

University of Arkansas, Fayetteville

ScholarWorks@UARK

Graduate Theses and Dissertations

8-2017

Attitudes of Students with and without Disabilities Toward Physical Education and Their Sports and Activities Preferences in Saudi Arabia

Zuhair Abdaladeem Al Salim
University of Arkansas, Fayetteville

Follow this and additional works at: <https://scholarworks.uark.edu/etd>



Part of the [Health and Physical Education Commons](#), [Near and Middle Eastern Studies Commons](#), and the [Sports Studies Commons](#)

Citation

Al Salim, Z. A. (2017). Attitudes of Students with and without Disabilities Toward Physical Education and Their Sports and Activities Preferences in Saudi Arabia. *Graduate Theses and Dissertations* Retrieved from <https://scholarworks.uark.edu/etd/2395>

This Dissertation is brought to you for free and open access by ScholarWorks@UARK. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of ScholarWorks@UARK. For more information, please contact uarepos@uark.edu.

Attitudes of Students with and without Disabilities Toward Physical Education and Their Sports
and Activities Preferences in Saudi Arabia

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy in Kinesiology

by

Zuhair Abdaladeem Al Salim
University of Dammam
Bachelor of Physical Education, 2000
University of Arkansas
Master of Science in Kinesiology, 2014

August 2017
University of Arkansas

This dissertation is approved for recommendation to the Graduate Council.

Dean Gorman, Ph.D.
Dissertation Director

Cathy Lirgg, Ph.D.
Committee Member

Jack Kern, Ph.D.
Committee Member

Sharon Hunt, Ed.D.
Committee Member

Peggy Schaefer-Whitby, Ph.D.
Committee Member

Abstract

Saudi Arabia is one of the biggest countries in the Middle East, and it has paid particular attention to public education to prepare students to become good citizens. Physical education (PE) can have a vital influence on all children and adolescents' lifestyles, including those with disabilities. The purpose of this study was to examine attitudes of Saudi Arabian students with and without disabilities toward PE as well as their sport and activities preferences. A second purpose was to investigate the effect of school levels and student participation in physical activity after school on students' attitudes in PE. A final purpose was to determine predictors of enjoyment and perceived usefulness of PE. Participants were 11-19-year-old elementary, middle, and high school students from the Eastern Province, Saudi Arabia. Participants included 195 students without disabilities and 205 with disabilities. Students were queried as to personal information, their student activities and sports preferences, and also completed the Student Attitudes Toward Physical Education Survey. The results of this study indicated that the overall mean score of attitudes of all participants toward PE was 3.48 on a scale of 1-5, indicating a moderate positive attitude toward PE. In general, students without disabilities had more positive attitudes toward physical education than students with disabilities. In addition, high school students without disabilities had less favorable attitudes toward PE than middle or elementary school students. Moreover, attitudes of high school students with disabilities toward PE showed less positive attitudes toward PE than middle and elementary school students with disabilities. However, there was no significant difference between elementary school students with disabilities and middle school students with disabilities in attitudes toward PE. Also, students who participated in physical activity outside school showed more positive attitudes toward PE than students who did not participate in physical activity outside school. Lastly, for students with

disabilities, individual sport, competitive activities, cooperative activities, and aquatic activities were significant predictors of attitudes toward enjoyment of PE. For those without disabilities, cooperative activities, team sports, and fitness activities were significant predictors of attitudes toward enjoyment of PE.

Acknowledgment

Firstly, I am thankful to my God for all his graces and blessings in my life. Without a strong faith in Him, I could not finish my dissertation. Also, this dissertation would not have been completed without the assistance of my great academic advisor, Dr. Dean Gorman. Thus, I would like to express my sincere gratitude to him for continuous support of my Ph.D. study and related research, for his patience, motivation, and immense knowledge. His guidance helped me during the research and writing of this dissertation. I cannot imagine having a better advisor and mentor for my Ph.D. study.

Dr. Cathy Lirgg is an associate professor in the Kinesiology department at the University of Arkansas, and one of my helpful committee members. Thanks for all her kindness, help, time, and useful suggestions. She is always nice and willing to be of assistance when it is needed. Also, I would like to thank the rest of my dissertation committee: Dr. Sharon Hunt, Dr. Jack Kern, and Dr. Peggy Schaefer-Whitby for their insightful comments and encouragement and their integral role in helping me complete my degree. Thank you for all your assistance and suggestions.

Finally, I thank my lovely wife, Theakrayat, who had a vital role in helping me finish my dissertation. I thank her for her encouragement, help, and love. She has always motivated me to get my Ph.D.

Dedication

This dissertation is dedicated to my father “God bless his soul” who taught me persistence and success, to my mother “God bless her” who taught me patience and perseverance, to my wife who gives me love and support, to my children, and to my siblings who encourage and support me.

Table of Contents

Chapter One	1
Introduction	1
Background.....	2
Purpose of Study.....	8
Research Questions.....	9
Definition of Terms	10
Delimitations	12
Assumptions	13
Limitations.....	13
Significance of the Study.....	13
Chapter Two.....	15
Review of Literature.....	15
Overview of the Kingdom of Saudi Arabia.....	15
Overview of the Saudi Education System	16
Physical Education Class in SA.....	17
Special Education in SA	18
Attitudes.....	22
Inclusion in Education	27
Perceptions of Students with Disabilities toward Inclusion	30
General and PE Teachers' Attitudes toward Inclusion in SA	32
Attitude of Students without Disabilities toward Inclusion.....	35
Research on Attitudes of Students toward PE.....	38
Primary Factors that are Related to Attitudes of Students toward Physical Education.....	39
Chapter Three.....	49
Methods	49
Participants	49
Measurement	49
Procedures	51
Data Analysis.....	52

Chapter Four	54
Results	54
Descriptive Statistics	54
Inferential Statistics	54
Sports and Activities Preferences of Students with and without Disabilities.....	71
Sports and Activities Preference of Participating Students in PA After School	72
Sports and Activities Preferences by School Levels	73
Chapter 5	77
Discussion, Implications, and Conclusion	77
Discussion of Findings	77
Implications for Practice.....	87
Implications for Future Studies	90
Conclusions	90
References.....	92
Appendixes	103
Appendix A	103
English Version of the Instrument.....	103
Appendix B	107
Arabic Version of the Instrument	107
Appendix C.....	111
Instrument Items for Subscales and Subdomains.....	111
Appendix D.....	113
Figures of All Interactions.....	113
Appendix E	122
The School District of Eastern Province of Approval for Students' Schools	122
Appendix F.....	123
Institutional Review Board Approval Letter	123
Appendix G.....	124
Consent Form to Participate in Research (English Version).....	124
Appendix H.....	128
The Consent Form to Participate in Research (Arabic Form).....	128

Appendix I	131
Permission to Use Survey	131

List of Figures

Figure 1: Theory of Planned Behavior	26
--	----

List of Tables

Table 1: Demographic Characteristics of Participants.....	55
Table 2: Means and Standard Deviations of Students’ Attitudes Toward PE	56
Table 3: Means and Standard Deviations of the Dependent Variables for the Two Groups of Students in Three School Levels.....	58
Table 4: Means and Standard Deviations of the Dependent Variables for the Two Groups of Students in Three School Levels.....	63
Table 5: Means and Standard Deviations on the Dependent Variables for the Groups of Students and Their Participation in Physical Activity After School	64
Table 6: Means and Standard Deviations on the Dependent Variable for the Two Groups of Students and Three School Levels	67
Table 7: Means and Standard Deviations on the Dependent Variable for the Two Groups of Students and Level of Students Participations in PA outside School.....	69
Table 8: Predictors of Attitudes of Students with Disabilities Toward Perceived Usefulness and Enjoyment of PE	70
Table 9: Predictors of Attitudes of Students without Disabilities Toward Perceived Usefulness and Enjoyment of PE	71
Table 10: Comparisons of Sports and Activities Preferences by Groups of Students, Student Participation in PA After School, and School Levels.....	75
Table 11: Comparisons of Sports and Activities Preference by Groups of Students Who Participate or not in PA After School	75
Table 12: Comparisons of Sports and Activities Preferences by Elementary, Middle, and High School Students with and without Disabilities	76

Chapter One

Introduction

A sedentary lifestyle is widespread among children and adolescents in contemporary society. This lifestyle may lead to many secondary diseases such as type two diabetes, high blood pressure, osteoporosis, and obesity. According to the World Health Organization (WHO) (2016), more than 80% of adolescents in the world (11-19) do not get enough physical activity (PA) even though they are at a critical stage for developing habits that will last a lifetime. Daily physical activity is essential in order to avoid the bad effects of a sedentary lifestyle, and since most children attend school, a quality physical education program is an effective way to provide that activity (Trudeau & Shephard, 2005). Quality physical education programs can encourage children to be more active and may help them establish lifelong habits of physical activity that will make them healthier adults (Pano & Markola, 2012).

One of the primary goals of physical education programs should be to enhance favorable attitudes toward physical activity (Trudeau & Shephard, 2005). Each state in the United States (U.S.) is required to meet physical education standards based on national standards, and 90% of those states include encouraging positive attitudes as part of their physical education standards (Prochaska, Sallis, Slymen, & McKenzie, 2003). In Saudi Arabia (SA), however, there are no specific physical education standards that help students develop a more positive attitude towards physical activity. Thus, Saudi Arabia should develop programs, so the attitudes toward physical activity increase and thus decrease sedentary lifestyle.

Quality physical education programs need to be available to all children and adolescents, including children and adolescents with disabilities. Being physically active as much as possible helps children with disabilities reduce their risk of disease, develop their bodies, improve their

motor skills, and provides them with enjoyment that enhances their quality of life. As much as possible, children with disabilities should participate in physical education classes with their peers without disabilities in order to promote social interaction. The attitude of children and adolescents with disabilities toward physical education may be influenced by their parents, their grade level, accessibility to facilities, types of equipment, individual skill level, type of disability, and their peers' willingness to include them in their activities. Thus, appropriate adaptations of physical education may influence attitudes of students with disabilities toward physical education (Coates & Vickerman, 2008).

Physical education teachers play a pivotal role in the attitudes students develop toward physical education and physical activity. If teachers are not interested or prepared to teach students with disabilities, they will not design a curriculum or make assessments that foster a positive attitude toward PE in their students with disabilities.

Background

Saudi Arabia is one of the biggest countries in the Middle East, and it has paid particular attention to public education in order to prepare students to become good citizens and have a good life in a modern world. Public education (grades 1-12) has three stages, elementary education (grades 1-6), intermediate education (grades 7-9), and secondary education (grades 10-12). However, there is no coeducational system in SA, so males and females study separately. In addition, for about two decades, students with mild and moderate disabilities have been studying in regular public schools with their counterparts without disabilities so that students with disabilities can improve socially, academically, emotionally, and physically. Students with mild and moderate disabilities are placed in regular classrooms or special classrooms within regular schools.

Most countries have enacted laws to ensure that all children and adolescents, including children and adolescents with disabilities, obtain appropriate educations. In the United States, the Individuals with Disability Education Act (IDEA) was enacted to ensure children and adolescents with disabilities have the right to obtain a free appropriate education. Section 504 of the Rehabilitation Act of 1973 prevents discrimination against children and adolescents with disabilities and supports the integration of students with disabilities into schools where students without disabilities study (Murphy & Carbone, 2008). Likewise, in Saudi Arabia, there is Regulation Special Education Program and Institution 2001 (RSEPI) that requires quality education services to all children and adolescents with disabilities (Aldabas, 2015).

Physical education has a vital influence on all children and adolescents' lifestyle, including children and adolescents with disabilities. Physical education improves social, physical, emotional, and cognitive development for all students, and PE in the formative years introduces youngsters to the benefits of being active. The U.S. Department of Health and Human Services and U.S. Department of Agriculture (2005) recommend that children and adolescents should have 60 minutes daily of moderate physical activities (PA). However, more than 90% of adolescents 12-19 years and approximately 60% of children 6-11 years in the U.S. did not reach the recommended level of moderate physical activity (Society of Health and Physical Educators [SHAPE], 2016). Also, in the U.S. more than 75% of students (grades K-12) who had health conditions were allowed exemptions from participating in physical education classes, and most of them were students with disabilities (Murphy & Carbone, 2008).

Even though 90% of students thought that physical education was necessary at school and that physical education was beneficial and pertinent to their future lives, researchers have found that whenever children advance to higher grades, their participation in physical education

classes decreases (Chung & Phillips, 2002). One study indicated that the average age group 6-11 years old participated in 88 minutes per day in moderate to vigorous physical activity, while the average age group 12-15 and 16-19 years old participated in moderate and vigorous physical activity about 33 and 26 minutes, respectively (Belcher et al., 2010). In Saudi Arabia, the problem is even more acute. According to Al-Hazzaa (2004), 80% of adults ages 19 or above, 70% of young people ages 13-18, and 57% of children ages 7-12 were not physically active.

Physical education programs should be an integral part of every school's curriculum and should have a significant role in promoting student wellbeing. Especially in today's world, people need to be encouraged to participate in physical activity and most children and adolescents participate in physical activity much more in school than they do outside of school hours. In fact, physical activity has numerous benefits. Physical activity helps to build fitness, improve health, develop social skills, and leads to greater self-confidence (Ponchiellia, Strause, & Ponchillia, 2002). It has special significance not only for the non-disabled but also for people with disabilities (Ohlenkamp, 2000). Importantly, many studies have shown that children and adolescents with disabilities participated in physical education class and physical activities less than children and adolescents without disabilities. A study found that one out of three children without disabilities participated in physical education classes at least two periods per week, but only one out of five children with disabilities did so (Coates & Vickerman, 2008). Thus, children and adolescents with disabilities may be susceptible to chronic diseases more than their counterparts without disabilities because children and adolescents with disabilities have more sedentary lifestyles. In addition, children and adolescents with disabilities may face difficulties in participating in physical education or physical activities. In a 2013 study, parents reported that obstacles that reduced or prevented children with disabilities from participating in physical

activity were as follows: they did not feel interested in PE programs (43%), parents did not feel physical education programs were appropriate for their children (33%), and some parents thought that other children's behavior would cause trouble for their child (32%) (Yazdani, Yee, & Chung).

The attitudes of students toward PE may tend to impact their participation in physical activity. Students who have positive attitudes toward PE are more likely to be physically active inside and outside of school. Grade level, gender, and skill level appear to influence students' attitudes toward PE. In addition, the PE teachers, PE curriculum, facilities, equipment, and classroom atmosphere influences their attitude toward PE. Many researchers find that students' attitudes toward PE decline as their age increases. Elementary students have positive attitudes toward physical activities that are fun and at the same time challenge them while teaching the value of teamwork (Liu, Wang, & Xu, 2008). However, middle school and high school students prefer team sports such as football, soccer, basketball, and hockey more than individual sports or dual sports (Zeng, Hipscher, & Leung, 2011).

Participating in physical education classes and physical activity inside and outside of school hours helps students reduce the risk of obesity. Obesity has become one of the most critical public health problems. Children and adolescents in the Middle East have higher rates of overweight and obesity, and one of the fastest increasing averages in the world is Saudi Arabia (Ng et al., 2014). Only 3.4% of adolescents were obese in 1988, while 24.5% of Saudi adolescents were obese in 2005 (Al Dhaifallah, Mwanri, & Aljoudi, 2015). In addition, a report indicated that more than 23.5% of Saudi boys (less than 20 years) and 37.4% of Saudi girls (less than 20 years) were overweight or obese, and overweight and obesity among Saudi men and women combined was more than 70% (Ng et al., 2014).

