to improve and maintain fitness levels. Terry stated:

> Yes, definitely because they will be able to see where they were at, what level they can actually achieve and with the national standards at least have a baseline, understand this is where they should be even though they're not at that age anymore.

Stacey said, "If they know how to test or view a testing realm for physical education, they may be able to reassess themselves because they have the knowledge base to understand the principle of testing in and testing out." Taylor said, "I don't think they'll have to test as much, but I think once they have the idea that they can improve or maintain a certain level can certainly be gained by doing these tests." One of the participants said that there are no long-term purposes, and students will only remember the components of fitness testing. Morgan said, "I don't think that there are . . . as far as fitness testing I think it's just something you'll remember when you're

older oh remember that's when I had to run the mile." One participant stated that long-term purposes for fitness testing do exist because of the valuable fitness information gained, but does not think students will continue fitness testing throughout adulthood. Harley stated:

> Do I see the benefits? Yes, because it makes them more aware of what's going on. But personally, I don't think so. Other than the fact that they remember what they did, so that maybe when they go to a gym as an adult they can relate to why they're doing what they're doing.

2. Do you believe that fitness testing is important in high school physical education classes? Why?

Two-thirds of the participants stated that fitness testing is important because it shows students' strengths and weaknesses as helps students develop fitness goals. Logan said:

> My goal always is to, you know, get these kids in, get them tested, see where they are, and then when we go into the fitness center, that's where they – they start. You know if they need – let's say for instance, girls, typically are – their arms aren't as strong. Or the strength is not there. So I will direct them to certain machines, certain exercises that type of thing.

Jordan said, "the different tests that you take show your strength, your flexibility, how fast you can run." Jodi stated, "Students need to understand what their healthy level is and without actually seeing numbers and a number that goes specific with a certain measurement, they will not understand what it means to be healthy." In order to document progress, teachers test students more than one time throughout the school year. Jamie said:

> Oh, absolutely, I believe that it is kind of the back bone – or it should be the back bone of what drives the curriculum in a particularly secondary and high school physical

education. Okay, so what we do in our district, as we use it as our – our backbone is we pretest and post-test all of the students formatively. And we use that – that data that we get to help the students develop their own goals.

Logan stated:

> But I think it's the teacher's responsibility, then, to take it a step further and say, okay, here's a wakeup call. Your cardiovascular strength is not there, so what are we gonna do to improve it? What short-term goals do you have? What long-term goals? And then show them – help them along with it.

Jodi stated that:

> If we as physical educators use the results of the fitness tests to . . . provide students with opportunities to make goals based on the results. Then students will be more motivated to do well on the tests because of the authentic assessment.

Three teachers felt fitness testing importance depends on the group of students, current student fitness levels, and motivational differences. Alex said:

> I believe it's important in some cases. I don't know if it's important in every single class. If a kid has a very, very poor level of fitness and you're asking them to do something like a shuttle run or a pull-up or a modified pull-up, it can be very frustrating for them. So, in that instance I'm not really sure how beneficial it would be or not.

Harley stated:

> The only thing that's happened is I think students that fitness comes to them very easily, those that are very athletic don't take it seriously, and that's where we lose the importance of what we're trying to get out of it.

Stacey said, “I think it is important for some students because they care about being assessed. And they want to know what their skill level is.” One participant did not feel fitness testing is important. Terry stated:

> I do not think it’s important. It’s time consuming. Most students don’t truly grasp data or what they can do with the data, or are apathetic to the results and the material. They just tend to not find that information important”

3. Do you think there is a relationship between fitness testing and students making lifetime fitness goals?

Seventy-three percent of physical educators indicated a relationship because fitness testing creating fitness goals. Stacey said:

> I think fitness testing gives kids a goal to actually look at what they’re trying to accomplish. They have an understanding of what needs to be done, what needs to be achieved, and they can translate that into lifetime fitness goals.”

Jordan said:

> I do not know how you can make goals without having pre and posttests. I do not know how you can reach your goal. I do not know how you can set a goal if you do not have the testing.”

Jodi stated, “Fitness testing provides students with a baseline of what their scores are, or know what their limit is at that time, and then using those numbers to create their goals.” Two of the participants perceived that the relationship depends on the student. Harley said:

> I will go back to what I said before; I think it really depends on the kid. I think it can have a lot of value as long as you’re talking about fitness testing in a general scope of

wellness. I don't know if you necessarily say well if you do an X number of sit-ups or crunches or you do X number of pull-ups that's going to lead to great fitness gains.

Terry stated:

> Sometimes students will probably see the results and realize, "Hey, I can accomplish things. I'm producing results that are leading me to achieving success in certain fields of the testing that you're doing." I also would say no just because some students will just enjoy the activity that you're doing and say, "I can do this," and just enjoy and not worry about any results.

One participant felt no relationship currently exists in physical education but also stated a need exists for a relationship. Casey said:

> Really, the way it's done, I don't think there is. For example, we do fitness testing, … but there's really no records kept of where they start as a freshman, to where they get as a senior. I'm going to start keep track this year. I think if you can get kids to set goals and reach their goals I think they get excited when they accomplish things. But if you just fitness test after fitness test and you don't work toward those goals and the kids don't take an ownership of getting to that point, then I think you kind of lose the message.

4. Do you believe you have a responsibility to teach lifetime fitness goals to your students? Why?

All of the interviewees understand that they have a responsibility to teach fitness goals to their students. Two-thirds of the participants felt students need to learn lifetime fitness goals because of the importance and benefits of physical activity. Stacey said, "it's because of the fact that – look at our society today where the majority of our students are overweight or our population's overweight." Harley said something similar in that, "I have that responsibility

because there are statistics out there that are stating that this generation is not going to outlive previous generations because we've become so not physically fit." Morgan said:

> What most students don't realize is that, at 16, you don't see yourself being 50. I'm not trying to compare them to that, but what we're trying to do is emphasize a work ethic. I think it's a thought process more than anything. The example I give is a lot of them want to have their automobile and how willing they are to put money in their automobile. But in time, how much are you willing to put in your own engine, to yourself, to your own care? It makes no sense to do one without the other.

The remaining four teachers perceived that physical education is the last structured opportunity for students to learn about lifetime fitness goals and teachers need to provide support in helping students with their fitness goals. Jordan stated:

> Yes. If I don't teach them something now, I don't know when they'll ever pick them up. You know, you get married, you get a job, you have babies and that's it. You haven't figured out anything else, and it's not really the time to try to figure it out once you get to that point; you don't have that much time.

Jamie said:

> once they leave – we're trying to prepare them for a world in which they'll ultimately continue to use lifetime fitness goals. But if we don't start that process in secondary education . . . they probably are less likely to continue with those goals.

Taylor said, "I think you need to . . . help them learn how to follow through on them." Logan stated:

It's their personal goal. And they come and they share it with me, and we talk about it, we hone it, tweak it a little bit for them, and then I recheck it, keep checking with them. It's a lot of work for a teacher, but I think it's important to do that.

When asked the follow-up question pertaining to the extent of education that educators should be responsible for, seven of the participants perceived that teachers should help students create and achieve their lifetime fitness goals. Taylor said, "I think you need to provide them with examples of what fitness goals are, how to implement and set their own goals, and then help them learn how to follow through on them." Casey said, "My philosophy is you teach everything. And if you want kids to develop a lifetime fitness goal, you have to teach that, and teach them why they're doing it, what things to do." Logan said:

> They'll say, I want to lose weight. And I'll say, how much do you want to lose? We narrow it right down to how much in a week or do you really want to lose or do you really want to tighten up? And then come and they share it with me, and we talk about it, we hone it, tweak it a little bit for them, and then I recheck it, keep checking with them.

Three of the participants believe educators need to provide students with the health-related fitness components to provide an overall general education. Stacey said, "I think it should be a general education about it. I don't think we should go so technical into the education of it. Just stick to the health-related fitness components." Jodi stated, "Well, the different types of activities, like what types of activities can improve certain scores or certain fitness levels, whether it's muscular strength, endurance, flexibility." Alex said:

> In order to have a healthy lifestyle, students need to have an awareness of overall wellness and if they continue to maintain the health-related fitness levels which were

determined through fitness testing, then they will have fewer health issues as they get older.

Harley indicated that teachers need to help students find enjoyment in exercise, "I think you have to start small; you have to get them to realize that they've got to try something. They have to enjoy it, so they got to find different things that they're going to enjoy."