In the United State, 28.8% of boys and 30% of girls were overweight or obese, whereas 71% of men and 62% of women were overweight or obese (Ng et al., 2014). In addition, 17.5% of children (6-11 years), 20% of adolescents (12-19 years), and 36% of adults were obese during 2011 to 2014 in the U.S. (Ogden, Carroll, Fryar, & Flegal, 2015). Importantly, in 2014, the Centers for Disease Control and Prevention (CDC) noticed that most obese adolescents remain obese or overweight in adulthood (Woodson-Smith, Dorwart, & Linder, 2015).

Furthermore, students with disabilities are more apt to be overweight and obese than students without disabilities because students with disabilities are more physically inactive and have a more sedentary lifestyle. Results from the 2008 Behavioral Risk Factors Surveillance System (BRFSS) found that 36% of adults with disabilities were obese, compared to 23% of adults without disabilities. Also, the National Health and Nutrition Examination Survey (NHANES) from 2003 – 2008 reported that 22% of children and adolescents with disabilities (2-17 years) were obese, whereas 16% of children and adolescents without disabilities were obese (Centers for Disease Control and Prevention [CDC], 2010). Thus, children and adolescents with disabilities may be susceptible to a variety of physical, social, and psychological problems such as the following: osteoporosis, heart disease, type two diabetes, high cholesterol, reduced social interaction, increased isolation, fewer friends, anxiety, depression, and too much reliance on other people in their daily lives (Murphy & Carbone, 2008). In addition, the spread of obesity can differ by kind of disability. For example, people with physical health conditions suffer from obesity more than others because they often lack mobility, and children and adolescents with Down's syndrome have lower physical activity participation and higher obesity (Fong, Ha, Chan, & Au, 2014).

Learning experiences may influence attitudes of students toward physical education programs. If they acquire new knowledge and master new skills, they may have favorable attitudes toward physical education and physical activity. Unfortunately, most countries consider physical education a lower priority when compared to other subjects. In Saudi Arabia, the majority of communities view only running and soccer games as the proper activity for physical education classes. Many Saudi people think that Saudi PE teachers provide only one program of physical education, “roll out the ball,” where the PE teacher divides a class into two teams for playing soccer during physical education periods and then sits back and watches or acts as a referee. Most Saudi students think physical education is only for recreation and for a break from the classroom educational routine. Often physical education is not a learning experience for students, and they do not enjoy it. This in turn leads to a lifelong negative attitude toward physical activity that only increases as they move up the grade levels. Researchers found that 50% of students who were in grade 10 and 11 gave physical education programs a lower ranking among school subjects (Silverman & Subramaniam, 1999).

Furthermore, most parents think of physical education as a marginal subject that has no positive effect on academic achievement. Some parents even told their children, “I do not send you to school to go and play sports, football or jumping and running about on the field” (Orunaboka, 2011, p. 72). Thus, marginality of physical education may lead to negative attitudes about the importance of improving motor learning, health-related fitness activities, and individual and group games and sports. Likewise, some parents who have children with disabilities prevent their children from participation in physical education in order to protect them from injury, mockery, or insults (Kasser & Lytle, 2013).

Rationally, most students in childhood have positive attitudes toward PE because they enjoy the activities in which they participate. According to the National Association for Sport and Physical Education (NASPE) 2002, only less than 10% of adolescents did not like to participate daily in physical education programs (Graham, 2008). Once formed, it is not easy to change student attitudes, so every effort should be made in the early years of education to help students develop a positive attitude toward PE (Silverman & Subramaniam, 1999). This study examining attitudes of Saudi students toward physical education includes three types of students with disabilities (intellectual disabilities, visual impairment, and hearing impairment), and also includes students without disabilities.

Purpose of Study

The researcher hopes all or most students with and without disabilities will have a positive attitude toward physical education and physical activity. Today, a sedentary lifestyle and obesity are common in Saudi students, including students with disabilities, because of their parents, social media, and the discovery of oil that made a sedentary lifestyle possible. There is a direct relationship between obesity and physical inactivity. Thus, a researcher found that most Saudi students who were obese were not active (Al Dhaifallah et al., 2015). In addition, Saudi students have few learning experiences in physical education programs, and they may develop negative attitudes because of the repetition of the same activities every year in PE curriculum.

In order to solve these problems --obesity, sedentary lifestyle, few learning experiences-- we should use several methods that aim to improve the attitudes of students with disabilities toward physical education. For example, PE teachers should provide activities and information that are useful and enjoyable, as well as design a PE curriculum that is appropriate and modern for all students. Facilities and equipment should be adequate and safe.

If students have negative attitudes toward PE, they will be inactive in the future. Many studies indicate that obese and inactive children are more susceptible to being obese and inactive in adulthood. Thus, students should have positive experiences during PE classes and be able to recognize their usefulness, which will result in their being more active throughout their lives.

The purpose of this study was to examine attitudes of Saudi Arabian students with and without disabilities toward PE as well as their sport and activities preferences. A second purpose was to investigate the effect of school levels and student participation in physical activity after school on students' attitudes in PE. A final purpose was to determine predictors of enjoyment and usefulness of PE. Thus, male elementary (5-6 grade), middle (7-9 grade), and high school (10-12 grade) students with three different categories of disability (visual impairment, hearing impairment, and intellectual disabilities) and students without disabilities completed a questionnaire designed to reveal their sports and activities preferences and their attitudes toward PE.

Research Questions

This research examined attitudes of students with and without disabilities toward PE as well as their sports and activities preferences in Saudi Arabia, and primary factors that may influence attitudes of students toward PE. Thus, the research questions included the following:

- 1- Do the differences in the means on attitudes toward PE among school levels differ among students without disabilities and each different disability category?
- 2- To what extent do elementary (5th - 6th grade), middle (7th - 9th grade), and high school (10th - 12th grade) students with and without disabilities significantly differ on their attitudes toward perceived usefulness and enjoyment of PE?

- 3- To what extent do elementary, middle, and high school students with and without disabilities significantly differ on their attitudes toward PE teachers and PE curriculums?
- 4- Is there a significant difference between students with and without disabilities who participate in physical activity after school, and students with and without disabilities who do not participate in physical activity after school on their attitudes toward perceived usefulness and enjoyment of PE?
- 5- Do the differences in the means on attitudes toward PE among school levels differ between students with and without disabilities?
- 6- Do the differences in the means on attitudes toward PE between students with and without disabilities differ when they participate or do not participate in physical activity after school?
- 7- To what extent are attitudes of students with and without disabilities toward enjoyment and usefulness of PE positively related with students' preferences for sports and activities?
- 8- What sports and activities in the physical education class are preferred by students with and without disabilities, and are there differences on the means on nine sports and activities preferences between groups of students, student participation in PA after school, and school levels?

Definition of Terms

The researcher provides definitions for each term in order to understand the important concepts in this study.

Adapted physical education. “Adapted physical education programs are those that have the same objectives as the regular physical education program, but in which adjustments are

made in the regular offerings to meet the needs and abilities of exceptional students” (Block, Elliot, & Stanec, 2007, p. 12).

Adolescents. “The World Health Organization (WHO) defines adolescents as those people between 10 and 19 years of age” (WHO, 2015).

Disability. “Any restriction or lack (resulting from impairment) of ability to perform any activity in the manner or within the range considered normal” (Barbotte, Guillemin, & Chau, 2001, p. 1047).

Hearing impairment. “An impairment in hearing, whether permanent or fluctuating, that adversely affects a child's educational performance” (National Information Center for Children and Youth with Disabilities [NICHCY], 2012).

Inclusion. “The process of placing children with disabilities in the same classes or programs as their typically developing peers and providing them with the necessary services and support” (Rafferty, Piscitelli, & Boettcher, 2003, p. 467).

Impairment. “Any temporary or permanent loss or abnormality of a body structure or function, whether physiological or psychological. An impairment is a disturbance affecting functions that are essentially mental (memory, consciousness) or sensory, internal organs (heart, kidney), the head, the trunk or the limbs” (Barbotte et al., 2001, p. 1047).

Intellectual disabilities. “Significantly subaverage general intellectual functioning, existing concurrently [at the same time] with deficits in adaptive behavior and manifested during the developmental period, that adversely affects a child’s educational performance” (NICHCY, 2012).

Mainstreaming. “A student attends some general education classes, typically for less than half the day, and often for less academically rigorous classes” (Sushma, 2013, p. 73).

Obesity. “As a BMI at or above the 95th percentile for children and teens of the same age and sex” (CDC, 2015).

Overweight. “As a BMI at or above the 85th percentile and below the 95th percentile for children and teens of the same age and sex” (CDC, 2015).

Physical education. “The development of physical and motor fitness, fundamental motor skills and patterns, and skills in aquatics, dance, and individual and group games and sports (including intramural and lifetime sports). The term includes special physical education, adapted physical education, movement education, and motor development” (Block et al., 2007, p. 6).

Physically educated person. “Physically educated person who has the knowledge, skills, and confidence to enjoy a lifetime of healthful physical activity” (National Association for Sport & Physical Education, 1995, p. 11).

Visual impairment. “An impairment in vision that, even with correction, adversely affects a child’s educational performance. The term includes both partial sight and blindness” (NICHCY, 2012).

Delimitations

There were some factors that delimited in this study as follows:

- 1- This study was conducted only on some schools in eastern Saudi Arabia, so the findings cannot be generalized for all regions of Saudi Arabia or other countries.
- 2- This study also was conducted to examine only the attitudes of male students toward physical education, so the results cannot be generalized for female students.

- 3- This study was examined students without disabilities and students in three disability categories, including visual and hearing impairment, and intellectual disabilities.

Therefore, the results of this study cannot be generalized to other categories of disability.

Assumptions

There were some assumptions that should be considered:

- 1- The investigator who is responsible for the questionnaire should make sure that all participants understand the sentences clearly before they answer truthfully.
- 2- The investigator who is responsible for the questionnaire should make certain not to influence the students' attitudes toward physical education when students answer the questionnaire.

Limitations

This study had some limitations that should be considered:

- 1- This study had a small sample size for students in three disability categories because some parents of students with disabilities did not consent to their student's participation.
- 2- The study used a convenience sampling method that often suffers from biases.

Significance of the Study

There have been few studies regarding attitudes toward physical education of students with disabilities in the U.S., and this is the first study in SA. The findings of this study will be useful to physical education teachers to help them understand students' attitudes toward physical education and understand their sports and activities preferences. Thus, physical education teachers will be able to work to adjust negative attitudes by using appropriate instructions, and

they will know which sports and activities are perceived as most enjoyable and useful by students so that they can be emphasized in the curriculum, leading to increased student participation. Furthermore, the study is important because understanding both negative and positive attitudes of students with and without disabilities toward physical education will determine if there is a need for revised curriculum offerings and additional teacher training in the area of disabilities.

Chapter Two

Review of Literature

The purpose of this chapter is to review and provide an overview of Saudi Arabia's education system, the physical education program, the history of special education, and the most important special education laws. This chapter also focuses on theories, definitions, and components of attitudes. The chapter also includes information about the benefits of inclusion for students with disabilities, perception of students with disabilities about their experiences in general physical education, attitudes of students without disabilities toward inclusion of students with disabilities, and general and physical education teachers' attitudes toward inclusion of students with disabilities. Finally, this chapter includes research on attitudes of students toward physical education and primary factors that are related to attitudes of students toward physical education.

Overview of the Kingdom of Saudi Arabia

The Kingdom of Saudi Arabia (KSA) is one of the largest countries in the Middle East. Its population is approximately 32 million and its area is 2,149 Km². In 1932, Saudi Arabia was established by King Abdulaziz Al Saud and its capital is Riyadh. Saudi Arabia is an Islamic country and the political system in SA is a monarchy ruled by the Al Saud family. It is located in western Asia, and it borders Bahrain, Qatar, United Arab Emirates, and the Arabian Gulf Sea in the east; and Iraq, Jordan, and Kuwait in the north and to the west is the Red Sea. Oman and Yemen are to the south. The economy in SA depends on oil production, and it is one of the largest exporters of petroleum in the world. It has a varied topography, including long plains in the east and west, a series of mountains in the west and southwest, and vast deserts.

Overview of the Saudi Education System

The Ministry of Education in SA was established in 1953 and has provided educational opportunities for all citizens in each grade level based on their abilities and desires. It has provided educational services, appropriate facilities, and teaching materials in order to prepare students with and without disabilities to be good citizens and qualify them for future jobs or studying in universities. The Ministry of Education provides free appropriate public education for students with and without disabilities. However, there is no coeducation teaching between male and female students at all school levels, so they learn in separate schools. The average class size for special education students who study in separate classes in public schools was reported to be between 5 and 15 students, while the average class size for general education was reported to be between 20 and 40 students. According to the Kingdom of Saudi Arabia Ministry of Higher Education Saudi Arabian Cultural Mission, Washington, DC (2006), there are three school levels in public education as follows.

Elementary school: the duration of this stage is six years (first grade to sixth grade). It prepares students for the next stage in their lives and is a public stage that provides students appropriate information, skills, and experiences that help them to be ready for middle school. Education at this stage is compulsory and each term consists of 16 weeks and two weeks for examinations or evaluations.

Middle school: the duration of this stage is three years (7th grade to 9th grade), and students are required to take sixth grade certification to enroll in middle school. Each term in middle school contains 16 weeks and two weeks for examinations.

High school: the duration of this stage is three years (10th to 12th grade) and students are required to pass 9th grade to study in high school. When students finish 10th grade, they must

choose one of three majors: Natural Science, Administration and Social Science, and Shariah and Arabic study. This stage also includes 16 weeks for studying and two weeks for examinations. Student grade point averages (GPA) are very important in this stage in order to ensure that they can study in one of the universities of SA.

Physical Education Class in SA

The physical education program is a mandatory subject for all male students with and without disabilities from first grade to 12th grade. However, there is no educational mandate to allow girls to participate in physical education, so unfortunately, girls still cannot participate in physical education in public schools in SA. The Ministry of Education requires 135 minutes of physical education each week (3 times a week* 45 min) for first grade male students, and male students in second grade to sixth grade have physical education 45 minutes twice a week, but male students in middle and high school are required to have physical education only 45 minutes once a week during a school year.

National standards for physical education in public education by the Ministry of Education define guidelines for physical education in the whole of Saudi Arabia for first grade to 12th grade. However, there is no requirement to use specific standards and curriculums in public schools, and there are also no specific content areas for adapted physical education curriculum for students with disabilities. Thus, physical education teachers for students with and without disabilities are responsible for creating curricula and lesson plans with guidance. Also, most adapted physical education teachers do not have the opportunity to play an effective role on the Individualized Education Program (IPE) team, so most adapted physical education teachers do not make modifications or adaptations to the physical education curriculum because they do not

know the strengths and weaknesses of students with disabilities, and they do not have short and long term goals for these students.

In addition, the PE program in SA focuses on physical activities and basic skills for first grade to third grade, while 4th grade to 12th grade students participate in individual sports (e.g., track and field, gymnastics), dual sports (e.g., table tennis, and badminton) and team sports (e.g., soccer, basketball, and volleyball). Students who participate in physical education face numerous barriers, including inadequate facilities and lack of proper equipment. Unfortunately, most schools in SA do not have gymnasiums and the temperature is high, sometimes PE classes are canceled. Also, sports equipment is insufficient in public schools because there is inadequate support from administrations and the Ministry of Education.

Special Education in SA

The Saudi Arabian Ministry of Education has put lots of effort into developing educational standards that are equal to the standards in developed countries in terms of performance, curriculum, and learning outcome. This effort includes standards for offering a quality education to students with disabilities. As a result of these efforts, Saudi Arabia has made great strides toward moving students with disabilities from an isolated environment into the regular school environment. This section includes the history of special education in SA and compares educational laws in the U.S. and SA pertaining to educating students with disabilities.

The History of Special Education in SA

In Riyadh in 1958, special education was made available to male adults with visual impairment so that they could learn to read using Braille. In 1960, the Al-Noor Institute was created to help individuals with visual impairment receive an education. Two years later, the

Ministry of Education established the first Department of Special Education unit tasked with helping students with not only visual impairment, but also students who were deaf or hard of hearing, and for students with intellectual disabilities. In 1964, the Ministry of Education established three special schools in Riyadh, for girls with visual impairment, girls with hearing impairment, and boys with hearing impairment. In 1971, it established the first special school for students with intellectual disabilities (Aldabas, 2015).

In addition, between 1960 and 1987, the government opened about 27 special day schools and residential institutions for male and females with visual and hearing impairments, and for those with intellectual disabilities. Between 1987 and 2000, another 54 schools and institutions were opened to serve students with disabilities. According to Al Mousa (2010), between 1990 and 2000 students with mild and moderate disabilities, including autism, intellectual disabilities, hard of hearing and hearing impairment, attended classes with their peers without disabilities in regular public schools, but they studied in separate classrooms. Currently, there are more than 740 programs that use special classrooms in public schools to serve students with mild to moderate disabilities. However, students with severe and profound disabilities still study in special schools or residential institutions (Aldabas, 2015). As a result, for the past two decades, students with mild and moderate disabilities have been able to study in general public schools.

Important Special Education Laws in the U.S. and SA

Special education laws are very important in order to protect the rights of students with disabilities in order to ensure that they receive a quality education equal to that of their counterparts without disabilities. This section includes and compares the most important special education laws in the U.S. and SA.

Individuals with Disabilities Education Act (IDEA). This section will focus on the most significant aspects of IDEA that relate to physical education for students with disabilities. In 1990, the U.S. Congress passed the Individuals with Disabilities Education Act (IDEA) was created and has been modified several times since then. Previously, this law was called the Education for all Handicapped Children Act (EHC) of 1975 (PL 94-142). The EHC urged all states to develop and implement policies that assured a free appropriate public education (FAPE), including physical education, for all students with disabilities. This law ensured that students with disabilities would participate in regular physical education unless they required specially designed programs to accommodate their disability, or were in a separate school or institution. Indeed, the only curriculum mentioned in this law was physical education. However, many students with disabilities were exempt from physical education because their parents and administrators did not know that physical education was required. The EHC law indicated that:

Special education as set forth in the committee bill includes instruction in physical education, which is provided as a matter of course to all non-handicapped children enrolled in public elementary and secondary schools. The committee is concerned that although these services are available to and required of all children in our school systems, they are often viewed as a luxury for handicapped children ... The Committee ... specifically included physical education in the definition of special education to make clear that the Committee expects such services, specially designed where necessary, to be provided as an integral part of the education program of every handicapped child. (Block et al., 2007, p. 5)

Lawmakers of EHC believed that physical education was vital for improving students' lifestyle. Therefore, administrators, PE teachers, and parents of children with disabilities should support

and encourage children with disabilities to participate in physical education programs whenever possible.

The EHC is now called the Individuals with Disabilities Education Act (IDEA) (PL 101-476). The name was changed to reflect a renewed focus on the individual person and not the disability. The IDEA also emphasizes the importance of IEP for each student with a disability, including the use of assistive devices and a transition planning process for each student. This law requires the least restrictive environment (LRE) possible so that each student can receive the benefits of inclusion in school activities. Finally, the most important requirement is in IDEA Amendment of 1997 (PL 105-17) which forced regular teachers to join other IEP team members (Block et al., 2007; Horne, 1991).

The Disability Code. This code was enacted in 2000 in Saudi Arabia, and this law requires that the government ensure the rights of people with disabilities, and it makes a commitment to provide appropriate health, education, rehabilitation, and employment services. Also, the government provides complementary services, such as appropriate transportation, assistive devices, and home care. The disability law urges the government to provide loans for people with disabilities so they can establish small businesses that are appropriate to their abilities (Aldabas, 2015).

Regulations of Special Education Programs and Institutes (RSEPI). This RSEPI was enacted in 2001 and was the first regulation in SA for students with disabilities. This law ensures that all students with disabilities have the right to obtain quality services that relate to special education, such as free appropriate education, individual education programs, early intervention, and transition services. Also, this law includes IPE and identifies who will be on the IEP team, and specifies a process of assessment of students with disabilities in order to make sure they

deserve special services. Saudi special education teachers who had graduated from American universities were tasked with making sure the RSEPI met IDEA standards. However, the RSEPI does not mention the full-inclusion of students with disabilities, least restrictive environment, or physical education participation for students with disabilities (Aldabas, 2015; Alquraini, 2010).

Attitudes

Gordon Allport (1935) stated that “the concept of attitude is probably the most distinctive and indispensable concept in contemporary American social psychology. No other term appears more frequently in experimental and theoretical literature” (p. 784). Attitude is one of the most important concepts in social psychology and individuals have a considerable number of attitudes toward many objects, other people, and themselves. Some students like and participate in physical education classes, and other students do not participate and hate physical education classes. A person who effectively participates in physical education class has a positive attitude toward PE, while a person who hates physical education classes has a negative attitude toward PE. Eagley and Chaiken (1993) defined attitude as a “psychological tendency that is expressed by evaluating a particular entity with some degree of favor and disfavor” (p. 1). Thus, attitudes are positive or negative feelings toward certain objects, issues, events, somebody, or something.

Definitions of Attitudes

Many researchers in social psychology have defined attitudes by diverse methods, and there has been no specific definition on which specialists agree. Allport (1935) has defined attitude as “A mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with

which it is related” (p. 810). Hogg and Vaughan (2005) also defined attitude as “A relatively enduring organization of beliefs, feelings, and behavioral tendencies towards socially significant objects, groups, events or symbols” (p. 150). Thus, these definitions indicate that attitudes are feelings by humans toward objects or events. These attitudes are either positive or negative, and both authors thought attitudes could be considered relationships between belief and behavior.

Attitude of Components

Attitude is not innate, but it is acquired. Humans can acquire attitudes through previous experiences, parents’ beliefs, and the surrounding environment. Researchers in attitudes differ about the components of attitude. Some researchers (Fazio & Zanna, 1981; Insko & Schopler, 1972) have found that attitudes contain only an affective component and they have thought attitudes are formed by feelings (Subramaniam & Silverman, 2000). To illustrate, Fazio and Zanna (1981) defined attitude as “an evaluative feeling that is evoked by a given object” (p. 162). Also, Bem (1970) defined attitudes as “likes and dislikes” (p. 14). Thus, the affective component is an individual’s feelings, moods, and emotions toward attitude objects. Individuals may have positive or negative feelings that depend on their interaction with different positions.

In addition, some investigators (Bagozzi & Burnkrant, 1979; Gonzalez, 1992; Mohsin, 1990; Oppenheim, 1992; Zajonc & Markus, 1982) have supported the idea that attitudes are constructed from affective and cognitive components. The cognitive component includes individuals’ knowledge, opinions, ideas, information, and beliefs about attitude objects. Thus, feelings and beliefs that are related to affective and cognitive, respectively, can affect students’ learning. Also, they can impact students’ attitudes toward physical education because positive feelings (enjoyment) and beliefs (usefulness) can play a vital role in promoting students’

attitudes toward PE (Subramaniam & Silverman, 2007). Thus, it is not possible to separate cognitive and affective components of student's attitudes toward physical education.

Some researchers (Hilgard, 1980; Reddy & LaBarbera, 1985; Triandis, 1971) have supported the idea that attitudes contain cognitive, affective, and behavioral components. In addition, the affective component relates to feelings, and the cognitive component relates to beliefs. The behavioral component is related to intentions and tends to behave and act toward certain objects. Advocates for multicomponent attitudes have indicated that these three components are interrelated with each other because feelings and beliefs toward objects influence behavior (Subramaniam & Silverman, 2000).

Attitude Theories

There are several theories that explain attitudes, and this study will focus on two theoretical frameworks: affective cognitive consistency theory and theory of planned behavior.

Affective Cognitive Consistency Theory. Affective-cognitive consistency was postulated by Rosenberg in 1956. This theory provides evidence that the cognitive changes are created by the changes of feelings and emotions toward attitude objects. Thus, this theory shows connections between affective and cognitive components. That is, individuals try to make their beliefs consistent with their feelings, so individuals' beliefs and knowledge toward objects may be determined by their feelings and emotions and vice versa. Thus, when students learn new knowledge and information, they tend to change their feelings and this leads to changes to their attitudes (Simonson & Maushak, 1996).

Theory of Planned Behavior (TPB). This theory was postulated by Ajzen (1985). This theory is an expansion of the Theory of Reasoned Action (TRA). The TPB helps to understand

how to change individuals' behavior, and this theory predicts individuals' intention and behavior in an object. Thus, there are three considerations: behavioral beliefs, normative beliefs, and control beliefs that impact intentions and behaviors (Ajzen, 1991).

Behavioral beliefs lead to attitudes toward the behavior. It is the individuals' attitude toward potential consequences of behavior, so attitudes toward the behavior may tend to be positive or negative, pleasant or unpleasant, and/or useful or useless. Attitude is a primary factor in determining an intention (Ajzen, 1991). There are several positive behavioral beliefs for students with a disability when they are included in general physical education class with their peers without a disability, such as social interaction, making friends, and enhancing knowledge and skills.

Normative beliefs lead to subjective norms that are defined as "the perceived social pressure to perform or not to perform the behavior" (Ajzen, 1991, p. 188). Subjective norm is individuals' attitude toward behavior that is impacted by the social. That is, normative expectations of important individuals, such as family, teachers, and friends may influence an individual's behavior. For example, when students with disabilities have parents who support and encourage their children to participate in physical education, these children increase their normative beliefs about participating in physical education (Motalebi, Iranagh, Abdollahi, & Lim, 2014).

Control belief is an individual's attitude about the existence of the factors that may hinder or facilitate behavior performance. Control beliefs lead to perceived behavioral control and better behavior if there are limited barriers, and sufficient sources and opportunity (Ajzen, 1991). For example, many factors prevent children with disabilities from participating in PE, such as insufficient time, motivation, and equipment. Overall, attitudes toward the behavior,

subject norms, and perceived behavioral control lead to the formation of behavioral intention. Whenever attitudes and subjective norms are more consistent with behavior and perceived behavioral control is strong, a person's intentions for performing a behavior will be strong (Ajzen, 2012) (see Figure1).

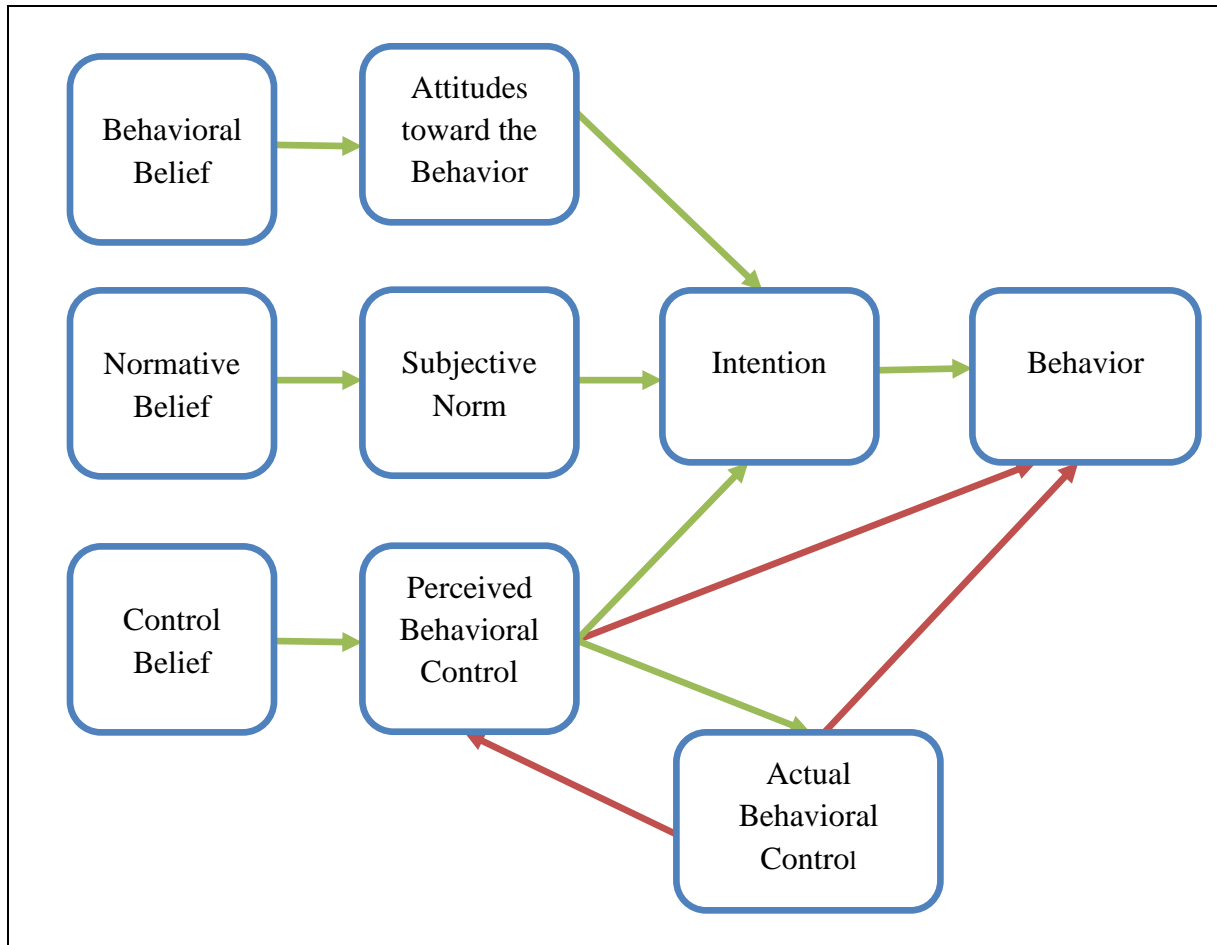


Figure 1. Theory of Planned Behavior (Ajzen, 2006, p. 1).

Ajzen (1991) indicates that the theory of planned behavior can be applied to physical activities. Through this theory, researchers in physical activity can predict and realize students' intentions during physical activity. There is a relationship between attitudes and physical activity through intention, so a person who has a positive attitude and a strong intention toward physical

activity will be more physically active (Motalebi et al., 2014). Many studies have been conducted to understand and predict students' intentions in physical activity through TPB. Aghenta (2014), as well as Brickell, Chatzisarantis, and Pretty (2006) found the same results, that attitudes and perceived behavioral control (PBC) was meaningful to predict students' intention to be physically active, while subjective norm was not effective. Furthermore, Wing Kwan, Bray, and Martin Ginis (2009) reported that all three determinants (attitude, subjective norm, and perceived behavioral control) in the theory of planned behavior were effective in predicting students' intention to perform physical education.

Inclusion in Education

Many countries, including Saudi Arabia, provide many services for children with disabilities so that they can be an integral part of their communities. One of these services is to aim for inclusion so that students with and without disabilities can study together as much as possible. Therefore, the objective of inclusion is to offer students with disabilities equal opportunities and active participation in general classroom activities, and prevent them from studying in separate classrooms whenever possible by providing assistive supplementary aids that are identified by children and adolescents' IEP (Sushma, 2013).

In addition to inclusion, mainstreaming and self-contained classrooms are other approaches for educating students with disabilities when they cannot be fully included in school activities. Mainstreaming refers to students with disabilities sometimes studying in special classrooms in public schools and sometimes studying in general education classrooms with their peers without disabilities depending on their skills or abilities. For example, students with disabilities can integrate for art, music, and physical education classes, but they only can study mathematics, science, and reading classes with other students that have similar disabilities.