5. What do you think are the most important lifetime fitness goals?

Sixty-six percent of teachers confirmed the most important lifetime fitness goals are health-related fitness and specifically cardiovascular and muscle components. Morgan stated:

> I think, first and foremost, cardiovascular fitness…the stronger that you make your heart, the more functional you are throughout your lifetime. And then second, the strengthening of the major muscle groups. I'm not saying to the point that you have to look like a bodybuilder. I'm talking about when I talk to our female students about tone and a modicum of strength to make work easier because we still have some physical work that we do.

Jordan stated, "I think they need to understand what good cardiovascular fitness is, how to increase strength." Logan said, "definitely the cardiovascular fitness, the muscle strength and endurance; you know optimal weight, that type of thing." Of the seven who stated these components, two also felt that students need to have enjoyment in the activities they chose to make these goals. Jordan said, "I think that they have to find something they love." Jamie stated, "So I think it's important for them to set goals of finding an activity that they enjoy doing for their entire lifetime." Two of the participants felt the most important lifetime fitness goals involve students understanding the importance of having goals. Harley stated, "If I can get

somebody to just start exercising and realize the importance of that, I think I'm doing my job as a physical education teacher." Taylor said:

> I think the most important goal to get out there as far as lifetime fitness is concerned is just that you need to have it. That lifetime fitness is important. That it is something that needs to be continued when you're outside of the gym."

The other two participants perceived that students need to make goals pertaining to health maintenance: blood pressure, heart rate, and cholesterol. These two participants also believe students need to make time for fitness, which can be achieved through a variety of activities.

When participants answered the follow-up question, seven of the respondents said that goals are different depending on students' fitness needs. Morgan stated:

> I definitely think each student has different goals because based on what they want to achieve, you know, if they're building muscle, if they're building cardio strength, help them with a sports team, is it to change their body composition.

Jamie said, "they're going to be different. Each person has individual needs, people excel at certain things, and people don't excel at other things. And that is going to need to be tailored to each individual person." Terry stated, "I think it needs to be student oriented. You can't make them the same goals they won't like that. They want their own. If you have ownership of something it's even better." Three of the participants said the goal's need is both general and specific. Alex said, "I would say that overall the goals are the same because they include health-related fitness. However, when students are making more specific goals, they are different depending on the fitness needs of each individual." One participant argued that goals need to be general. Taylor stated, "My kids have no desire to be physically active outside of their class, so

for me it's just the idea of them understanding that fitness is important outside of the 42 minutes that they're there with me."

6. How do you prioritize your goals in physical education in terms of what you feel is important for your students to learn?

Fifty-five percent of participants prioritize their goals in physical education based student enjoyment and interest. Taylor stated, "I prioritize my units based enjoyment for the students, because if they don't like it, they're not going to do it anyway and it's defeating the purpose". Terry claims:

> Probably be class interest. It's tough sometimes if you teach a class and you introduce a concept to the class if you know they're truly not going to like it and not embrace it and fight it instead of doing something that they would enjoy, would learn from or would embrace.

Casey said, "So it kind of turned people off to fitness if you do things they don't like. I like to just do different things and some kids will find things that they like." Harley said, "I try to get them a little bit of everything because the priority is to get kids interested in becoming physically fit, to get them wanting to exercise." Five participants assert they expose students to a variety of activities. In regard to exposing students to a variety of activities, Jordan said:

> We just take enough time, I guess, to introduce stuff by getting them exposed to a variety of activities, and we might only be able to do it three or four times. And then we have to move on to something else because there isn't enough time to get into each sport or activity.

Morgan stated, "I think if you can change things two or three times a week, you'll get a lot more out of it and you won't be bored with it either." There were four participants who stated that they

teach based on the existing curriculum. These participants were referenced in addition to the student interest and variety of activities. Casey said, "Well, we are kind of told what we have to teach. For example, every year, we get a list of the three – either sports or fitness things that we teach." Logan stated, "We set up the curriculum and a lot of times, it is fairly compare and contrast what we did the year before, what worked, what didn't work." Alex said, "As the physical education department works together, we implement the existing curriculum."

Summary of Analysis

- The majority of the interviewees perceived that the purpose of fitness testing is to identify the physical strengths and weaknesses.
- Fifty-five percent of teachers felt that fitness testing keeps track of physical progressions and helps students set fitness goals.
- Sixty-six percent of the participants stated that fitness testing is important because it shows students strengths and weaknesses as helps students develop fitness goals.
- One participant did not deem fitness testing important because of time restraints and student misunderstanding of the fitness test results.
- Eighty-two percent of the educators stated that fitness testing can be used throughout adulthood because they can use fitness testing as a baseline and obtain the knowledge of how to improve and maintain fitness levels.
- The majority of physical educators feel a relationship of fitness testing and lifetime fitness goals exist because fitness testing helps students to create fitness goals.
- One participant believes that there is not a relationship at the school district where this participant teaches because they do not record the results of fitness tests but later states that there should be a relationship.

- All of the interviewees indicate that they have a responsibility to teach fitness goals to their students.
- The majority of the participants perceive that teachers should help students create and achieve their lifetime fitness goals.
- Sixty-six percent of teachers perceive that the most important lifetime fitness goals are health-related fitness and specifically cardiovascular and muscle components.
- The majority of the respondents said that the lifetime fitness goals are different depending on students fitness needs.
- Two-thirds of the participants felt students need to learn lifetime fitness goals because of the importance and benefits of physical activity.
- Thirty-seven percent of teachers indicated that physical education is the last structured opportunity for students to learn about lifetime fitness goals and if they do not learn it in physical education, then they may never have another opportunity to learn this information.
- Sixty-six percent of teachers deem that the most important lifetime fitness goals are health-related fitness and specifically cardiovascular and muscle components.
- Fifty-five percent of the participants prioritize their goals in physical education based enjoyment and interest of students.
- Forty-five percent of teachers acknowledge that their goals are to expose students to a variety of activities.

Data Analysis Based on Five Research Questions

To obtain validity evidence for the interview, the researcher provided disconfirming evidence and the researcher self-reflected through an open and honest narrative. Questions two

and three convey disconfirming evidence explained during in the analysis. Chapter 5 provides the reflective narrative of this dissertation.

During the process of analyzing the qualitative data, there were three categories created based on the patterns from the codes. These patterns determined code groupings, and the researcher named the categories to correspond with the codes. The categories and data results were as followed:

- Perception of need for fitness testing.
    - The majority of teachers indicate that fitness tests identify physical strengths and weaknesses.
    - Fifty-five percent of teachers felt that fitness testing keeps track of physical progressions.
    - The majority of physical educators felt that students use the results of fitness testing to create their lifetime fitness goals.
    - Sixty-six percent of the participants stated that fitness testing is important because it shows students their strengths and weaknesses and helps students develop fitness goals.
    - Eighty-two percent of the educators stated that fitness testing can be used throughout adulthood because fitness testing serves as a baseline and provides the knowledge of how to improve and maintain fitness levels.
- Perception of teaching lifetime fitness goals.
    - Two-thirds of respondents pointed out that students need to learn lifetime fitness goals because of the importance and benefits of physical activity.

    - All of the interviewees perceived that they have a responsibility to teach fitness goals to their students.
    - The majority of the participants perceived that teachers should help students create and achieve their lifetime fitness goals.
    - Two-thirds of the respondents said that the lifetime fitness goals are different depending on students fitness needs.
    - Sixty-six percent of teachers stipulated health-related fitness, specifically cardiovascular and muscular components, as the most important lifetime fitness goals.
    - Forty-three percent of the participants emphasized including enjoyable activities in lifetime fitness goals.
- Perception of increasing student interest.
    - Fifty-three percent of respondents felt students need to find activities they enjoy to increase the probability of maintaining an active lifetime style throughout adulthood.
    - Forty-five percent of teachers perceived that their goals are to expose students to a variety of activities.
    - Almost half or 48% of participants claimed that physical educators need to provide students opportunities to be active and help them find ways to be active outside of school.

Therefore, the majority of teachers who participated in this study felt that students need fitness testing and lifetime fitness goals in physical education. Moreover, they also felt that fitness testing transcends into adulthood because of the fitness knowledge learned from fitness

testing. Most convey that fitness testing helps students create lifetime fitness goals by creating personal goals physical conditioning. These goals differ for every student depending on their fitness needs. Teachers recognize their responsibility to help their students create lifetime fitness goals. Most teachers also understood that they can help students create and achieve goals by increasing self-motivation. This increased motivation results from goals that include enjoyable activities.