Another approach for educating students with disabilities is self-contained classrooms. In this case, IEP team members might decide to place students with disabilities in special classrooms within public schools, and special education teachers would be in charge of them (Sushma, 2013).

Placement Options in PE for Students with Disabilities

Least restrictive environment requirement of the IDEA provides a continuum of placement options determined by an individual's abilities to function in physical education classes. The LRE strives to have students with disabilities participate in general physical education class whenever possible, even when some modifications for all students are necessary. At times, some modification may be necessary for the student with a disability that will make it possible for participation in general physical education (Block & Obrusnikova, 2007). In SA, however, the decision to have full inclusion for a student with a disability depends more on the type of disability than on providing the least restrictive environment possible. Therefore, students with a learning disability, students with a physical disability, students with a behavior and/or emotional disorder, and students with low vision are fully included, or mainstreamed, with students without a disability. On the other hand, students with visual and hearing impairment, students with autism, and students with an intellectual disability are self-contained in the same school with students without a disability (Al-Mousa, 2010). Therefore, some students with disabilities participate in PE with their peers, and other students with disabilities participate in separate PE classes in the same public school.

Benefits of Inclusion for Students with Disabilities

Inclusive education has many benefits for students with disabilities. Proponents of inclusion believe that the teachers and specialists in special education can assist students with disabilities to help them learn more, gain social skills, and improve their self-esteem and independence (Fuchs & Fuchs, 1998). Inclusion enhances social skills between students with and without disabilities. Inclusion leads to increasing social acceptance with their counterparts without disabilities. Most students with disabilities do not feel social acceptance because they have limited opportunities to interact with their society. Hence, when students with disabilities join the regular classroom, students without disabilities often change negative attitudes toward them.

There is a relationship between academic achievement and social acceptance. Students with disabilities who have high academic achievement in regular schools experience more social acceptance than students with disabilities who have low academic achievement (Mpofu, 2003). According to Rafferty et al. (2003) in inclusion schools, social interaction and acceptance were greater for students with disabilities than they were in non-inclusion schools. Therefore, inclusion may enhance social acceptance and interaction for students with disabilities because they have opportunities to display their positive abilities and achievements.

Inclusion improves cognitive skills for students with disabilities. A published study indicates that students with intellectual disabilities who study in the same class with students without disabilities have more literacy skills than students with disabilities who study in special schools. However, this study found that there is no difference in progress in mathematics and adaptive behavior between students with intellectual disabilities who were included in regular schools, and students with intellectual disabilities who were in special schools (Dessmontet,

Bless, & Morin, 2011). Furthermore, Baker, Wang, and Walberg (1994) concluded that "special-needs students educated in regular classes do better academically and socially than comparable students in non-inclusive settings" (p. 34). Also, they found that inclusive education and effective educational methods for all students led to a reduction in the gap between students with and without disabilities.

Perceptions of Students with Disabilities toward Inclusion

There are few studies that provide the perspectives of students with disabilities toward inclusion in general physical education classes. Although one of the primary goals of inclusion is social acceptance, many researchers found that some students with disabilities have felt social isolation when they participate in physical education with their peers without disabilities. For example, Place and Hodge (2001) studied three girls with physical disabilities who were integrated with 19 students without disabilities, all in the eighth grade. All the girls with physical disabilities had little social interaction with their counterparts without disabilities, and yet they interacted very well together during PE classes. Also, a general physical education teacher often gave instructions and knowledge to students without disabilities and often ignored students with physical disabilities. Lisboa (1997) also showed that three students with autism had no social contact with students without a disability in general physical education. They interacted with a co-teacher more than the PE teacher or other students without disabilities. Likewise, Ellis, Wright, & Cronis (1996) showed similar results in their study of 11 students with intellectual disabilities who were integrated with students without a disability in a general physical education class, and they felt social isolation from their peers without a disability. Students with intellectual disability remained together during the general physical education class.

Furthermore, some studies have shown that students with disabilities have both positive and negative perceptions toward inclusion in general physical education. For example, Goodwin and Watkinson (2000) showed that nine elementary school students with physical disabilities had bad experiences and good experiences towards inclusion in general physical education. Lack of social acceptance, questioning their own competence, and limited participation in physical activity were bad experiences. However, many of these same students felt a sense of belonging, especially when modifications were made so that they could effectively participate in general physical education. Also, a study indicated that legitimate participation in general physical education activities with students without disabilities was more likely to lead to social acceptance. Researchers found that approximately 50% of participants (11) with varying disabilities felt social acceptance as they interacted with students without disabilities during physical activity. Jessica, who had nemaline myopathy, said that being “invited to come and play” would make her feel included because “it makes you feel like they want you to play with them” (Spencer-Cavalier & Watkinson, 2010, p. 283). Likewise, some participants felt included because they could make a significant contribution during the physical activity. Furthermore, most of the participants indicated that when they had friends among their classmates without a disability, they felt included in general physical activities (Spencer-Cavalier & Watkinson, 2010).

However, a study showed that most of 20 participants with physical disabilities from 17 schools who participated had negative perceptions of general physical education. They had limited participation in PE programs because most PE teachers did not use modifications and adaptations in order to ensure that they could participate, and the behavior of some of their peers

without disabilities and some of their PE teachers toward them was bad. A 16-year-old participant who was totally exempted from general physical education said that:

My freshman year I had to take one year of P.E. in order to graduate and I pretty much showed up the first day and [the instructor] told me to leave because I was a liability. So I sat in the library for an hour every day, like having a study hall, and I got an A in P.E. (Blinde & McCallister, 1998, p. 66)

Often participation in physical education for students with disabilities is not limited because they do not like to participate with their peers without disabilities but because of the PE teacher's inability to modify or adapt physical activities. Also, sometimes students with disabilities are unable to participate simply because some students without disabilities treat them badly.

General and PE Teachers' Attitudes toward Inclusion in SA

One of the most significant factors in successful inclusion is the teachers' attitude. If teachers have negative attitudes toward inclusion of students with disabilities, the inclusion will be a failure and students with disabilities will have negative attitudes toward education. Most general education teachers do not like for students with disabilities to join their classrooms. Researchers reported that 65% of general education teachers had positive attitudes toward the theory of inclusion. However, when the researchers got more specific about the practices that should be adopted to achieve inclusion, the ratio was reduced to 40 percent. On the other hand, teachers of special education have positive attitudes toward inclusion, and female teachers have less negative attitudes toward inclusion than male teachers (Ridarick & Ringlaben, 2013).

In Saudi Arabia, few studies have been conducted on general education teachers and PE teachers' attitudes toward inclusion. Alquraini (2011) conducted a study in order to determine the attitude of teachers toward inclusion of elementary students with severe disabilities. The

findings showed that participants had few negative attitudes towards elementary students with severe disabilities. In addition, the researcher found that there was a significant difference in participants' attitudes toward inclusion of elementary students between teachers who had previous teaching experiences and also who did not have previous teaching experience with students with disabilities. Teachers who had previous teaching experiences with students with disabilities had more attitudes toward inclusion than teachers who did not have previous teaching experience. The researcher also found that male participants had better attitudes than female participants toward inclusion of elementary students with severe disabilities. However, grade level taught, teacher's level of education, or teacher's training did not significantly impact their attitudes toward inclusion.

Al-Ahmadi (2009) conducted qualitative research to examine attitudes of general and special education teachers toward inclusion of students with learning disabilities in SA. The researcher found that both general and special education teachers in this study did not have enough training to deal with students with disabilities. Also, this study showed that there was a significant difference between special and general education teachers in their attitudes toward inclusion of students with learning disabilities. Special education teachers had better attitudes than general education teachers toward inclusion. An interesting result of this study showed that male teachers had more positive attitudes toward inclusion of students with learning disabilities in Saudi public schools than female teachers.

Furthermore, Al-Faiz (2006) conducted a study to understand teachers' attitudes toward inclusion of elementary school students with autism. This study reported that education area, teaching experiences, and previous experiences with disability influenced attitudes toward inclusion of elementary students with autism. Also, Al-Othman (2002) conducted a study that

aimed to examine attitudes of teachers toward inclusion of students with autism in public schools. The researcher found that teachers who had previous experiences with autism had more positive attitudes toward inclusion of students with autism in public school. However, there was no difference between teachers who had previous experiences and teachers who did not have experiences with students with autism toward inclusion. Both groups thought inclusion would be effective for students with autism.

Furthermore, three studies were conducted to examine physical education teachers' attitudes toward students with disabilities in SA. Alsalhe (2011) compared the attitudes of undergraduate physical education teachers in SA with those in the U.S. toward teaching students with disabilities (physical disability, autism, intellectual disability, and emotional/behavior disorder). American participants had more positive attitudes towards teaching students with disabilities than Saudi undergraduate PE teachers. The researcher also tested four factors, including religion, culture, educational settings, and experience that may impact undergraduate participants in SA and the U.S. The results of this study showed that religion, culture, or educational setting made no difference in attitudes of undergraduate PE teachers, whether in SA or the U.S., toward teaching students with disabilities. It was also found that undergraduate Saudi PE participants thought experience was a significant factor in affecting attitudes of physical education teachers towards teaching students with disabilities.

Zamzami (2005) conducted a study in SA about attitudes of undergraduate PE teachers toward teaching motor skills to students with disabilities. This study reported that undergraduate PE teachers preferred to teach students with emotional/behavior disorders instead of students with intellectual disability or with a learning disability.

Finally, Lirgg, Gorman, Al-Salim, and Hadadi (2017) conducted a study concerning Saudi PE teachers' perspectives toward teaching students with disabilities. This study found that teachers felt that the most difficult students to have in PE classes were those with autism spectrum disorders (ASD). The teachers felt that this was because they had minimal field experience and not enough undergrad classes for teaching students with ASD. These same teachers felt that students with learning disabilities were the easiest to integrate into a PE class. This study also showed that lack of equipment and administrator support were the greatest barriers to effectively teaching students with disabilities.

In general, attitudes of PE teachers toward teaching and inclusion of students with disabilities in PE classes often depends on the type or level of disability. PE teachers may have more negative attitudes toward students with severe disabilities than they have toward students with mild disabilities, and they may prefer to deal with students with physical or sensory disabilities more than with students with intellectual or emotional disabilities. Also, Saudi PE teachers need more training and experience in teaching students with disabilities so that the students can successfully participate in general physical education classes and therefore have a more favorable attitude toward physical education programs.

Attitude of Students without Disabilities toward Inclusion

Having students with and without disabilities in the same regular classes is a good opportunity for them to get to know each other. There are many factors, such as gender, previous exposure, adaptations, competitiveness, type and level of disability, and grade level that influence positively or negatively the attitudes of students without disabilities toward inclusion of students with disabilities in general physical education classes. Loovis and Loovis (1997) examined attitudes of students without disabilities toward students with disabilities in elementary

school before and after they took a disability awareness unit in PE. The findings of this study indicate that after students without disabilities participated in the disability awareness unit exercises, they had a more positive attitude toward students with disabilities. Also, this study reported that female students had a more positive attitude than male students toward their counterparts with disabilities after they took the disability awareness unit.

Obrusníková, Válková, and Block (2003) examined the influence of including a student who used a wheelchair in fourth grade general physical education. The findings showed that 4th grade students had favorable attitudes toward inclusion of students who use a wheelchair in general physical education class. Block (1995) also found that 5th and 6th grade students had a positive perception toward inclusion of students with a physical disability in general physical education and adapted sports. Also, participants who were not competitive in sports had a positive attitude toward integration of students without disabilities in general physical education. Likewise, participants who had previous exposure or experience with disabilities, such as with friends, family members, or neighbors had a favorable attitude toward inclusion in general physical education.

Bebetsos, Derri, Filippou, Zetou, and Vernadakis (2014) examined the attitudes of 5th and 6th grade male and female students' attitudes toward inclusion of students with a disability in general physical education class to determine if there were different attitudes among male and female students toward including students with disabilities in general physical education class and in adapted sports. This study reported that participants had positive attitudes toward integration of students with disabilities in the modification of sports rules. There was no significant difference between male and female students towards inclusion.

Xafopoulos, Kudláček, and Evaggelinou (2009) evaluated attitudes of students who were in an international school in the Czech Republic towards inclusion of students with disabilities in physical education before and after students without disabilities participated in Paralympic School Day (PSD). The researchers found that there were no differences in attitudes of students without disabilities toward inclusion in general physical education or adaptation of sport rules before and after students without disabilities participated in PSD. In addition, Van Biesen, Busciglio, and Vanlandewijck (2006) examined attitudes of students without disabilities before and after PSD with three Belgian elementary schools toward inclusion of students with disabilities. This study showed that female students had favorable attitudes toward inclusion of students with disabilities in PE. Likewise, students who had a low level of competitiveness had positive perceptions toward inclusion of students with disabilities in PE class. This study also found that after students participated in PSD, two out of three schools had students with a more positive attitude toward inclusion in PE class.

Tripp, French, and Sherrill (1995) examined different attitudes between segregated and integrated elementary school students toward students with disabilities in PE class. The integrated elementary school had three types of disabilities, students with physical, behavioral, and learning disabilities, while the segregated elementary school did not have any students with a disability. The researchers found that female students in both schools had a more positive attitude toward inclusion of students with disabilities in PE than male students did. Also, they showed that students who participated in integrated PE classes had a more positive attitude toward students with a behavioral disability and a more negative attitude toward students with a physical disability in segregated PE classes.

Murata, Hodge, and Little (2000) conducted a study that aimed to describe 12 high school graduates' attitudes and experiences with their counterparts with disabilities in PE during their high school years. This study reported that because participants had contact with their peers with disabilities for four years, they had positive attitudes and experiences with students with disabilities. One of the participants described his attitude:

It changed. Before I thought they are just handicapped people. They have disabilities and sometimes they don't try, don't do stuff. But, in a case like Ernie, every time we used to do stuff he's like 'okay whatever, let's do it.' He had fun. It was good to see him laugh and have fun. We had some stuff he couldn't do but we would [say] 'come on Ernie' to encourage him. It changed my perspective about handicapped people in general. (p. 62)

Therefore, contact between students with and without disabilities may create positive conditions that lead to good relationships and positive attitudes and experiences of each other.

In conclusion, the studies above indicate that a low level of competitiveness, adaptation of rules, types and levels of disability, interaction, and experiences may play a pivotal role in improving attitudes of students without disabilities toward their peers with disabilities in PE class. Positive attitudes of students without a disability toward integration of students with disabilities in PE class help students with disabilities effectively participate in general physical education and give them a sense of belonging and social acceptance. Thus, inclusion can be successful and help students with disabilities develop a favorable attitude toward PE.

Research on Attitudes of Students toward PE

There is no study in Saudi Arabia related to attitudes of students with disabilities toward PE, just as there are limited studies in the U.S. to examine attitudes of students with disabilities toward PE. This section includes two studies. One of them relates to middle and high school

students' attitudes toward PE in SA, and the other study examines attitudes of middle school students with and without disabilities toward PE. Also, the next section includes a number of studies that relate to factors that impact students' attitudes toward PE.

Collins (2012) conducted a study to find out if there was a difference between attitudes of middle school students with and without disabilities toward PE. This study includes three categories of disabilities and focuses on two components of attitude: cognition (usefulness) and affect (enjoyment). The findings indicated that there was no significant difference between attitudes of middle school students with and without disabilities toward enjoyment and usefulness of PE.

Furthermore, Al-Liheibi (2008) conducted a study to understand attitudes of students who were in middle and high school in Saudi Arabia toward physical education classes. The researcher found that middle and high school students had significant differences in attitude toward PE in terms of their personal satisfaction. Middle school students had a less positive attitude toward PE in their personal satisfaction than did high school students. However, there were no differences between middle and high school students' attitudes toward PE teachers and PE curriculum. Moreover, students who had a gymnasium in their school had a more positive attitude than students who did not have a gymnasium. Also, students who practiced daily physical activity or sports after school had a more positive attitude than students who were not as active. Finally, participants preferred team sports more than individual sports or self-defense activities. Most of them preferred soccer, swimming, and volleyball.

Primary Factors that are Related to Attitudes of Students toward Physical Education

There are several factors that appear to influence attitudes of students toward PE including:

Gender. Student attitudes toward physical education can be impacted by gender differences (Silverman & Subramaniam, 1999). In general, elementary school male and female children had positive attitudes toward physical education. For example, several studies (Folsom-Meek, 1992; Hick, Wiggins, Crist, & Moode, 2001; Hagger, Cale, Almond, & Krüger, 1997) studied 3rd to 6th grade students' attitudes toward physical activity by gender and grade level. These studies used Children's Attitude toward Physical Activity (CATPA) inventory with 6 subdomains (social, health and fitness, vertigo, ascetic, catharsis, and aesthetic).

Folsom-Meek (1992) found that there was a significant difference between male and female elementary students' attitudes toward physical activity. Male students had a more positive attitude toward risk and challenging activities than female elementary students, while female students had more positive attitudes toward social, beautiful and graceful activities. Similarly, Hick et al. (2001) determined 3rd grade (aged 8-10 years old) students' attitudes toward physical activity by using CATPA inventory. They reported that female participants had more positive attitudes toward beautiful (Aesthetic subscale) activity than male participants. In contrast, Hagger et al. (1997) found that there were no significant differences between male and female students' attitudes toward PA in six CATPA subdomains. Furthermore, Younes-Alhourani (2015) examined the level of enjoyment of PE for Palestinian sixth-grade students. The results indicated that there were no significant differences between 6th grade boy and girl students in their enjoyment of PE. However, Cairney et al. (2012) indicated that boys had a higher enjoyment of PE than girls (9-11 years).

Many studies (Subramaniam & Silverman, 2007; Bryan & Solmon, 2012; Hu, Duan, Wang, & Arao, 2014; Scrabis-Fletcher & Silverma, 2017) used Students' Attitude toward Physical Education Scale by Subramaniam and Silverman (2000) to investigate middle school

students' attitudes toward PE. All studies above had the same result. They found that there was no significant difference between male and female students' moderately positive attitudes toward usefulness and enjoyment of PE. However, Hünük and Demirhan (2010) conducted their study of Turkish adolescent's (6th - 8th grade) gender differences that could influence attitudes toward PE by using Attitude toward Physical Education Scale for Children by Sherrill and Toulmin (1977). They found that male adolescents had more positive attitudes toward PE than female adolescents.

In high school, there are a few recent studies that examine differences between male and female students' attitudes toward PE. For example, Chatterjee (2013) conducted a study to examine differences between male and female urban and rural students' (14-17 years) attitudes toward PE in West Bengal. This study reported that there was not a significant difference in attitudes of adolescents toward PE between male and female students. In contrast, Zeng et al. (2011) examined high school students' perceptions in PE and their sports and activity preferences. They found that participants had positive attitudes toward PE. However, female high school students had more positive attitudes toward PE than male high school students.

In addition to gender differences, attitudes toward PE, as well as sports and activities preferences, may be influenced by gender differences. For example, Hill and Hannon (2008) in the southwestern U.S. reported that in ranking of activities, most male middle school students preferred in order, football, basketball, bowling, table tennis, and swimming, whereas most female middle school students were interested in swimming, skating, volleyball, bowling, and basketball. Likewise, Greenwood, Stillwell, and Byars (2001) examined what physical activities male and female middle school students from a mid-southern state preferred. They found that the majority of female middle school students preferred in order, swimming, basketball, roller

skating, volleyball, softball, soccer, bicycling, and gymnastics. However, male students preferred in order, basketball, swimming, bicycling, wrestling, roller skating, soccer, bowling, and archery. Finally, Liu et al. (2008) found that middle school male participants had positive attitudes toward risk and challenging activities, while middle school girls had more positive attitudes toward beautiful and graceful activities.

Unfortunately, female students could not participate in this study because the Saudi government does not offer physical education for females in their public schools. Carroll (2013) found that Islamic religion does not prevent females from participating in physical activity in general, but traditions, families, cultural standards are primary factors why females do not participate in physical activity in SA. A Saudi Girl said that:

The acceptance of the society especially the people who consider religion in a very strict way and they think Islam forbid women sports which is wrong, but they like to use it as an excuse to enforce the traditions which make people confused between traditions and religion, especially the people who have the lack of awareness. (p. 70)

As a result, Saudi culture and traditions sometimes play an essential role in preventing Saudi females from participations in a variety of activities.

Skill level and organized sports. Students' perspectives toward their abilities and skills may be a significant factor that affects their attitudes toward PE (Smith & St Pierre, 2009). Many researchers (Nugent & Faucette, 1995; Silverman & Subramaniam, 1999; Veal & Compagnone, 1995) explain that low ability in PE classes may influence negatively students' attitudes toward PE and vice versa. Carlson (1995) studied negative attitudes of high school students toward PE. The researcher found that high school participants who had low skill levels felt socially isolated in PE. Likewise, Smith and St Pierre (2009) reported that approximately 80% of high school

participants thought that personal ability influenced their feelings either positively or negatively toward PE. They also found that 57% of students felt bad when other classmates laughed and mocked their low skill level. In addition, Bibik, Goodwin, and Orsega-Smith (2007) examined high school students' attitudes toward PE. The researchers indicated that around two out of three of the participants in high school preferred to play with other students who had the same ability.

In middle school, Hünük and Demirhan (2010) found that students who participated in school teams or sports clubs after school had better attitudes toward PE than students who were not members of school teams or sports clubs. Liu et al. (2008) also found that students who participated in organized sports had high positive attitudes toward physical activity compared to students who did not participate in organized sports. Moreover, Lubans, Morgan, and McCormack (2011) reported that male middle students (7th and 10th grades) had a higher perception of competence in PE than girl students.

In elementary school, Younes-Alhourani (2015) reported that exciting activities and high-level skills were a meaningful prediction of Palestinian sixth-grade students' enjoyment of physical education class. Hagger et al. (1997) had similar results. There were significant differences between children with high and low levels of activity in CATPA subdomains. Thus, highly active students had more positive attitudes toward beautiful, graceful, risky and catharsis activities than little active students. Likewise, Portman (1995) had 13 students in 6th grade who had little skills in three sports (volleyball, basketball, and baseball) and described their experiences. The researcher found that not all participants had fun and that some felt unhappy in PE and did not like competitive activities because they were not successful in skills, and classmates were yelling at them.

Furthermore, skill levels may have an influence when students choose sports and activities. For example, Hill and Hannon (2008) reported that the majority of middle school participants who had high-level skills preferred in order, football, basketball, bowling, soccer, and swimming; and most students who had middle-level skills chose in order, basketball, football, swimming, bowling and archery; while the majority of students who had low-level skills preferred in order, basketball, bowling, archery, swimming, and skating.

Grade levels. Students in elementary school had more positive attitudes toward PE than students in middle and high school (Zeng et al., 2011). Many studies (Subramaniam & Silverman, 2007; Hünük & Demirhan, 2010; Bryan & Solmon, 2012; Hu et al., 2014; Scrabis-Fletcher & Silverman, 2017) found that whenever grade levels in middle school increase, attitudes of students toward PE decline. Hünük and Demirhan (2010), Bryan and Solmon (2012), and Scrabis-Fletcher and Silverman (2017) examined middle school students' attitudes toward PE by grade level. They found that 6th grade students had more positive attitudes toward PE than 7th and 8th grade students, while there was no difference between 7th grade students and 8th grade students' attitudes toward PE. Likewise, Hu et al., (2014) indicated that Chinese middle school participants who were in 9th grade had less positive attitudes toward PE than 7th and 8th grade students, and there was no difference between 7th and 8th grades. Moreover, Subramaniam and Silverman (2007) indicated that 6th grade students had more positive attitudes toward PE than 7th and 8th grade students, and 7th grade students had more positive attitudes toward PE than 8th grade students.

Furthermore, grade level and age may play a key role in student sport and activity preferences. Hill and Hannon (2008) conducted a study in the Southwestern U.S. in two middle schools and found that most 7th grade students preferred in order, basketball, swimming,

bowling, football, and skating; and most 8th grade students preferred in order, football, basketball, bowling, swimming, and skating. However, 9th grade students preferred in order, basketball, football, bowling, archery, and table tennis.

Teachers. Physical education teachers are in charge of designing PE curriculum, motivating and teaching students and providing skills and knowledge. Thus, they can play a primary role in positively and negatively impacting students' attitudes toward PE (Rikard & Banville, 2006). Unfortunately, PE teachers in Saudi Arabia are not prepared very well to teach students with disabilities. They took only one class in adapted physical education when they were undergraduate students in their universities or colleges, leaving them with too little training and experience in teaching students with disabilities. According to Lirgg et al. (2017), Saudi PE teachers had little field experience and undergraduate classes. Thus, Saudi PE teachers had very little preparation in teaching students with disabilities and that may have negatively influenced attitudes of students toward PE.

Furthermore, Smith and St Pierre (2009) conducted a study in two high schools, one in the U.S. and another in England, and found that the majority of students had fun and felt enjoyment when PE teachers effectively participated with their students in PE class. They also found that interactions of teachers, their personality, and their attitudes may negatively or positively influence the enjoyment of students in PE. Likewise, most students indicated that PE teachers should use a variety of instructional styles so that students can enjoy PE class more, such as group work and peer tutoring. According to Graham (2008), students had unfavorable attitudes toward PE when PE teachers used individual comparisons among their students. However, students preferred to be in a group when they participated in activities. Thus, Rikard and Banville (2006) reported that PE teachers should revise and develop curriculum, such as

multicultural games, outdoor adventures and recreational activities, and more challenging activities.

Dyson, DiCesare, Coviello, & Dyson (2009) conducted a study to explain the experiences of middle school students toward PE and found that PE teachers had a bad interaction with their students. These teachers were screaming at their students. A student shared one reason that she made excuses not to participate in PE: “I don’t like it [yelling]. He kept yelling at me” (p. 45).

PE teachers should prepare thoroughly to teach students with and without disabilities. They should take adequate training and adapted physical education classes to prepare to teach students with disabilities. Also, they should have positive interaction and prepare appropriate curriculum and lesson plans so that PE classes will be more fun and useful, things that help students develop a positive attitude toward PE.

Physical education curriculum. A physical education curriculum can play a key role in influencing positively or negatively the attitudes of students toward PE, so the PE curriculum must be revised in order to enhance attitudes of students toward PE (Hick et al., 2001). Also, the PE curriculum is a primary factor that impacts students’ participation in PE. Couturier, Chepko, and Coughlin (2005) examined high and middle school students’ attitudes toward PE. They asked students why they did or did not participate in PE and what activities they preferred. In general, they found that the majority of students participated in PE because they liked competitive sports and felt enjoyment, and they thought that these types of activities made them healthier. However, a majority of students hated to participate in PE because the curriculum was repetitive every year. They also found that a higher percentage of middle school students wanted to participate in PE because they liked to learn new skills, games, and activities, whereas a

higher percentage of high school students wanted to participate in PE in order to be more healthy.

Also, Dyson et al. (2009) conducted a study to explain the experiences of middle school students toward PE. They reported that most of the participants preferred playing group games and activities, while they did not prefer warm-up exercises and practicing skills. Also, most of the participants reported that a curriculum was repetitive every year and they felt that they did not have new learning experiences in PE. In elementary school, however, Dyson (1995) conducted a qualitative study that looked at 3rd and 5th grade students' attitudes toward PE. Because of challenging activities such as climbing walls and roping activities, the majority of them learned how to cooperate with each other, and they had more fun and learned new skills in PE. Therefore, they had more knowledge, self-confidence, and self-esteem.

Activities and sports preferences. Many studies (Rikard & Banville, 2006; Bibik et al., 2007; Smith & St Pierre, 2009; Zeng et al., 2011) were conducted to examine high school students' attitudes toward sports and activities. These studies had similar results that showed that high school students preferred playing team sports and games. Furthermore, Zeng et al. (2011) ranked sports preferences in this order: team sports, individual sports, and dual sports, respectively. Moreover, in the ranking of activity preferences, they rated aerobic exercise, weight lifting, dance, outdoor activities, and martial arts, respectively.

Also, Couturier et al. (2005) indicate that in the ranking of sports and activities according to preference, high school students rated team sports the highest, then fitness activities, individual sports, dance, cooperative games, and swimming. However, they found that most middle school participants preferred swimming, team sports, dance, cooperative games, individual sports, and fitness activities, respectively. Also, many studies (Hill & Hannon, 2008;

Lubans et al., 2011; Al-Liheibi, 2008) found that most middle school students preferred team sports. Hill and Hannon (2008) reported that basketball is the preferred sport in two middle schools in the Southwestern U.S., while Lubans, et al. (2011) and Al-Liheibi (2008) indicated that the preferred sport was soccer in Australia and Saudi Arabia, respectively.

In summary, although elementary school students have positive attitudes toward PE, the results, in general, are not consistent, especially for gender differences. Grade and skill levels have a clear impact on the attitudes of students toward PE. Most studies above indicated that there is a direct relationship between skill level and attitudes of students toward PE. Whenever students have high skill levels, they have a good attitude toward PE. In contrast, there is a reverse relationship between grade level and attitude toward PE. Also, PE teachers should consider students' voices in to design appropriate curriculum. Unfortunately, there are limited studies about the attitudes of students with disabilities toward physical education.

Chapter Three

Methods

Participants

Four hundred total male students, those without a disability and those with three categories of disability, were selected for this study. Specifically, participants without disabilities were 195 and participants with disabilities were 205 from several public schools in eastern Saudi Arabia. The participants were between 11- 19 years of age and their grade levels from 5th grade to 12th grade. Students with disabilities were divided into three different categories of disability: students with visual impairment (VI), students with hearing impairment (HI), and students with mild intellectual disabilities (ID). All participants with disabilities were studying in separate classes in public schools. Participants without disabilities and participants with visual and hearing impairment were selected from all school levels. However, participants with intellectual disabilities were selected from middle and high schools because the reading level for the questionnaire was not appropriate for elementary students with intellectual disabilities. Data were collected by using convenience samples in order to easily reach elementary school (5th - 6th grade), middle school (7th - 9th grade), and high school (10th - 12th grade) students with mild disabilities as these students are served in the inclusion setting.

Measurement

The measurement instrument included three stages: personal information, students' activities and sports preferences, and students' attitudes toward physical education.

Personal information. This section had general questions for both students with and without disabilities, including participants' age, grade, class size, and whether or not students

participate in physical activity after school. Also, this section had specific questions that related to students with disabilities, such as type of disability and type of integration of the physical education class.

Students' activities and sports preferences. This section had a questionnaire that consisted of nine lists of activities that participants were asked to rank according to importance or interest. This questionnaire was developed by the researcher and used a five Likert scale (5= very important, 4= important, 3= somewhat important, 2= not very important, 1= not at all important). The total score for each activity was divided by the number of participants in order to obtain a range from 1-5 indicating that five is very important and one is not at all important. Furthermore, the researcher found that the test for overall students' activities and sports preferences (9 items) resulted in a coefficient alpha score of .79, indicating a good internal consistency reliability.