Summary

In this chapter, the researcher described the results from the survey and interview data. The quantitative data were analyzed using the SPSS for the Likert scale and demographic questions. The researcher followed a systematic process to organize the qualitative data and present the categories and emerging patterns. A discussion detailed how the researcher used the reliability and validity of the research instruments.

Chapter 5 will present a summary and discussion of the data collected as it pertains to each research question and recommendations for physical educators. This chapter also identifies future research areas based on this study.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents a discussion of results including conclusions and recommendations in Chapter 4. This chapter begins with an overview of the study and discussion of the results. Further discussion is based on limitations, practical implications for physical educators, and further research, concluding with a final reflection by the researcher and a summary of the study and its entirety.

Overview

The rising obesity rates in the United States give added importance to the existence of effective physical education curriculum in schools. According to the Centers for Disease Control (2010), the amount of obese adolescents has escalated from 5% in 1976-1980 to 18.1% in 2007-2008. In other words, over the last 30 years obesity rates for adolescents have more than tripled in the United States. As a result of these alarming rates, overall fitness has become an even more important concept for physical educators to teach their students. Physical fitness means that a person has or is trying to achieve a set of traits to perform a physical activity (Corbin, 2004). Moreover, physical fitness is an essential component because improved fitness levels can prevent the onset of chronic disease, reverse a diagnosed chronic disease associated with inactivity, increase the immune system to ultimately decrease the chance of getting sick, and improve their self-esteem due to the endorphins (a natural chemical in the body that makes a person feel good) that are released during exercise (Corbin, 2002; Kotecki, 2011).

Required high school physical education classes represent the last opportunity for some students to have a regular, structured period of physical activity during the week. After high

school, most jobs and college programs do not require participation in exercise; therefore, students need a personal incentive to find ways to be active on their own. High school physical education programs are creating new curriculum that focuses on lifetime and personal fitness to aid in students being physically active in adulthood (Welk, 2008).

Fitness testing is a necessary component of a personal fitness plan in real life and in physical education curriculum. For example, personal fitness instructors use fitness testing to determine current fitness levels prior to creating a plan to meet the needs of their client (Clark, NASM, Lucett, & Sutton, 2011). If this type of testing is not done, then the fitness plan would not accurately be personalized because the professional does not know the client's physical capabilities. The fitness tests given by physical education teachers serve the same important role of determining the current fitness level of students so personal plans can be made.

It should be noted that not all schools require fitness testing; however, some form of fitness testing is still implemented (Keating & Silverman, 2004). Physical education curricula implement a selection of activity units and appropriate time is allotted for each unit. Each school district has its own curriculum which means the activities vary from school to school. For example, one school might teach gymnastics, while another school district does not because they lack the proper equipment. Regardless, lifetime fitness is mostly commonly implemented to promote lifelong physical activity (Corbin, 2002).

Lifetime fitness goals, often called achievement goals orientation, are goals that are made in relation to physical activity that contributes to fitness and can be carried into adulthood (Fairclough, Stratton, & Baldwin, 2002). There are various ways a student can identify and make their lifetime fitness goals. An example of a positive lifetime fitness goal would be for an adolescent to improve on their cardiovascular endurance by performing activities, such as

running on a treadmill, which utilizes 40% to 60% of their maximum heart rate (MHR) for 30 to 40 minutes 3 times per week. This example utilizes the FITT principle as a foundation which physical educators use as well.

Purposes of the Study

The purpose of this study was to determine high school physical education teacher perceptions of fitness testing and the relationship between fitness testing and their students making lifetime fitness goals. The first component of this study was to determine physical educator's perception of fitness testing. Currently, only one other study was located by the researcher that focused on teacher attitudes toward fitness testing. In this study, Keating and Silverman (2004) found teachers use fitness testing to determine students' fitness levels, keep track of physical progressions and regressions, and to drive instruction. Teachers have a more positive attitude toward fitness testing when both teachers and students benefit. Fitness testing is beneficial to teachers because it can be used to assess instruction (Keating & Silverman, 2004). Moreover, fitness tests also benefit students because they promote student participation, keep track of students' physical capabilities, and ultimately promote physical activity (Keating & Silverman, 2004; Silverman, Keating, & Phillips, 2008).

Physical education has changed from a focus on organized sports to lifetime activities. As this focus has changed, a developing concern grows about children and adolescents' escalating obesity rates. Thus in the United States, teachers are focusing on students' ability to maintain fitness outside of school and throughout life. Keating (2003) agreed that the goal of physical educators is to promote physical activity that students will continue to engage in throughout adulthood. Therefore, this study investigated and determined educators' perceptions of the purpose and importance of fitness tests.

Currently, no existing research has been located by the researcher pertaining to a possible relationship between fitness testing and student lifetime fitness goal setting. However, researchers in the past have recommended that physical education teachers use fitness tests to help students develop fitness goals (Keating, 2003; Keating & Silverman, 2004; Silverman, Keating, & Phillips, 2008). Since fitness tests assess health-related fitness components, lifetime fitness goals could possibly be created using fitness tests and current fitness levels as a foundation. Therefore, determining the relationship between fitness testing and lifetime fitness goals from the perception of high school physical education teachers is the second purpose of this research study.

Summary of Findings

This study consisted of a survey and an interview. The survey was created by the researcher and primarily utilized previous research instruments (Keating & Silverman, 2004; Zhu, Welk, Meredith, & Boiarskaia, 2010). The survey consisted of 27 questions to address the research questions. The survey was distributed to 167 teachers; 156 were accessible for the study, as some emails were returned as undeliverable and some teachers sent a reply indicating that they were no longer teaching physical education or using fitness testing. Of the 156 remaining potential research subjects, 28% (43 teachers) returned the survey, 5 of these potential participants read the consent form and did not choose to participate in the study, and 2 did not complete the survey. Thus, 36 responses were used for data analysis. Eleven respondents volunteered for the qualitative component of this study. The semi-structured interview consisted of six open-ended questions, based on the research questions, to provide the researcher with further inquiry into the perceptions of teachers. The study results include: teacher perception of the need for curricular implementation of fitness testing, differentiated instruction in setting

individual lifetime fitness goals, and teacher facilitation of students' exposure to a variety of activities that can be enjoyed throughout adulthood.

Discussion of Findings

Emergent Themes

The teachers expressed, through the surveys and interviews, their opinions on fitness testing and lifetime fitness goals. Analysis of the data revealed three prevalent study themes:

1. Fitness Testing Benefits: Fitness testing provides baseline data and current fitness levels. This information allows educators to help students set lifetime fitness goals.
2. Differentiated Goal-Setting Instruction: Differentiated plans help students create and achieve fitness goals based on current fitness levels which change based on physical growth or regressions.
3. Variety of Activities: Interviewed educators included a variety of fitness activity options into the physical education curriculum. Enjoyable exercise is more likely to be continued throughout adulthood.

Perception of Need for Fitness Testing: Fitness Testing Benefits

The study found fitness testing to be beneficial for high school students. This finding is consistent with the findings from a previous research study conducted by Keating and Silverman (2004). In this study the majority of the participants felt that fitness testing was purposeful, important, and beneficial to students. The knowledge students learned about their fitness levels in physical education can be used to introduce the concept of setting lifetime fitness goals based on current overall physical fitness. Ninety-one percent of respondents conclude that fitness testing prepares students to maintain and improve fitness levels. Therefore, the study indicates the benefits of fitness testing. Fitness testing shows students that fitness levels change and

periodic tests can be used to determine current fitness levels and track progress. The routine of fitness testing and goal setting can then be carried into adulthood, providing students with long term health and fitness benefits.

Perception of Teaching Lifetime Fitness Goals: Differentiated Goal-Setting Instruction

All participants assume it their responsibility to include lifetime fitness goal setting in their classrooms. The majority indicated that student created lifetime fitness goals are based on fitness tests results. A program can then be designed to meet individual fitness needs. Seventy-three percent of physical educators felt there was a relationship between fitness testing and lifetime fitness goals. Ninety-one percent of respondents felt that each student has different fitness needs and different lifetime fitness goals. Teachers infer that students need to create lifetime fitness goals based on their personal and individual fitness needs. Logan said:

> I think my job is to help them zone in and really learn how to set goals. They'll say, I want to lose weight. And I'll say, how much do you want to lose? We narrow it right down to how much in a week or do you really want to lose or do you really want to tighten up?

Taylor said, "It's all depending on the outcome they want. Like if they approach me or if I approach them we can set up individual goals." Jamie stated, "Each person has individual needs, people excel at certain things, and people don't excel at other things. And that is going to need to be tailored to each individual person. Each lifetime fitness goal will be different." Physical educators indicate a perceived responsibility to assist students in creating lifetime fitness goals. Along with the goal setting, teachers tied the practices of differentiated instruction and progress monitoring to their physical educator duties.