Students' attitudes. Attitudes of students toward physical education were evaluated via the use of the Students' Attitudes toward Physical Education Survey (SATPES) that was developed by Subramaniam and Silverman (2000). The questionnaire contains 20-items with five Likert scale (5= strongly agree, 4= agree, 3= uncertain, 2= disagree, 1= strongly disagree). Importantly, some items (2, 4, 5, 6, 12, 14, 15, and 18) are negatively worded, so these items were scored in opposite order (1= strongly agree and 5= strongly disagree) prior to data analysis. Thus, the total scores range from 20-100 for overall attitudes. After the scores were calculated, they were divided by 20 to obtain a range from 1-5. A score of five indicated a more positive attitude of students toward PE, while a score of one indicated a less positive attitude toward PE (see Appendix A).

The questionnaire also consists of two subscales: perceived usefulness and enjoyment. Each subscale consists of 10 items, so the total score ranges from 10-50 and then each was divided by ten to obtain a range from 1-5. Furthermore, each subscale consists of two subdomains: PE teacher and PE curriculum, so PE teacher and PE curriculum consist of 10 items for each in overall attitudes (see Appendix C). The SATPES seems to be a valid and reliable instrument for measuring attitudes of students toward physical education. The enjoyment and perceived usefulness subscales had the highest percentage agreement of experts that were .94 and .99, respectively. Also, the questionnaire had high internal consistency reliability “enjoyment subscale $r = .86$, usefulness subscale $r = .89$ ” (Subramaniam & Silverman, 2000).

However, when the researcher conducted the readability level for the questionnaire, it had Flesch-Kincaid Grade Readability Level of 10.9, indicating that reading levels were not appropriate for children and some adolescents. However, when the researcher put P.E. instead of physical education in SATPES, the Flesch-Kincaid Grade Readability Levels for the new scale became 3.7, indicating that most children and adolescents have an adequate reading level to complete the questionnaire. The SATPES was translated from English to Arabic language by specialists in English and Arabic literature.

Procedures

After permission was obtained from the Ministry of Education in SA, this study was conducted in 22 public school levels in the Eastern Province and included students without disabilities and, in some schools, students with visual or hearing impairment, or students with intellectual disabilities. After the Principal Investigator (PI) got consents from parents to have their children participate in this study, the data were collected. Because students with three categories of disability were in the same schools with students without disabilities, the PI

administered the questionnaire in their classes. Before students responded to the questionnaire, the PI read the instructions to them and gave them an example of how to answer five Likert scale in order to ensure students' understanding of the directions. All students without disabilities and students who were hard of hearing read the questionnaire by themselves and students who were deaf were read to by teachers who knew sign language, while the PI read the questionnaire for students with intellectual disabilities and each individual with visual impairment. Each interview with an individual with visual impairment required 10-15 minutes, while the questionnaire for students without disabilities, students with hearing impairment and students with intellectual disabilities took around 15-20 minutes.

Students answered three sections in the questionnaire: personal information, students' sports and activities preferences, and attitudes of students toward physical education. Also, the PI and teachers who knew sign language provided specific examples of types of sports and activities in section two in the scale. All participants were entitled to ask for any statement to be repeated.

Data Analysis

The SAS 9.4 was utilized to analyze the data and descriptive statistics to measure personal information and outcome measures for the study variables. Two-way ANOVA tests were conducted to determine the effect of school levels or level of student participation in physical activities on attitudes of students with and without disabilities toward PE. Also, two-way MANOVA tests were conducted to examine the effect of school levels or student participation in physical activity after school on attitudes of students with and without disabilities toward perceived usefulness and enjoyment of PE or toward PE teachers and PE curriculums. Also, stepwise multiple regression tests were used to examine if attitudes of students with and

without disabilities toward enjoyment and perceived usefulness of PE related to students' activities preferences. Finally, independent t-tests were conducted to determine if there were differences on the means on nine sports and activities preferences between groups of students, and student participation in physical activity after school as well as one-way ANOVA tests were conducted to determine if there were significant differences among school levels on students' preferences for sports and activities. Statistical significance was set at $P < .05$.

Chapter Four

Results

The purpose of this study was to examine attitudes of Saudi Arabian students with and without disabilities toward PE as well as their sport and activities preferences. A second purpose was to investigate the effect of school levels and student participation in physical activity after school on students' attitudes in PE. A final purpose was to determine predictors of enjoyment and usefulness of PE. This chapter includes the findings and analysis of the research questions, so this chapter consists of two sections: Descriptive Statistics and Inferential Statistics.

Descriptive Statistics

More than 630 parental and participant consent forms were distributed to students with and without disabilities in three school levels, including elementary school (5th - 6th grade), middle school (7th - 9th grade), and high school (10th - 12th grade). The sample consented of 400 participants who were between 11 and 19 years ($M = 14.99$, $SD = 2.64$) and their grade level was between 5th to 12th grade ($M = 8.53$, $SD = 2.35$). Approximately 49% of participants were students without disabilities, and 51% of participants were students with disabilities, including 14% students with VI, 22% students with HI, and 16% students with ID. Forty-one percent participated in physical activities after school, while 59% of them did not participate in physical activity after school. (See Table 1).

Inferential Statistics

This study had eight research questions, and this section examined each research question and the results in relation to a research question.

Table 1

Demographic Characteristics of Participants

Variable	Frequency	%
Grade levels		
5th - 6th grade	111	28
7th - 9th grade	126	32
10th - 12th grade	163	41
Students without disabilities	195	49
Students with disabilities	205	51
Students with VI*	54	14
Students with HI*	89	22
Students with ID*	62	16
Outside activities		
Yes	165	41
No	235	59

“Note. VI= visual impairment; HI*=hearing impairment; ID*= intellectual disability”*

Research question 1. Do the differences in the means on attitudes toward PE among school levels differ among students without disabilities and each different disability category?

A two-factor 3×4 ANOVA (school levels \times groups) was conducted to evaluate the effect of school level on attitudes of students without disabilities and each different disability category toward PE. The two independent variables in this study were groups of students (students without disabilities, students with VI, students with HI, and students with ID) and level of schools (elementary, middle, and high school). The dependent variable was the attitude of students toward PE, with higher scores indicating higher more attitudes. The means and standard deviations for the attitude measure as a function of the two factors are presented in Table 2.

Table 2

Means and Standard Deviations of Students' Attitudes Toward PE

School Levels	Groups	<i>n</i>	<i>M</i>	<i>SD</i>
Elementary schools	Students without disabilities	64	4.12	0.62
	students with HI	30	3.95	0.53
	Students with ID	0	0.00	0.00
	Students with VI	17	3.21	0.31
	Total	111	3.94	0.64
Middle schools	Students without disabilities	67	3.65	0.76
	students with HI	22	3.58	0.52
	Students with ID	21	3.52	0.37
	Students with VI	16	3.02	0.81
	Total	126	3.53	0.70
High schools	Students without disabilities	64	3.06	0.80
	students with HI	37	3.37	0.40
	Students with ID	41	3.21	0.32
	Students with VI	21	2.71	0.82
	Total	163	3.12	0.66
Total	Students without disabilities	195	3.61	0.85
	students with HI	89	3.62	0.53
	Students with ID	62	3.31	0.37
	Students with VI	54	2.96	0.72
	Total	400	3.48	0.74

The results for the two-way ANOVA indicated no significant interaction between school levels and groups of students, $F(5, 389) = 2.19, p = .055$, partial $\eta^2 = .027$, but showed significant main effects for the groups of students, $F(3, 389) = 15.26, p < .001$, partial $\eta^2 = .11$, and school levels, $F(2, 389) = 30.85, p < .001$, partial $\eta^2 = .14$. The follow-up tests consisted of all pairwise comparisons among four groups of students and school levels. The Tukey HSD procedure was used to control for Type I error across the pairwise comparison. The

results of the groups of students indicated that the mean attitudes toward PE for students with visual impairment ($M = 2.96, SD = 0.72$) was significantly lower than students with hearing impairment ($M = 3.62, SD = 0.53$), students with intellectual disabilities ($M = 3.31, SD = 0.37$), and students without disabilities ($M = 3.61, SD = 0.85$), as well as students with intellectual disabilities, had lower favorable attitudes toward PE than students without disabilities and students with hearing impairment. However, students with hearing impairment did not significantly differ from students without disabilities. The results of school levels indicated that elementary school students had higher favorable attitudes toward PE ($M = 3.94, SD = 0.64$) than middle school students ($M = 3.53, SD = 0.70$), and high school students ($M = 3.12, SD = 0.66$). Also, there was a significant difference between attitudes of middle school students and high school students toward PE. Middle school students showed more positive attitudes toward PE than high school students.

Research question 2. To what extent do elementary, middle, and high school students with and without disabilities significantly differ on their attitudes toward perceived usefulness and enjoyment of PE?

A 2×3 MANOVA (groups \times school levels) was conducted to evaluate the effect of three school levels and students with and without disabilities on their attitudes toward perceived usefulness and enjoyment of PE. The results for the two-way MANOVA indicated there was a significant interaction effect between school levels and students with and without disabilities on their attitude toward perceived usefulness and enjoyment of PE, Wilk's $\Lambda = .957, F(4, 786) = 4.34, p = .002, \text{partial } \eta^2 = .022$. Table 3 contains the means and standard deviations on the dependent variables for the three school levels and two group of students. Because the interaction between school levels and students with and without disabilities was significant, a $2 \times$

3 ANOVA was conducted to examine the effect of three school levels and students with and without disabilities on their attitudes toward perceived usefulness of PE.

Table 3

Means and Standard Deviations of the Dependent Variables for the Two Groups of Students in Three School Levels

Groups	School Levels	<i>n</i>	Usefulness		Enjoyment	
			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Students with disabilities	Elementary school	47	3.50	0.65	3.86	0.65
	Middle school	59	3.25	0.74	3.56	0.72
	High school	99	2.87	0.79	3.45	0.67
	Total	205	3.13	0.79	3.58	0.69
Students without disabilities	Elementary school	64	4.10	0.67	4.15	0.61
	Middle school	67	3.59	0.81	3.70	0.79
	High school	96	3.04	0.85	3.08	0.82
	Total	195	3.58	0.89	3.65	0.86
Total	Elementary school	111	3.84	0.72	4.03	0.64
	Middle school	126	3.43	0.79	3.64	0.75
	High school	163	2.94	0.82	3.31	0.75
	All	400	3.35	0.87	3.61	0.78

The results for the two-way ANOVA indicated that there was no significant interaction between three school levels and students with and without disabilities on their attitudes toward usefulness of PE, $F(2, 394) = 2.57, p = .079$, partial $\eta^2 = .013$, but significant main effects for school levels, $F(2, 394) = 39.91, p < .001$, partial $\eta^2 = .17$, and the groups of students, $F(1, 394) = 21.77, p < .001$, partial $\eta^2 = .052$. The groups main effect indicated that students without disabilities ($M = 3.58, SD = 0.89$) had higher favorable attitudes toward usefulness of PE than students with disabilities ($M = 3.13, SD = 0.79$). Also, follow-up tests were conducted to evaluate pairwise differences among the three school levels. The Tukey HSD test was used to control for type I error across the pairwise comparisons. The results of this analysis indicated that

elementary school students had more positive attitudes toward perceived usefulness of PE ($M = 3.84$, $SD = 0.72$) than middle school students ($M = 3.43$, $SD = 0.79$), and high school students ($M = 2.94$, $SD = 0.82$). Also, middle school students had more positive attitude toward perceived usefulness of PE than high school students.

A 2×3 ANOVA was conducted to evaluate the effect of three school levels and two groups of students on their attitudes toward enjoyment of PE. There was a statistically significant interaction between the effect of school levels and the groups of students on their attitudes toward enjoyment of PE, $F(2, 394) = 8.15$, $p = .0003$, partial $\eta^2 = .040$. To control for Type I error across the two simple main effects, alpha was set at $.025$ ($.05/2$) by using Bonferroni approach. There were significant differences between school levels for students with disabilities, $F(2, 394) = 5.29$, $p = .005$, and between school levels for students without disabilities, $F(2, 394) = 36.67$, $p < .001$.

Follow-up tests were conducted to examine the three pairwise differences among means for students without disabilities. The results of analysis indicated that elementary school students without disabilities ($M = 4.15$, $SD = 0.61$) had more favorable attitudes toward enjoyment of PE than middle school students without disabilities ($M = 3.70$, $SD = 0.79$) and high school students without disabilities ($M = 3.08$, $SD = 0.82$), as well as middle school students without disabilities, had more favorable attitudes toward enjoyment of PE than high school students without disabilities. Follow-up tests were conducted to examine the three pairwise differences among means for students with disabilities. The results indicated that elementary school students with disabilities ($M = 3.86$, $SD = 0.65$) had higher favorable attitudes toward enjoyment of PE than high school students with disabilities ($M = 3.45$, $SD = 0.67$). However, there were no significant differences between middle and high school students with disabilities on their attitudes toward

enjoyment of PE and between elementary school students with disabilities and middle school students with disabilities ($M = 3.56, SD = 0.72$).

Also, to control for type I error across the three simple main effects, alpha for each was set at .0167 (.05/3) by using Bonferroni approach. The only significant differences between attitudes of students with and without disabilities toward enjoyment of PE was found in high school, $F(1, 394) = 10.66, p < .001$. High school students with disabilities ($M = 3.45, SD = 0.67$) had higher favorable attitudes toward enjoyment of PE than high school students without disabilities ($M = 3.08, SD = 0.82$). (See Table 3).

Research question 3. To what extent do elementary, middle, and high school students with and without disabilities significantly differ on their attitudes toward PE teachers and PE curriculums?

A 2×3 MANOVA (groups \times school levels) was conducted to evaluate the effect of two groups of students and three school levels on their attitudes toward PE teachers and the PE curriculum. The results for the two-way MANOVA indicated there was a significant interaction effect between school levels and students with and without disabilities on their attitudes toward PE teachers and the PE curriculum, Wilk's $\Lambda = .917, F(4, 786) = 8.59, p < .001, \text{partial } \eta^2 = .42$. Table 4 contains the means and standard deviations on the dependent variables for the three school levels and two groups of students.

Because the interaction between school levels and students with and without disabilities was significant, a 2×3 ANOVA was conducted to examine the effect of three school levels and students with and without disabilities on their attitudes toward the PE curriculum. The results for two-way ANOVA indicated that there was no significant interaction between three school levels and students with and without disabilities on their attitudes toward the PE curriculum, $F(2, 394)$

= 1.42, $p = .24$, partial $\eta^2 = .007$, but significant main effects were found for school levels, $F(2, 394) = 41.84$, $p < .001$, partial $\eta^2 = .18$, and two groups of students, $F(1, 394) = 8.19$, $p = .004$, partial $\eta^2 = .02$. The groups main effect indicated that students without disabilities ($M = 3.67$, $SD = 0.81$) had higher favorable attitudes toward the PE curriculum than students with disabilities ($M = 3.39$, $SD = 0.67$). Follow-up tests were conducted to evaluate pairwise differences among the three school levels. The Tukey HSD test was used to control for type I error across the pairwise comparisons. The results of this analyses indicated that elementary school students ($M = 3.98$, $SD = 0.64$) had more positive attitudes toward the PE curriculum than middle school students ($M = 3.57$, $SD = 0.74$), and high school students ($M = 3.18$, $SD = 0.66$). Also, middle school students had more positive attitudes toward the PE curriculum than high school students.

A 2×3 ANOVA was conducted to evaluate the effect of three school levels and two groups of students on their attitudes toward PE teachers. There was a statistically significant interaction between the effect of school levels and the groups of students on their attitudes toward PE teachers, $F(2, 394) = 11.58$, $p < .001$, partial $\eta^2 = .056$. To control for Type I error across the two simple main effects, alpha was set at .025 (.05/2) by using Bonferroni approach. There were significant differences between school levels for students with disabilities, $F(2, 394) = 5.04$, $p = .007$, partial $\eta^2 = .025$, and between school levels for students without disabilities, $F(2, 394) = 46.36$, $p < .001$, partial $\eta^2 = .19$.

Follow-up tests were conducted to examine the three pairwise differences among means for students without disabilities. The results of analyses indicated that elementary school students without disabilities ($M = 4.11$, $SD = 0.72$) had more favorable attitudes toward PE teachers than middle school students without disabilities ($M = 3.65$, $SD = 0.82$), and high school students without disabilities ($M = 2.89$, $SD = 0.90$), as well as middle school students without disabilities,

had more favorable attitudes toward PE teachers than high school students without disabilities. Also, follow-up tests were conducted to examine the three pairwise differences among means for students with disabilities. The results indicated that there was a significant difference between attitude of elementary school students with disabilities and high school students with disabilities toward PE teachers. Elementary school students with disabilities ($M = 3.59, SD = 0.57$) had more favorable attitudes toward PE teachers than high school students with disabilities ($M = 3.18, SD = 0.61$). However, there was not a significant difference between middle and high school students with disabilities and between elementary and middle school students with disabilities ($M = 3.33, SD = 0.70$) on their attitudes toward PE teachers.

Also, to control for type I error across the three simple main effects, alpha for each was set at .017 (.05/3) by using Bonferroni approach. The results indicated that there was a significant difference between attitudes of elementary school students with and without disabilities toward PE teachers, $F(1, 394) = 14.38, p = .0002$. Elementary school students without disabilities ($M = 4.11, SD = 0.72$) had higher attitudes toward PE teachers than elementary school students with disabilities ($M = 3.59, SD = 0.57$). Likewise, there was a significant difference between attitudes of middle school students with and without disabilities, $F(1, 394) = 6.09, p < .0014$. Middle school students without disabilities ($M = 3.65, SD = 0.82$) had higher attitudes toward PE teachers than middle school students with disabilities ($M = 3.33, SD = 0.70$). Also, there was a significant difference between high school students with and without disabilities on their attitudes toward PE teachers, $F(1, 394) = 6.08, p = .014$. High school students without disabilities ($M = 2.89, SD = 0.90$) had lower favorable attitudes toward PE teachers than high school students with disabilities ($M = 3.18, SD = 0.61$). (See Table 4).

Table 4

Means and Standard Deviations of the Dependent Variables for the Two Groups of Students in Three School Levels

Groups	School Levels	<i>n</i>	PE Teachers		PE Curriculum	
			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Students with disabilities	Elementary school	47	3.59	0.57	3.78	0.64
	Middle school	59	3.33	0.70	3.48	0.68
	High school	99	3.18	0.61	3.15	0.57
	Total	205	3.32	0.65	3.39	0.67
Students without disabilities	Elementary school	64	4.11	0.72	4.13	0.60
	Middle school	67	3.65	0.82	3.64	0.78
	High school	64	2.89	0.90	3.23	0.78
	Total	195	3.55	0.96	3.67	0.81
Total	Elementary school	111	3.89	0.71	3.98	0.64
	Middle school	126	3.50	0.78	3.57	0.74
	High school	163	3.07	0.75	3.18	0.66
	All	400	3.43	0.82	3.53	0.75

Research question 4. Is there a significant difference between students with and without disabilities who participate in physical activity after school and students with and without disabilities who do not participate in physical activity after school on their attitudes toward perceived usefulness and enjoyment of PE?

A 2×2 MANOVA (groups \times participation in PA) was conducted to determine the influence students with and without disabilities who participated or did not participate in physical activities outside school on their attitudes toward perceived usefulness and enjoyment of PE. The results for the two-way MANOVA indicated there was no significant interaction effect between students with and without disabilities who participated or did not participate in physical activity after school on their attitudes toward perceived usefulness and enjoyment of PE, Wilk's $\Lambda = .994$, $F(2, 395) = 1.17$, $p = .313$, partial $\eta^2 = .006$. Means and standard deviations for

participating or not in physical activity outside school and two group of students are presented in Table 5.

Table 5

Means and Standard Deviations on the Dependent Variables for the Groups of Students and Their Participation in Physical Activity After School

Groups	Participation	n	Usefulness of PE		Enjoyment of PE	
			M	SD	M	SD
Students with disabilities	Yes	59	3.35	0.66	3.63	0.59
	No	146	3.04	0.82	3.56	0.73
	Total	205	3.13	0.79	3.58	0.69
Students without disabilities	Yes	106	3.68	0.86	3.75	0.84
	No	89	3.44	0.91	3.53	0.88
	Total	195	3.58	0.89	3.65	0.86
Total	Yes	165	3.56	0.81	3.71	0.76
	No	235	3.19	0.88	3.55	0.79
	Total	400	3.35	0.87	3.61	0.78

Because the interaction between participating students with and without disabilities in physical activity after school was not significant. A one-way multivariate analysis of variance (MANOVA) was conducted to evaluate the influence of attitudes of students with and without disabilities toward perceived usefulness and enjoyment of PE. There were significant differences between two groups of students on the dependent variables, Wilk's $\Lambda = .94$, $F(2, 395) = 13.23$, $p < .001$, partial $\eta^2 = .063$. Analysis of variance (ANOVA) on the dependent variables were conducted as follow-up tests to the MANOVA. Using the Bonferroni method, each ANOVA was tested at the .025 level (.05/2). The results indicated that there was no significant difference between attitudes of students with and without disabilities toward enjoyment of PE, $F(1, 396) = .26$, $p = .61$, partial $\eta^2 = .001$, while there was a statistically significant between attitudes of

students with and without disabilities toward perceived usefulness of PE, $F(1, 396) = 18.11, p < .001$, partial $\eta^2 = .044$. Therefore, students without disabilities ($M = 3.58, SD = 0.89$) had higher favorable attitudes toward perceived usefulness of PE than students with disabilities ($M = 3.13, SD = 0.79$), whereas students without disabilities ($M = 3.65, SD = 0.86$) did not differ their attitudes toward enjoyment of PE than students with disabilities ($M = 3.58, SD = 0.69$). (See Table 5).

Likewise, the interaction between participating students with and without disabilities in physical activity after school was not significant. One-way MANOVA test was conducted to evaluate the effect of attitudes of students who participated or did not participate in physical activity outside school toward perceived usefulness and enjoyment of PE. There were significant differences between students who participated or did not participate in physical activity after school on the dependent variables, Wilk's $\Lambda = .98, F(2, 395) = 4.81, p = .009$, partial $\eta^2 = .024$. Analyses of variance (ANOVA) on the dependent variables were conducted as follow-up tests to the MANOVA. Using the Bonferroni method, each ANOVA was tested at the .025 level (.05/2). The results indicate that there was no significant difference between attitudes of students who participated or did not participate in physical activity after school toward enjoyment of PE, $F(1, 396) = 3.26, p = .072$, partial $\eta^2 = .008$, while there was a statistically significant difference between attitudes of students who participated or did not participate in physical activity after school toward perceived usefulness of PE, $F(1, 396) = 9.59, p = .002$, partial $\eta^2 = .024$. Therefore, students who participated in PA after school ($M = 3.56, SD = 0.81$) had more favorable attitudes toward perceived usefulness of PE than students who did not participate ($M = 3.19, SD = 0.88$), whereas students who participated in PA after school ($M = 3.70, SD = 0.76$) did

not differ in their attitudes toward enjoyment of PE from students who did not participate ($M = 3.54$, $SD = 0.79$).

Research question 5. Do the differences in the means on attitudes toward PE among school levels differ between students with and without disabilities?

A 2×3 ANOVA (groups \times school levels) was conducted to determine the effect of school levels and two groups of students on their attitudes toward PE. The means and standard deviation for attitudes scores of two factors are presented in Table 6. The results for two-way ANOVA indicated significant main effects for the groups of students and school levels, $F(1, 394) = 8.20$, $p = .004$, partial $\eta^2 = .020$; $F(2, 394) = 47.4$, $p < .001$, partial $\eta^2 = .19$, respectively. Also, there was significant interaction between three school levels and two groups of students, $F(2, 394) = 5.94$, $p = .003$, partial $\eta^2 = .029$.

Because the interaction between the groups of students and school levels was significant, the groups simple main effects was examined, that is, the differences between students with and without disabilities for each of the three school levels. To control for type I error rate across the three simple effects, alpha level for each was set at .0167 (.05/3) by using the Bonferroni approach. The results indicated that there was a significant difference between attitudes of elementary school students with and without disabilities toward PE, $F(1, 394) = 12.41$, $p < .001$, partial $\eta^2 = .031$. Elementary school students without disabilities ($M = 4.12$, $SD = 0.62$) had more positive attitudes toward PE than elementary school students with disabilities ($M = 3.68$, $SD = 0.58$). However, there were no significant differences between attitudes of middle school students with and without disabilities toward PE, $F(1, 394) = 4.16$, $p = .042$, partial $\eta^2 = .010$ and between attitudes of high school students with and without disabilities toward PE, $F(1, 394) = 1.00$, $p = .318$, partial $\eta^2 = .0025$. (See Table 6).

Table 6

Means and Standard Deviations on the Dependent Variable for the Two Groups of Students and Three School Levels

Groups	School levels	<i>n</i>	Attitude	
			<i>M</i>	<i>SD</i>
Students with disabilities	Elementary school	47	3.68	0.58
	Middle school	59	3.41	0.61
	High school	99	3.16	0.55
	Total	205	3.35	0.61
Students without disabilities	Elementary school	64	4.12	0.62
	Middle school	67	3.65	0.76
	High school	64	3.06	0.80
	Total	195	3.61	0.85
Total	Elementary school	111	3.94	0.64
	Middle school	126	3.54	0.70
	High school	163	3.12	0.66
	Total	400	3.48	0.74

Additionally, school levels were examined for simple main effects. To control for Type I error across the two simple main effects, alpha level for each was set at .025 (.05/2) by using the Bonferroni approach. There was a significant difference among the level of schools for attitudes of students without disabilities, $F(2, 394) = 42.46, p < .001$, partial $\eta^2 = .18$, and for student with disabilities toward PE, $F(2, 394) = 10.22, p < .001$, partial $\eta^2 = .05$. Follow-up tests were conducted to determine the three school levels' pairwise comparisons for students without disabilities. The results indicated that attitudes of elementary school students without disabilities ($M = 4.12, SD = 0.62$) had significantly higher favorable attitudes toward PE compared to middle school students without disabilities ($M = 3.65, SD = 0.76$) and high school students without disabilities ($M = 3.06, SD = 0.80$). Moreover, there was a significant difference between attitudes of middle and high school students without disabilities toward PE. Follow-up tests were also

conducted to examine the three school levels' pairwise comparisons for students with disabilities. Attitudes of high school students with disabilities toward PE ($M = 3.16$, $SD = 0.55$) had significantly lower favorable attitudes toward PE than middle school students with disabilities ($M = 3.41$, $SD = 0.61$) and elementary school students with disabilities ($M = 3.68$, $SD = 0.58$). However, there was no significant difference between attitudes of elementary school students with disabilities and middle school students with disabilities toward PE. (See Table 6).

Research question 6. Do the differences in the means on attitudes toward PE between students with and without disabilities differ when they participate or do not participate in physical activity after school?

A 2×3 ANOVA (groups \times participation in PA) was conducted to evaluate the effect of students with and without disabilities who participated or did not participate in physical activity outside school on their attitudes toward PE. Table 7 presents the means and standard deviations for attitudes as function of the two factors. The results indicated that there was no significant interaction between the groups of students and level of participation in physical activity outside school, $F(1, 396) = .05$, $p = .82$, partial $\eta^2 = .001$, but significant main effect for groups of students, $F(1, 396) = 7.27$, $p = .007$, partial $\eta^2 = .018$, and for students who participated or did not participate in physical activity outside school, $F(1, 396) = 7.44$, $p = .007$, partial $\eta^2 = .019$. Therefore, the groups main effect indicated that students without disability ($M = 3.61$, $SD = 0.85$) had higher favorable attitudes toward PE than students with disabilities ($M = 3.35$, $SD = 0.61$). Also, participation in PA main effect indicated that students who participated in physical activity outside school ($M = 3.63$, $SD = 0.74$) had higher favorable attitudes toward PE than students who did not participate in physical activity outside school ($M = 3.37$, $SD = 0.73$). (See Table 7).

Table 7

Means and Standard Deviations on the Dependent Variable for the Two Groups of Students and Level of Students Participations in PA outside School

Groups	Participation	<i>n</i>	Attitudes	
			<i>M</i>	<i>SD</i>
Students with disabilities	Yes	59	3.49	0.55
	No	146	3.30	0.62
	Total	205	3.35	0.61
Students without disabilities	Yes	106	3.71	0.82
	No	89	3.49	0.87
	Total	195	3.61	0.85
Total	Yes	165	3.63	0.74
	No	235	3.37	0.73
	Total	400	3.48	0.74

Research question 7. To what extent are attitudes of students with and without disabilities toward enjoyment and usefulness of PE positively related to students' preferences for sports and activities?

Stepwise multiple regression analyses were conducted to evaluate preferences of students with disabilities for sports and activities to predict their attitudes toward enjoyment and usefulness of PE. The analyses detected that individual sport, competitive activities, cooperative activities, and aquatic activities were good predictors of attitudes toward enjoyment of PE, $F(4, 200) = 13.13, p < .001, R^2 = .208$, which indicated that approximately 21% of the variance of attitudes of students with disabilities toward enjoyment of PE can be accounted for by individual sport, competitive activities, cooperative activities, and aquatic activities.

Table 8

Predictors of Attitudes of Students with Disabilities Toward Perceived Usefulness and Enjoyment of PE

Dependent Variable	Variable	Unstandardized Coefficient		Standardized Coefficient	t	Sig
		B	Std Error	β		
Enjoyment	Intercept	2.66	0.23	0.00	11.8	0.001
	Individual sports	0.12	0.03	0.23	3.50	0.001
	Competitive activities	- 0.12	0.03	- 0.24	- 3.80	0.001
	Cooperative activities	0.13	0.04	0.21	3.26	0.001
	Aquatic activates	0.10	0.03	0.20	3.08	0.002
Usefulness	Intercept	2.60	0.22	0.00	12.00	0.001
	Dual sports	- 0.15	0.04	- 0.27	- 4.06	0.001
	Outdoor recreation	0.16	0.04	0.26	3.88	0.001
	Aquatic activates	0.11	0.04	0.20	3.03	0.003

For attitudes of students with disabilities toward perceived usefulness of PE, the results indicated that dual sports, outdoor activities, and aquatic activities were best predictors, $F(3, 201) = 12.41, p < .001, R^2 = .156$, indicating approximately 16% of the variance of attitudes of students with disabilities toward perceived usefulness of PE can be accounted for by dual sports, outdoor recreation and adventures, and aquatic activities. (See Table 8).

Stepwise multiple regression analyses were conducted to evaluate preferences of students without disabilities for sports and activities to predict their attitudes toward enjoyment and usefulness of PE. The analyses detected that cooperative activities, team sports, and fitness activities were meaningful predictors of attitudes toward enjoyment of PE, $F(3, 191) = 17.45, p < .001, R^2 = .215$, which indicated that approximately 22% of the variance of attitudes of students without disabilities toward enjoyment of PE can be accounted for by cooperative activities, team sports, and fitness activities.