Perception of Increasing Student Interest: Variety of Activities

The majority of the participants take students' interests into consideration during lesson planning. Every student has different activity preferences. Preferred activities are then included in student's lifetime fitness goals. By exposing students to various activities, students are more likely to find physical outlets they enjoy which will increase the chance that they will be active after they graduate high school and continue participating in chosen fitness paths throughout adulthood. Jordan said, "I think you just need to expose them to anything you can just to find things that they might want to do." Harley stated, "There could be kids that hate the game of Lacrosse, but love the game of soccer. I'm trying to get everybody active because I think that's what one of my goals is." Casey said:

> I like to cover – kids get kind of bored, especially if you get a unit, . . . [that] . . . 90 percent of the kids hated it and didn't really want to do it. So it kind of turned people off to fitness if you do things they don't like. So I like to just do different things and some kids will find things that they like.

One survey participant stated, "Physical educators should be exposing students to the greatest number of lifetime physical activities as possible throughout their K-12 tenure in hopes that every student finds at least one outlet they enjoy for physical activity." A second respondent stated, "We can introduce them to a wide variety of physical activities that they can use to reach their goals." Another said of class activity goals, "Making sure they are exposed to a number of activities - both team and individual. Everyone has different likes and dislikes."

Data Results to Answer Research Questions

A data matrix was created to organize how the chosen research instruments were used to answer each question. The researcher then corroborated emergent findings from the survey and

interview data. The findings from the study relate to each research question pertaining to fitness testing and lifetime fitness goals. The data was also supported with findings from previous research studies when appropriate.

Research Question One

What are teacher perceptions of the importance of fitness testing in their high-school physical education classes?

Physical educators care about the results of their students' fitness tests because the assessments can be used to provide students with their baseline fitness levels, the health-related fitness components needing improvement, and a framework for creating fitness goals. When students see the resulting fitness test scores, they will then be able to see their individual fitness levels (Keating, 2003).

Research suggests that the goal of fitness testing is to assess and keep records of students' physical abilities and progress (Ferguson, Keating, Bridges, Guan, & Li, 2007; Keating, 2003; Keating & Silverman, 2004). The majority of participants felt that fitness tests are important because they provide students with a physical assessment of their current fitness levels. Therefore, the results from this study coincide with recommendations from previous, related research studies. An additional value of fitness testing is the resulting data that students use to create lifetime fitness goals. The participants of this study perceived that fitness tests provide students with a clear view of physical strengths and weaknesses; students can use these results to make appropriate goals.

Research Question Two

What purpose does fitness testing serve according to physical education teachers?

The purpose of fitness testing is to identify current fitness levels and keep records of students' yearly fitness improvement. (Keating & Silverman, 2004). These findings are consistent and in accordance with national fitness tests, such as FITNESSGRAM. These nationally recognized programs include assessing and tracking personal fitness and physical activity (Human Kinetics, 2012). The majority of participants recognized that fitness tests evaluate a student's physical strengths and weaknesses. Another purpose of fitness testing is to track student's physical progressions by evaluating students multiple times in one school year. Physical educators keep track of the results of fitness tests and have students keep records of their own progress.

The benefits of fitness testing can be carried into adulthood. The majority of participants felt that the knowledge learned through fitness testing can be used after students graduate high school by providing baseline fitness data. Continual testing shows and documents physical progress. Students learn that fitness changes over time and improvements or decline can be determined through fitness testing. On the other hand, if students stop exercising fitness levels decrease and a continually, sedentary routine puts them at risk for obesity and chronic disease.

All participants perceived a correlation between fitness testing and lifetime fitness goals. They felt that fitness testing can be used to show students their strengths and weaknesses. Then, students can make goals to strengthen the identified weaknesses. This motivates students because the fitness test results and fitness goals are designed to meet their individual physical needs. Educators noted that fitness tests should be used to track students' physical progressions and to revise their lifetime fitness goals as needs change.

Research Question Three

What are teacher perceptions of their responsibility to teach lifetime fitness goals to their students?

In physical education, students need to learn how to create lifetime fitness goals and educators felt that it is their responsibility to provide students with this knowledge. All participants recognized that it is their responsibility to teach students to create lifetime fitness goals. Students need to understand why fitness goals are needed and appreciate the benefits and importance of physical activity. Physical education is the last structured opportunity to learn about lifetime fitness goals, and if students do not learn it during high school class time, they may never learn to create fitness goals in real life. Consequently, teachers felt that it is imperative students learn about lifetime fitness goals in physical education. Moreover, these educators felt it necessary to help students create lifetime fitness goals and provide ample opportunities to achieve them. By teaching these concepts, students can continue making and achieving lifetime fitness goals independently after they graduate high school and continue into adulthood.

Research Question Four

What do high school physical education teachers believe are the most important lifetime fitness goals for the students?

The most important lifetime fitness goals include health-related fitness; body composition, flexibility, muscular strength, and muscular endurance. However, more educators felt that cardiovascular endurance was the most important lifetime fitness goal, followed by muscular strength and endurance. Teachers deduce that students should make specific goals that pertain to each of these concepts; therefore, each student will have different goals depending on

their fitness needs. Physical educators felt that students need to find activities they enjoy to increase the likelihood that they will continue these activities outside of school and carry them into adulthood after they graduate.

Research Question Five

How do teachers prioritize their goals in physical education in terms of what they feel is important for their students to learn?

Physical educators prioritize their curricular goals in physical education based student interest and exposing students to a variety of activities. Their goal is to help students experience all the components that are available in the fitness world. By doing this, educators felt students will find an activity they enjoy. This preferred activity can then be incorporated into their lifetime fitness goals. Therefore, they will be more likely to live active lifestyles after they graduate.

Limitations

This mixed methods study provided an analysis of quantitative and qualitative data gained from a survey as well as interviews. A limitation of the study was a small number of survey respondents relative to the total number of potential respondents to whom the survey was sent. Although the surveys did yield substantial information, the researcher subsequently focused on gaining the richest possible data from the qualitative interviews. Thus, in Chapter 5, there is a strong focus on the themes that emerged in the qualitative data enriched by the survey data.

In terms of the above limitation regarding participants, 28% (43 teachers) began the survey but 7 apparently chose not to complete it. Thus, 36 total responses were used for data analysis. This relatively small return rate is not inconsistent with previous studies involving high

school physical education teachers which had a return rate ranging from 15% to 40% (Gibbone, Rukavina, & Silverman, 2010; Keating & Silverman, 204; Meegan & McPhail, 2006).

Another limitation of the study was in the short answer section of the survey. The respondents gave a written rather than verbal response, which appears to have led to brevity of response and some lack of detail. Possibly a revision of the short answer section to encourage more detailed response may have been more effective in soliciting data.

The relatively small number of physical education teachers in high schools, compared to teachers of other subjects in many cases, added to the difficulty in finding a large number of potential respondents. Although email was effective in reaching out to a large number of potential respondents, the study may have been limited by the impossibility of making a more personal form of contact with physical education teachers.

A final limitation was the focus of the study on smaller sections of the United States. A nationwide study which included the states of California and Texas (which mandate fitness testing) may have yielded stronger results.

Recommendations for Physical Educators

Fitness Testing

Fitness testing is important and purposeful in physical education classes. The purposes include determining students' current fitness levels, tracking physical progressions, creating fitness goals, and helping students achieve lifetime fitness. The perceived disadvantages of fitness tests include student testing time and students inability to interpret the results. In order to alleviate time constraints, physical educators can utilize peers fitness testing (Keating & Silverman, 2004). This allows half of the class to complete the same test at the same time. The second disadvantage of fitness tests pertains to students' interpretations of the results. While

demonstrating each fitness test, teachers should also educate students as to which component of health-related fitness the test measures and model how to interpret the results. In turn, this helps students understand the rationale for the test and explicitly teaches how to analyze the results.

Physical educators can use fitness testing to assess students' current fitness levels and use the results to help students create lifetime fitness goals. If physical educators want to grade students in relation to fitness testing, they can assess student created fitness goals rather than their fitness test performance. Physical education teachers can have students create a portfolio which follows them from 9th through 12th grade. In this portfolio, students keep track of their own results from the fitness tests and create goals based on these results. The students will not only see their physical progressions, but they will also realize that fitness goals change over time and are documented using fitness tests. Also, physical educators can keep track of the fitness test results on an index card which follows students from 9th through 12th grades. Motivation increases when students use previous results as a motivational tool to perform with increased fitness the next year.

Lifetime Fitness Goals

Physical educators deemed it their responsibility to help students create lifetime fitness goals. These goals include: a) instructor modeling of lifetime fitness goals, b) importance and benefits of physical activity, c) how to create fitness goals, and d) how to revise fitness goals. Physical educators should educate students on these concepts in order for students to understand why they are making these goals, how to create goals to meet their fitness needs, and what constitutes effective and achievable goals.

The Fitness for Life Model is a conceptual framework based on the data analysis results of the study. Physical educators can use the Framework to institute fitness testing as an integral

and authentic assessment of student ability. The model also includes having teachers provide opportunities for students to learn about lifetime fitness goals. Educators need to first provide students with information on the importance and benefits of physical activities that increase overall health. Student motivation is enhanced by increased understanding of the purposes and benefits of fitness testing.

Second, teachers will implement the fitness tests. This allows students to see their physical fitness levels and identify their strengths and weaknesses. Teachers can then educate students on how to interpret fitness test results. If teachers are using nationally recognized fitness tests such as the FITNESSGRAM, the students can compare their results to the standards. Physical educators will require students to identify the components of health-related fitness that need to be improved. Finally, teachers will lead students to create lifetime fitness goals.

Lifetime fitness goals should be based on the fitness test results, include health-related fitness components, be progressive and realistic, and incorporate activities that students enjoy. Throughout the school year, students need to change their fitness goals as their physical fitness needs change. They can identify these progressions by completing fitness tests periodically throughout the school year. Teachers can have students create a portfolio which keeps track of the fitness test results and lifetime fitness goals. Physical educators should also expose students to a variety of activities so they can find at least one activity they enjoy doing. Students can incorporate the activities they enjoy into personal lifetime fitness goals. This validates placing Variety of Activities to find enjoyment in the middle of the model; educators cannot teach every activity at the beginning of the school year. Students can change their fitness goals as enjoyable

activities are introduced and discovered as worthwhile exercise options. This model is visually represented as a cycle because physical education teachers can follow this pattern throughout each school year. The cycle begins again at the beginning of the new school year.

Recommendations for Future Research

Future research needs to be conducted on how to alleviate the amount of time it takes physical educators to test students in physical education classes. The disconfirming evidence from the interviews suggested that this time challenge creates negative perceptions of fitness testing. Since this study focused on the perception of high school physical education teachers, a follow-up study on students' perceptions needs to be conducted. This will determine if teacher perception coincides with student perception. A final recommendation would be to implement the Fitness for Life Model in the high school physical education setting and study a group of students and teachers before, during, and after model implementation. The study of long-term implications of the Fitness for Life Model is justified to determine if fitness testing and lifetime fitness goals are utilized throughout adulthood by monitoring the fitness activities of a select group of high school students after graduation and throughout adulthood.

Researcher Reflection

As I reflect on the qualitative interviews, it is important to note that I am currently a female physical educator teaching in a rural school district. The majority of the students who attend this school have a low socioeconomic status. One class I teach is entitled "Lifetime Fitness" where students learn the knowledge and skills needed to live active lifestyles. One component of this course uses the results of fitness tests to create lifetime fitness goals. These goals then generate personal fitness plans. I work with each student to develop these goals and

fitness plans to ensure these goals and plan meet their fitness needs. This is why I chose this topic for my dissertation research study. Because of this background, research bias exists.

Summary

The first purpose of this research study was to determine high school teacher perceptions of fitness testing. The majority of the participants perceived that fitness tests are important in physical education and the purposes included determining students' current fitness levels and making lifetime fitness goals. However, some physical educators perceived fitness testing as time consuming and some also feared students may not understand the importance of fitness tests and how to interpret the results.

The second purpose of this research study was to determine high school teacher perceptions of the relationship between student fitness testing and their students making lifetime fitness goals. All of the participants perceived that a relationship exists because students can use fitness tests to find their physical weaknesses and make lifetime fitness goals to improve on these weak areas. Educators also felt that it is their responsibility to teach lifetime fitness goals to their students. Furthermore, they perceived the need to help students create fitness goals and provide opportunities to achieve these goals. The goals that students make are different depending on each student's fitness needs.

The Fitness for Life Model is a conceptual framework based on the findings from this study. The framework illustrates how physical educators can make fitness testing a positive and authentic experience as well as incorporate lifetime fitness goals effectively in their physical education classes. By making fitness testing an integral part of physical education, students are able to understand the importance of these tests and use these tests authentically by making goals based from the results. It is recommended by researchers to make fitness testing an integral part

of the physical education curriculum, and this model provides a framework that educators can use to meet these recommendations (Keating, 2003; Keating & Silverman, 2004).

Figure 18. Fitness for life model.

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APPENDICES

Appendix A

SITE APPROVAL FORM

Dear Administrator,

My name is Jennifer Thorp and I am a doctoral candidate in the Department of Professional Studies in Education at Indiana University of Pennsylvania. I am also a high school physical education teacher, and I am in the process of planning a dissertation study on the connection between fitness tests and lifetime fitness goals for high school students. My goal is to survey a widespread group of high school physical education teachers to learn more about their beliefs about fitness testing and lifetime fitness goals. My dissertation chairperson is Dr. Beatrice S. Fennimore who can be contacted at bzfennim@iup.edu. She may also be reached through the department at (724) 357-2400.

I am writing to request your permission to send a survey to the physical education teachers in your district. In order to pass the human subjects review at my university, I need your "site approval" to send my survey to the physical education teachers via email addresses on the district website. The survey will be taken online using *Qualtrics* and consist of open- and closed-ended questions. There would be no identification of your school district or teachers in my study, and the survey would be voluntary and completely confidential.

Please reply to this email with a YES if you agree that I may send my dissertation survey to the physical education teachers in your school district. Please reply with a NO if you do not agree.

Thank you so much for your kind assistance with my future doctoral dissertation research.

Sincerely,

Jennifer Thorp

Appendix B

SCHOOL DISTRICT SITE APPROVAL

Subject: Dissertation Research Study

Received: March 13, 2012

Jennifer:
Yes and good luck with your research and writing.

Subject: Dissertation Research Study

Received: March 13, 2012

Yes, you have my permission Jennifer to send your survey to the physical education teachers in our district.
Best of luck Jennifer.

Subject: Dissertation Research Study

Received: March 13, 2012

Dear Jennifer,
Yes, you have my permission to send, via district email, your survey to our physical education teachers.

Appendix C

SURVEY EMAIL

Dear Physical Educator,

My name is Jennifer Thorp and I am a doctoral candidate at Indiana University of Pennsylvania. You received an email approximately two weeks ago that said you will receive a survey. Please click the link at the bottom of this email to take the survey. If you choose to participate in the survey, all information will be held in strict confidence. Your response will be considered only in combination with those from other participants.

At the end of the survey, you can volunteer for a follow-up personal interview. If you volunteer for the personal interview, you will be asked to provide contact information and all information. If you participate in the personal interview, your name will be put into a drawing for a digital camera. However, all of this information will remain confidential.

Your participation in this study is voluntary. There is no known risk for participation of this study. You are free to decide not to participate in this study or to withdraw at any time. If you choose to participate in the survey but do not want to be interviewed, click "submit survey" when the Qualtrics survey asks you to volunteer for an interview. If you choose to participate in the survey, you may withdraw at any time by exiting out of the window and all information pertaining to you will be destroyed. Also, there will not be any kind of repercussion or penalty because of your withdrawal.

After you click on the link, you will first read an informal consent letter and if you agree to the terms, just click the box next to "yes". In order to participate in the survey, you need to click "yes" giving me permission to use your results for my study. If you do not agree with the terms, you can either exit out of the window or click the box next to "no".

Click on the link below to take the survey:

Sincerely,

Jennifer Thorp

Appendix D

SURVEY INFORMED CONSENT LETTER

Teacher Perceptions of the Importance of Fitness Testing and the Relationship of Fitness Testing to Lifetime Fitness Goals for High School Students

My name is Jennifer Thorp and I am a doctoral candidate at Indiana University of Pennsylvania. You are invited to participate in this research study. It consists of a survey and an optional personal interview. If you choose to take the survey, there will be a consent letter at the beginning to give me permission to use your results for my study. The survey is anonymous, meaning that you will not be asked to provide any identifiable information, and there is no way to determine your identity in your response. However, at the end of the survey you will be asked to volunteer for a personal interview and if would like to be interviewed, you need to provide your contact information. This contact information will be separate from the survey so the researcher will not be able to identify your results with your identity. If you agree to the personal interview, only the researcher will know your identity which will be held in strict confidence throughout the study. If you agree to a personal interview, your name will be placed in a drawing for a free digital camera. Following the drawing, all names will be destroyed. You are eligible to participate because you are a high school physical educator teaching in Pennsylvania and Delaware.

The purpose of this study is to determine teachers' perceptions of fitness testing and how teachers view the relationship of fitness testing to their high school students making lifetime fitness goals. By participating in this study you will increase the knowledge of the relation of fitness testing and lifetime fitness goals for students. Participation will require no more than 20 minutes of your time.

Your participation in this study is voluntary. There is no known risk for participation of this study. You are free to decide not to participate in this study or to withdraw at any time. If you do not want to be interviewed, click "submit my survey results" when the *Qualtrics* survey asks you to volunteer for an interview. If you choose to participate in the survey, you may withdraw at any time by exiting out of the window and all information pertaining to you will be destroyed. Also, there will not be any kind of repercussion or penalty because of your withdrawal. Your response will be considered only in combination with those from other participants. The information obtained in the study may be published in scholarly journals or presented at conferences but your identity will never be revealed.

If you have any questions please do not hesitate to ask. My contact information is located at the bottom of this letter. My dissertation chairperson is Dr. Beatrice S. Fennimore who can be contacted at bzfennim@iup.edu. She may also be reached through the department at (724) 357-2400.

Jennifer Thorp, Doctoral Candidate
212 Michlin Ave
Curwensville, PA 16833
(814) 762-7914
j.l.thorp@iup.edu

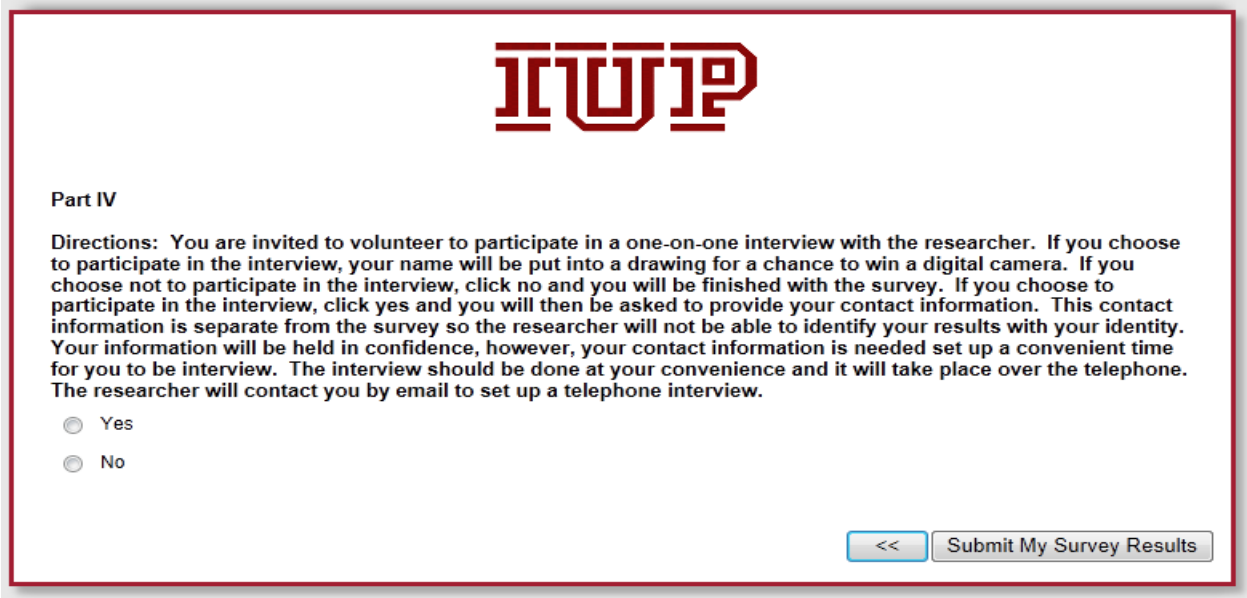
This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: 724/357-7730).

Do you consent to participate in this study?
a. Yes, I consent to participate. Please show me the survey
b. No, I do not wish to participate in this study. Please take me to the end of the survey.

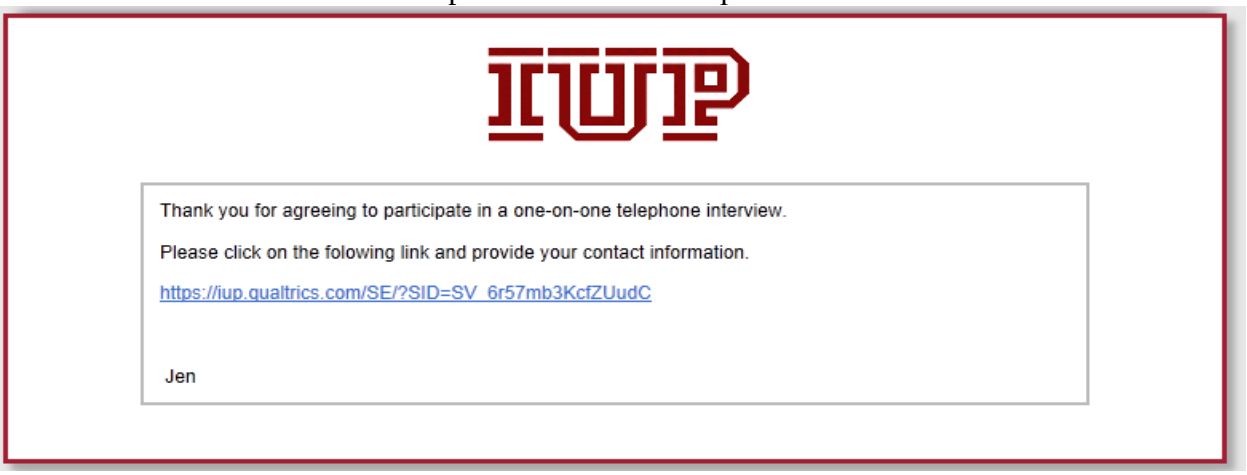
Appendix E

QUALTRICS SURVEY SCREEN CAPTURES

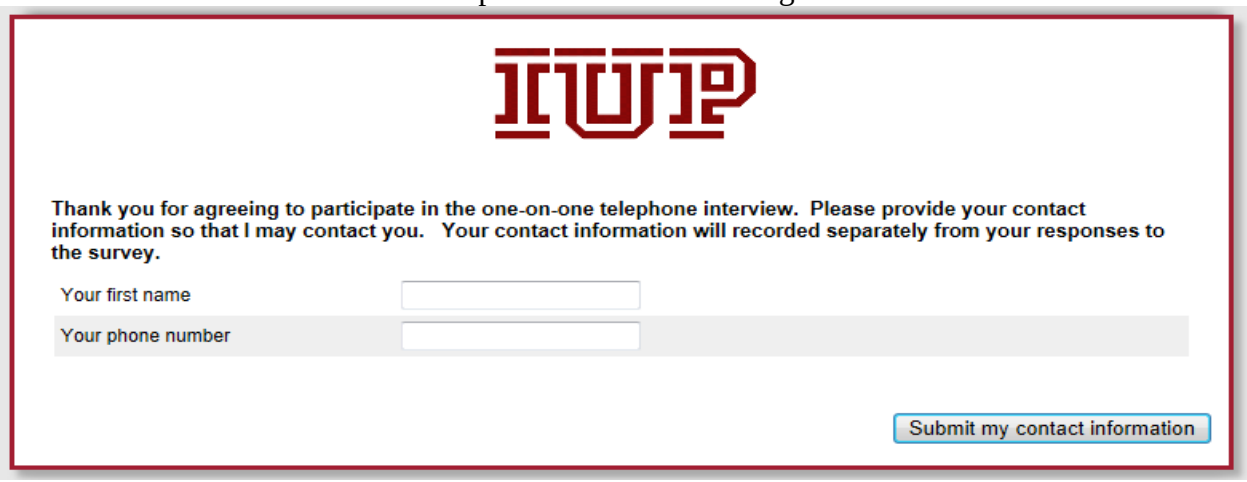
Screen Capture #1 – Part IV of Survey



Screen Capture #2 – "Yes" Response to Part IV



Screen Capture #3 – After clicking the link



Appendix F

INTERVIEW INFORMED CONSENT FORM

Teacher Perceptions of the Importance of Fitness Testing and the Relationship of Fitness Testing to Lifetime Fitness Goals for High School Students

My name is Jennifer Thorp and I am a doctoral candidate at Indiana University of Pennsylvania, the responsible institution for this research study. You are receiving this informed consent form because you volunteered to be interviewed at the end of the *Qualtrics* survey. All information, including your contact information, will be kept confidential. If you participate in the personal interview, your name will be put into a drawing for a digital camera. The following information is provided in order to help you make an informed decision whether or not to participate. If you have any questions please do not hesitate to ask. My contact information is at the end of this letter. My dissertation chairperson is Dr. Beatrice S. Fennimore who can be contacted at bzfennim@iup.edu. She may also be reached through the department at (724) 357-2400. You are eligible to participate because you are a high school physical educator teaching in Pennsylvania and Delaware.

The purpose of this study is to determine teachers' perceptions of fitness testing and how teachers view the relationship of fitness testing to their high school students making lifetime fitness goals. The aim of this study is to determine the importance of fitness testing and how it can be used to help high school students make goals they can use after they graduate. By participating in this study you will help give strategies physical educators can use to teach adolescents ways to continue being active. Participation in this study will require approximately 15 minutes of your time.

Your participation in this study is voluntary. You will have the chance to win a digital camera if you choose to participate in the interview. There is no known risk for participation of this study. You are free to decide not to participate in this study or to withdraw at any time. If you choose not to participate in the interview, please email me so I do not contact you again to be interviewed. If you choose to participate in the interview, you may withdraw at any time by notifying me before or during the interview. Upon your request to withdraw, all information pertaining to you will be destroyed and there will not be any kind of repercussion or penalty because of your withdrawal.

If you choose to participate, your identity will be held in a confidential manner. Your response will be considered only in combination with those from other participants. The information obtained in the study may be published in scholarly journals or presented at conferences but your identity will remain confidential and the data will be kept strictly confidential. If you are willing to participate in this study, please sign the statement on the next page (keep one copy for yourself), put the signed form into the stamped envelope, and mail it to me.

Jennifer Thorp, Doctoral Candidate
212 Michlin Ave
Curwensville, PA 16833
(814) 762-7914
j.l.thorp@iup.edu

This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (Phone: (724) 357-7730).

Appendix G

VOLUNTARY CONSENT FORM

Directions: Please read the statement below. If you agree to the terms in the attached informed consent form and the statement below, please print and sign your name along with the date. Please do not sign the next section where it says Principle Investigator's Signature. Then put this into the attached stamped envelope and place it in the mail.

I have read and understand the information on the form and I consent to volunteer to be a subject in this study. I understand that my responses are completely confidential and that I have the right to withdraw at any time. I have received an unsigned copy of this informed Consent Form to keep in my possession.

Name (PLEASE PRINT) _____

Signature _____

Date_____

I certify that I have explained to the above individual the nature and purpose, the potential benefits, and possible risks associated with participating in this research study, have answered any questions that have been raised, and have witnessed the above signature.

_____ _____

Date Principal Investigator's Signature

When do you prefer to be contacted? Please provide the day and time.

Day _____

Time _____

How do you prefer to be contacted? Please provide the email or number.

Email _____

Phone _____

Appendix H

DIRECTIONS SHEET

Dear Physical Educator,

Here is a list of the contents in this envelope:

1. Informed Consent Form
2. Voluntary Consent Form (2)
3. Envelope with my address

Please read over the informed consent form and voluntary consent form. After reviewing the information, if you still would like to be interviewed for my dissertation research study, please do the following:

1. Print your name on the voluntary consent form.
2. Sign your name on the voluntary consent form.
3. Write the date on the voluntary consent form.
4. Please fill out when and how you prefer to be contacted – I would like to contact you at your convenience.
5. Put the completed voluntary consent form in the envelope that has my address on it.
6. Mail it back to me.

NOTE: One of the voluntary forms is for your records and the other form is for you to complete and return to me.

If you have any questions please feel free to call me (814) 762-7914. When I receive the voluntary consent form, I will contact you to schedule the one-on-one telephone interview.

Thank you,

Jennifer Thorp

Appendix I

SITE APPROVAL FOLLOW-UP EMAIL

Dear Administrator,

Last week I sent an email in regard to acquiring site approval for my dissertation study. I did not get a response from you so I am sending the email again, in case you did not receive my previous email.

My name is Jennifer Thorp and I am a doctoral candidate in the Department of Professional Studies in Education at Indiana University of Pennsylvania. I am also a high school physical education teacher, and I am in the process of planning a dissertation study on the connection between fitness tests and lifetime fitness goals for high school students. My goal is to survey a widespread group of high school physical education teachers to learn more about their beliefs about fitness testing and lifetime fitness goals. My dissertation chairperson is Dr. Beatrice S. Fennimore who can be contacted at bzfennim@iup.edu. She may also be reached through the department at (724) 357-2400.

I am writing to request your permission to send a survey to the physical education teachers in your district. In order to pass the human subjects review at my university, I need your "site approval" to send my survey to the physical education teachers via email addresses on the district website. The survey will be taken online using *Qualtrics* and consist of open- and closed-ended questions. There would be no identification of your school district or teachers in my study, and the survey would be voluntary and completely confidential.

Please reply to this email with a YES if you agree that I may send my dissertation survey to the physical education teachers in your school district. Please reply with a NO if you do not agree.

Thank you so much for your kind assistance with my future doctoral dissertation research.

Sincerely,

Jennifer Thorp

Appendix J

NOTIFICATION OF SURVEY

Dear Physical Educator,

My name is Jennifer Thorp and I am a doctoral candidate at Indiana University of Pennsylvania. You are invited to participate in this research study. It consists of a survey and an optional personal interview. If you choose to take the survey, there will be a consent letter at the beginning to give me permission to use your results for my study. The survey is anonymous, meaning that you will not be asked to provide any identifiable information, and there is no way to determine your identity in your response. However, at the end of the survey you will be asked to volunteer for a personal interview and if would like to be interviewed, you need to provide your contact information. If you agree to the personal interview, only the researcher will know your identity. This information will be held in strict confidence throughout the study. If you agree to a personal interview, your name will be placed in a drawing for a free digital camera. Following the drawing, all names will be destroyed. You are eligible to participate because you are a high school physical educator teaching in Pennsylvania and Delaware.

The purpose of this study is to determine teachers' perceptions of fitness testing and how teachers view the relationship of fitness testing to their high school students making lifetime fitness goals. The aim of this study is to determine the importance of fitness testing and how it can be used to help high school students make goals they can use after they graduate. By participating in this study you will help give strategies physical educators can use to teach adolescents ways to continue being active. Participation in this study will require approximately 20 minutes of your time.

Your participation in this study is voluntary. There is no known risk for participation of this study. You are free to decide not to participate in this study or to withdraw at any time. If you choose to participate in the survey but do not want to be interviewed, click "submit survey" when the Qualtrics survey asks you to volunteer for an interview. If you choose to participate in the survey, you may withdraw at any time by exiting out of the window and all information pertaining to you will be destroyed. Also, there will not be any kind of repercussion or penalty because of your withdrawal. Your response will be considered only in combination with those from other participants.

If you have any questions please do not hesitate to ask. My contact information is located at the bottom of this letter. My dissertation chairperson is Dr. Beatrice S. Fennimore who can be contacted at bzfennim@iup.edu. She may also be reached through the department at (724) 357-2400.

However, I invite you to volunteer to participate in a follow-up interview. You will see this invitation at the end of the survey. If you choose to participate you will be asked to reveal your name and contact information. However, all of this information will remain confidential. If you volunteer to participate in the interview, your name will be put into a drawing for the digital camera.

Sincerely,
Jennifer Thorp
212 Michlin Ave
Curwensville, PA 16833
(814) 762-7914
j.l.thorp@iup.edu

Appendix K

SURVEY

Part I - Likert Scale Questions

Directions: The following three tables present 15 statements regard fitness testing and lifetime fitness. Please indicate your opinion for each statement by clicking on Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree.

1. I use fitness tests to evaluate my students' health-related fitness

□ Strongly Agree □ Agree □ Neither Agree nor Disagree □ Disagree □ Strongly Disagree

2. I enjoy implementing fitness tests in my classes

□ Strongly Agree □ Agree □ Neither Agree nor Disagree □ Disagree □ Strongly Disagree

3. I enjoy watching my students taking fitness tests

□ Strongly Agree □ Agree □ Neither Agree nor Disagree □ Disagree □ Strongly Disagree

4. I care about my students' fitness test results

□ Strongly Agree □ Agree □ Neither Agree nor Disagree □ Disagree □ Strongly Disagree

5. I ignore the results of my students' fitness tests

□ Strongly Agree □ Agree □ Neither Agree nor Disagree □ Disagree □ Strongly Disagree

Please indicate for these 5 statements your opinion by clicking on Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree.

6. I keep the results of my students' fitness tests so that I can track students' progress on tests.

□ Strongly Agree □ Agree □ Neither Agree nor Disagree □ Disagree □ Strongly Disagree

7. I keep the results of my students' fitness tests so that students can track their progress on fitness tests

□ Strongly Agree □ Agree □ Neither Agree nor Disagree □ Disagree □ Strongly Disagree

8. I dislike using the results of my students' fitness tests to modify my physical activity/fitness instruction.

□ Strongly Agree □ Agree □ Neither Agree nor Disagree □ Disagree □ Strongly Disagree

9. The results of fitness tests motivate my students to participate in physical activity on a regular basis.

□ Strongly Agree □ Agree □ Neither Agree nor Disagree □ Disagree □ Strongly Disagree

10. The results of fitness testing help my students understand their health-related fitness.

□ Strongly Agree □ Agree □ Neither Agree nor Disagree □ Disagree □ Strongly Disagree

Please indicate for these 5 statements your opinion by clicking on Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree.

11. I think fitness test results should help students set up their future fitness goals.

□ Strongly Agree □ Agree □ Neither Agree nor Disagree □ Disagree □ Strongly Disagree

12. I think it is important for students to learn lifetime fitness goals in physical education classes

□ Strongly Agree □ Agree □ Neither Agree nor Disagree □ Disagree □ Strongly Disagree

13. I think physical educators have a responsibility to provide opportunities for students to make lifetime fitness goals

□ Strongly Agree □ Agree □ Neither Agree nor Disagree □ Disagree □ Strongly Disagree

14. I think fitness tests are important because they are beneficial to my students.

□ Strongly Agree □ Agree □ Neither Agree nor Disagree □ Disagree □ Strongly Disagree

15. I think fitness tests are important because they assess student's physical activity.

□ Strongly Agree □ Agree □ Neither Agree nor Disagree □ Disagree □ Strongly Disagree

Part II - Short Answer: Please read the following definition.

Definition of Lifetime Fitness Goal - goals that are made in relation to physical activity that contributes to fitness and can be carried into adulthood.

Directions: On the next three pages, including this page, you will be shown three open-ended questions. Please type your response in the box below the question.

16. What are the most important goals that students need to set for themselves in physical education to help them live active lifestyles throughout adulthood?

17. What content do you believe is most important in terms of teaching lifetime goals to their students?

18. In what other ways can physical educators help students to develop lifetime fitness goals?

Part III Demographics

Directions: The following questions provide demographic information for this study which you can volunteer to take. If you choose not to answer this section, please scroll down and click the right button to go to the next page. Please feel free to give information in any of the question categories.

1. What is your gender?
    a. _____male
    b. _____female

2. Including this year, how many years have you been teaching physical education?
    a. _____0-4 years
    b. _____ 5-9 years
    c. _____10-19 years
    d. _____20 + years

3. What is the maximum education level completed?
    a. _____Bachelor's
    b. _____Master's
    c. _____Specialist (Master's + 36)
    d. _____Doctorate

4. What grades do you teach? (Check all that apply)
    a. ____9^{th}
    b. ____10^{th}
    c. ____11^{th}
    d. ____12^{th}

5. What is your typical teaching load per day? (Please estimate to the best of your ability)
    a. Classes per day _____
    b. Students per class _____

6. What type of physical education classes do you teach?
    a. ____Co-educational
    b. ____Segregated (All boys or all girls)
    c. ____Both Co-educational and Segregated

7. Does your school district require you to implement fitness tests?
    a. ____Yes
    b. ____No

8. What kind of fitness testing do you use in your physical education classes? (Check all that apply)
    a. ____The President's Challenge
    b. ____FITNGESSGRAM
    c. ____AAHPERD Physical Best Test
    d. ____Youth Fitness Test Program by YMCA
    e. ____Chrysler Fund-AAU Physical Fitness Test
    f. ____Other (please specify) _____

9. To which of the following professional organizations do you belong to? (Check all that apply).

    ☐ AAHPERD
    ☐ state AAHPERD
    ☐ NASPE
    ☐ other (specify): _____.

Part IV

Directions: You are invited to volunteer to participate in a one-on-one interview with the researcher. If you choose to participate in the interview, your name will be put into a drawing for a chance to win a digital camera. If you choose not to participate in the interview, click no then "submit my survey results" and you will be finished with the survey. If you choose to participate- in the interview, click yes then "submit my survey results" and you will then be asked to provide your contact information. This contact information is separate from the survey so the researcher will not be able to identify your results with your identity. Your information will be held in confidence, however, your contact information is needed set up a convenient time for you to be interview. The interview should be done at your convenience and it will take place over the telephone. The researcher will contact you by email to set up a telephone interview.

a. Yes
b. No

Appendix L

RESEARCH INSTRUMENT PERMISSION

Subject: Research Instrument Permission
To: <xk93@austin.utexas.edu>
Retrieved January 9, 2012

Hi, Jennifer,

Attached please find the survey. Good luck with your research.

Xiaofen Deng Keating, Ph.D.
Associate Prof.
Dept. of Curriculum and Instruction
The University of Texas at Austin
Austin, TX 78712
Tel: 512-232-3565

Subject: Research Instrument Permission
To: <weimozhu@illinois.edu>
Received: February 11, 2012

Sorry. Jen. Thought I forwarded your request to the Cooper Inst. already. Attached is the survey and I am copying this message to Dr. Meredith at the Cooper Inst. Please let us know if there is anything that we can assist. Good luck for your study.

Best, Weimo Zhu

CC:
Marilu D. Meredith, Ed.D.
Director, Perot International Youth Data Center
Former Program Director of FITNESSGRAM
The Cooper Institute(r)
12330 Preston Road | Dallas, TX 75230
O: 972.341.3261 | 800.635.7050 | F: 972.341.3227
mmeredith@cooperinst.org| www.fitnessgram.net

Appendix M

INTERVIEW PROTOCOL

I. Information about the Interview:

Interviewee: _____ Interviewer: _____

Date: _____ Time: _____ Place: _____

II. Consent and Introduction

- Introduce yourself
- Review the study's purpose, how long you expect the interview to take, and your plans for using the results from the interview
    - The purpose of this study is to determine teachers' perceptions of fitness testing and how teachers view the relationship of fitness testing to their high school students making lifetime fitness goals. The aim of this study is to determine the importance of fitness testing and how it can be used to help high school students make goals they can use after they graduate. By participating in this study you will help give strategies physical educators can use to teach adolescents ways to continue being active.

III. Directions of Interview – What to Expect

- Explain that the protocol consists of approximately 6 open-ended questions and there are statements that will be read to guide the participants' thinking throughout the interview.
- Note that the interview will be audio recorded and that you will keep their identity confidential. State that if permission is granted then you will hit the record button and then ask again if they give you permission to record.

HIT RECORD BUTTON

Do I have your permission to record our interview?

Interview Questions

Statement: Fitness testing can determine a person's health-related fitness (flexibility, body composition, muscular strength, muscular endurance) and/or skill-related fitness (agility, coordination, reaction time, speed, balance, and power).

1. What is your perception of the purpose of fitness testing? Why?

2. Do you believe that fitness testing is important in high school physical education classes?

   Why?

Statement: Lifetime fitness goals are goals that are made in relation to physical activity which contribute to fitness and can be carried into adulthood.

3. Do you think there is a relationship between fitness testing and students making lifetime fitness goals?
    a. Follow-Up Question: You stated that there should be a relationship of fitness testing and lifetime fitness goals; however, realistically there is not a relationship. What recommendations would you give physical educators so there is a relationship?
4. Do you believe you have a responsibility to teach lifetime fitness goals to your students? Why?
5. What do you think are the most important lifetime fitness goals?

Statement: There is not enough time in a school year for all units in physical education to be implemented. As a result, some units need to be shortened or eliminated.

6. How do you prioritize your goals in physical education in terms of what you feel is important for your students to learn?

Is there anything else you would like to comment on in terms of this dissertation research study?

Wrap Up and Thank Participant for Time

Thank you very much for your time today. I appreciated hearing your insights on fitness testing and lifetime fitness goals.