Table 9

Predictors of Attitudes of Students without Disabilities Toward Perceived Usefulness and Enjoyment of PE

Dependent Variable	Variable	Unstandardized Coefficient		Standardized Coefficient	t	Sig
		B	Std Error	β		
Enjoyment	Intercept	1.96	0.25	0.00	7.89	0.001
	Cooperative activities	0.16	0.04	0.26	3.83	0.001
	Team sports	0.19	0.05	0.26	3.94	0.001
	Fitness activities	0.11	0.04	0.18	2.71	0.007
Usefulness	Intercept	1.82	0.25	0.00	7.34	0.001
	Team sports	0.22	0.05	0.29	4.45	0.001
	Cooperative activities	0.16	0.04	0.25	3.80	0.001
	Outdoor activities	0.09	0.04	0.15	2.30	0.022

For attitudes of students without disabilities toward perceived usefulness of PE, the results indicated that team sports, cooperative activities, and outdoor activities were best predictors, $F(3, 191) = 18.66, p < .001, R^2 = .226$, indicating approximately 23% of the variance of attitudes of students without disabilities toward perceived usefulness of PE can be accounted for by team sports cooperative activities, and outdoor activities. (See Table 9).

Research question 8. What sports and activities in the PE are preferred by students with and without disabilities, and are there differences on the means on nine sports and activities preferences between types of students, participation or not in PA after school and school levels?

Sports and Activities Preferences of Students with and without Disabilities

Participants with and without disabilities were asked to rank nine lists of activities according to their preferences. The majority of students without disability rated team sports ($M =$

4.17 out of 5.00), aquatic activities ($M = 3.70$), fitness activities ($M = 3.53$), outdoor activities ($M = 3.40$), and competitive activities ($M = 3.27$). However, the majority of students with disabilities preferred team sports ($M = 4.18$), cooperative activities ($M = 4.16$), outdoor activities ($M = 3.94$), aquatic activities ($M = 3.91$), fitness activities ($M = 3.62$). (See Table 10 for entire list).

Independent t-tests were conducted for nine sports and activities to compare by students with and without disabilities. The results indicated that students with disabilities preferred individual sports ($p = .0012$), dual sports ($p < .0001$), cooperative activities ($p < .0001$), and outdoor activities ($p < .0001$) more than students without disabilities.

Sports and Activities Preference of Participating Students in PA After School

In the ranking of sports and activities according to preference, most of the students who participated in physical activity after school preferred team sports ($M = 4.44$), aquatic activities ($M = 3.89$), cooperative activities ($M = 3.78$), fitness activities ($M = 3.76$), and outdoor activities ($M = 3.73$). However, most of the students who did not participate in physical activity after school preferred team sports ($M = 3.99$), aquatic activities ($M = 3.75$), outdoor activities ($M = 3.64$), cooperative activities ($M = 3.60$), and fitness activities ($M = 3.45$). (See Table 10 for entire list). Furthermore, most of the students with disabilities who participated in PA after school preferred team sport ($M = 4.61$), cooperative activities ($M = 4.39$), aquatic activities ($M = 4.07$), outdoor activities ($M = 3.86$), and dual sports and fitness activities ($M = 3.69$), while most of the students with disabilities who did not participate in PA after school preferred cooperative activities ($M = 4.06$), team sports ($M = 4.01$), outdoor activities ($M = 3.97$), aquatic activities ($M = 3.85$), and fitness activities ($M = 3.60$). In addition, the majority of students without disabilities who participated in PA after school preferred team sports ($M = 4.35$), fitness activities ($M = 3.80$), aquatic activities ($M = 3.79$), outdoor activities ($M = 3.66$), and cooperative activities ($M =$

3.44), whereas the majority of students without disabilities who did not participate in PA after school preferred team sports ($M = 3.97$), aquatic activities ($M = 3.60$), competitive activities ($M = 3.18$), outdoor activities ($M = 3.09$), and self-defense sports ($M = 3.06$). (See Table 11 for entire list).

Independent t-tests were conducted for nine sports and activities to compare those students who participated in PA after school with those students who did not. The results found that students who participated in PA after school preferred team sports ($p < .0001$) and fitness activities ($p = .03$) more than students who did not participate in PA after school.

Sports and Activities Preferences by School Levels

In the ranking of sports and activities according to school levels preferences, the majority of elementary school students preferred team sports ($M = 4.44$), aquatic activities ($M = 4.43$), cooperative activities ($M = 4.19$), outdoor activities ($M = 3.86$), and fitness activities ($M = 3.73$). However, the majority of middle school students preferred team sports ($M = 4.17$), aquatic activities ($M = 3.79$), outdoor activities ($M = 3.62$), cooperative activities ($M = 3.36$), and fitness activities ($M = 3.33$), whereas the majority of high school students preferred team sports ($M = 4.00$), fitness activities ($M = 3.67$), outdoor activities ($M = 3.60$), cooperative activities ($M = 3.57$), and aquatic activities ($M = 3.40$). (See Table 10 for the entire list).

In addition, elementary school students with disabilities preferred cooperative activities ($M = 4.51$), aquatic activities ($M = 4.49$), team sports ($M = 4.43$), outdoor activities ($M = 3.96$), and fitness activities ($M = 3.55$). However, most of elementary school students without disabilities preferred team sports ($M = 4.45$), aquatic activities ($M = 4.39$), cooperative activities ($M = 3.95$), fitness activities ($M = 3.86$), and outdoor activities ($M = 3.79$). Moreover, the majority of middle school students with disabilities preferred team sports ($M = 4.24$), aquatic

activities ($M = 4.05$), cooperative activities ($M = 3.92$), outdoor activities ($M = 3.83$), and dual sports ($M = 3.68$), while the majority of middle school students without disabilities preferred team sports ($M = 4.12$), aquatic activities ($M = 3.55$), fitness activities ($M = 3.45$), outdoor activities ($M = 3.43$), and self-defense sports ($M = 3.07$). (See Table 12 for the entire list). Also, the majority of high school students with disabilities preferred cooperative activities ($M = 4.13$), team sports ($M = 4.03$), outdoor activities ($M = 4.00$), fitness activities ($M = 3.91$), and dual sports ($M = 3.61$), while the majority of high school students without disabilities preferred team sports ($M = 3.95$), competitive activities ($M = 3.45$), fitness activities ($M = 3.30$), outdoor activities ($M = 2.97$), and self-defense ($M = 2.88$). (See Table 12 for the entire list).

One way ANOVA tests were conducted to evaluate the differences among elementary, middle, and high school students on their sports and activities preferences. The results indicated that the ANOVA was significant only for three sports and activities that were team sports, cooperative activities, and aquatic activities, $F(2,397) = 4.79, p = .009, \text{partial } \eta^2 = .024$; $F(2,397) = 12.65, p < .001, \text{partial } \eta^2 = .060$; $F(2,397) = 18.20, p < .001, \text{partial } \eta^2 = .084$, respectively. Follow-up tests were conducted to evaluate pairwise differences among the means for team sports, cooperative activities, and aquatic activities. The results indicated that elementary school student preferred team sports ($M = 4.44, SD = 0.90$) more than high school students ($M = 4.00, SD = 1.33$). Also, elementary school students preferred cooperative activities ($M = 4.19, SD = 1.03$) more than middle school students ($M = 3.36, SD = 1.39$) and high school students ($M = 3.57, SD = 1.40$). Likewise, elementary school students preferred aquatic activities ($M = 4.43, SD = 1.05$) more than middle school students ($M = 3.79, SD = 1.42$) and high school students ($M = 3.40, SD = 1.55$).

Table 10

Comparisons of Sports and Activities Preferences by Groups of Students, Student Participation in PA After School, and School Levels

Activities	Groups		Participation		School Levels		
	SWODs	SWDs	Yes	No	ES	MS	HS
Team sports	4.17	4.18	4.44	3.99	4.44	4.17	4.00
Individual sports	2.95	3.40	3.23	3.15	3.35	3.07	3.15
Dual sports	2.81	3.54	3.22	3.16	3.27	3.10	3.19
Fitness activities	3.53	3.62	3.76	3.45	3.73	3.33	3.67
Self-defense sports	3.17	2.95	3.16	2.99	3.41	3.01	2.86
Competitive activities	3.27	3.26	3.39	3.18	3.45	3.13	3.25
Cooperative activities	3.17	4.16	3.78	3.60	4.19	3.36	3.57
Outdoor activities	3.40	3.94	3.73	3.64	3.86	3.62	3.60
Aquatic Activities	3.70	3.91	3.89	3.75	4.43	3.79	3.40

Table 11

Comparisons of Sports and Activities Preference by Groups of Students Who Participate or not in PA After School

Activities	Types of Students * Participation in PA			
	SWODs*YES	SWODs*NO	SWDs*YES	SWDs*NO
Team sports	4.35	3.97	4.61	4.01
Individual sports	3.10	2.76	3.46	3.38
Dual sports	2.95	2.64	3.69	3.48
Fitness activities	3.80	3.21	3.69	3.60
Self-defense sports	3.26	3.06	2.97	2.95
Competitive activities	3.35	3.18	3.47	3.18
Cooperative activities	3.44	2.85	4.39	4.06
Outdoor activities	3.66	3.09	3.86	3.97
Aquatic Activities	3.79	3.60	4.07	3.85

Table 12

Comparisons of Sports and Activities Preferences by Elementary, Middle, and High School Students with and without Disabilities

Activities	Types of Students * School Levels					
	SWODs			SWDs		
	ES	MS	HS	ES	MS	HS
Team sports	4.45	4.12	3.95	4.43	4.24	4.03
Individual sports	3.33	2.67	2.86	3.38	3.53	3.34
Dual sports	3.30	2.60	2.55	3.23	3.68	3.61
Fitness activities	3.86	3.45	3.30	3.55	3.20	3.91
Self-defense sports	3.56	3.07	2.88	3.19	2.93	2.85
Competitive activities	3.45	2.93	3.45	3.45	3.36	3.12
Cooperative activities	3.95	2.88	2.70	4.51	3.92	4.13
Outdoor activities	3.80	3.43	2.97	3.96	3.83	4.00
Aquatic Activities	4.39	3.55	3.17	4.49	4.05	3.56

Chapter 5

Discussion, Implications, and Conclusion

This study focused on attitudes of students toward physical education, including enjoyment and usefulness of PE class, the PE curriculums, and their PE teachers based on several independent variables including groups of students (students with and without disabilities), school levels (elementary school “5th to 6th grades”, middle school “7th to 9th grades”, and high school “10th to 12th grades”), and amount of student participation in PA after school. This study also focused on which sports and activities students with and without disabilities preferred during physical education classes. The investigation was conducted in the Eastern Province, Saudi Arabia, and involved students without disabilities and students with disabilities, including students with visual impairment, students with hearing impairment, and students with intellectual disabilities. The method used in this study was quantitative research including three sections: personal information, students’ sports and activities preferences, and students’ attitudes toward PE. In this chapter, the researcher focuses on a discussion of findings, implications for practice, future research, and conclusions.

Discussion of Findings

In general, the findings of this study indicated that the overall means scores of attitudes of all participants toward physical education class was 3.48, indicating that the participants had moderately positive attitudes toward PE. The current finding agrees with several previous studies that revealed that students had moderately positive attitudes toward PE (Zeng et al., 2011; Subramaniam & Silverman, 2007; Hu et al., 2014).

The first finding of this study found that students with intellectual disabilities, students with hearing impairment, and students without disabilities had more positive attitudes toward PE than students with visual impairment. Lieberman, Houston-Wilson, & Kozub (2002) found that students with visual impairment had a lack of motivation and few opportunities to participate in physical activity. Also, they indicated that time, teacher preparation, equipment, and physical education curriculum were barriers to including students with visual impairment into physical education class. Furthermore, students with intellectual disabilities had lower favorable attitudes toward PE than students without disabilities and students with hearing impairment. Researchers found that students without disabilities effectively participated in physical activity more than students with intellectual disabilities (Frey, Stanish, & Temple, 2008; Pan, Liu, Chung, & Hsu, 2015). This may be attributed to the cognitive difficulties students with intellectual disabilities have developing strategies to overcome the challenges they encounter in PE.

Additionally, comparing elementary, middle, and high school students' attitudes toward PE, there were significant differences among the three school levels. Whenever students moved to upper school levels, their positive attitudes toward physical education declined. To illustrate, the study found that elementary school students had more positive attitudes toward PE than middle and high school students and middle school students had more positive attitudes toward PE than high school students. The finding suggests that when students move to upper school levels, their motivation of PE class decreases. The present finding was consistent with a previous study regarding grade levels (Subramaniam & Silverman, 2007; Prochaska et al., 2003; Hu et al., 2014).

The finding of the second research question indicated that students without disabilities had more positive attitudes toward perceived usefulness of PE than students with disabilities.

Lieberman et al. (2002) found that students with visual impairment had little knowledge about physical activities and sports compared with students without disabilities. Likewise, three content areas may have a negative effect on students with disabilities to be active in PE class: motor skills, cognitive understanding, and social behavior (Kochersperger, 2005). Contrary to our findings, Collins (2012) found that there was no significant difference between students with and without disabilities in usefulness of PE.

Furthermore, elementary school students had more positive attitudes toward perceived usefulness of PE than middle and high school students and middle school students had more positive attitudes toward perceived usefulness of PE than did high school students. This may be because of the short time period for PE class in middle and high school that may lead PE teachers not to provide enough knowledge and new skills. This finding is similar to several previous studies regarding grade levels (Bryan & Solmon, 2012; Fletcher & Silverman, 2017), indicating that sixth grade students had higher positive attitudes toward perceived usefulness of PE than did seventh and eighth grade students.

In addition, the interaction among three school levels and two groups of students on their attitude toward enjoyment of PE displayed a significant difference. The findings indicate that students without disabilities in three school levels differed in enjoyment of physical education. Elementary school students without disability had more positive attitudes toward enjoyment of PE than middle and high school students. Middle school students without disabilities had more positive attitudes toward enjoyment of PE than high school students. The current study agrees with several previous studies that indicated that whenever students got older, their enjoyment of PE decreased (Prochaska et al., 2003; Subramaniam & Silverman, 2007).

Only elementary school students with disabilities had more positive attitudes toward enjoyment of PE than students with disabilities in high schools. Elementary school students with disabilities may have a different perception of enjoyment in PE because the activities they participate in are new. When students participate in new physical activities, their level of enjoyment increases (Subramaniam & Silverman, 2007). It is interesting to note that only high school students without disabilities had lower favorable scores in enjoyment of PE than high school students with disabilities. It seems that high school students without disabilities may lack motivation and interest in PE partly because activities and sports are always the same. Perhaps, a lack of equipment and locker rooms may reduce enjoyment in PE for students without disabilities.

The findings of the third research question indicated that attitudes of students without disabilities were more positive attitudes toward the PE curriculum than students with disabilities. This finding may be true because there is no specific content area and standard PE for students with disabilities, and PE teachers are not members of IEP teams that would design appropriate PE curriculum and lesson plans for students with disabilities. Also, elementary school students had higher favorable attitudes toward the PE curriculum than middle and high school students, and middle school students had more positive attitudes toward the PE curriculum than high school students. Most Saudi students, whenever grade levels increase, seem to have less enthusiasm and desire to participate in PE. This may be attributed to the majority of PE teachers who focus on only one or two traditional sports in PE, so as a result, many students may be not challenged and feel bored. Couturier et al. (2005) found that most middle and high school students did not like PE because the curriculum was repeated every year. Also, students lacked

motivation in improving their skill in PE when they performed the same activities and sports over and over again (Carlson, 1995).

Furthermore, the result of this study found that elementary school students without disabilities had more positive attitudes toward PE teachers than middle and high school students without disabilities. Likewise, middle school students without disabilities had more positive attitudes toward PE teachers than high school students. This may be because of elementary school students, more than middle and high school students, enjoy and have fun in PE because PE teachers know how to plan enjoyable activities for students at this grade level. Silverman and Subramaniam (1999) indicated that PE teachers had a pivotal role in creating enjoyment for students in PE. In contrast to this study, Al-Liheibi (2008) indicated that middle and high school students had no difference in attitude toward PE teachers. Also, Hicks (2004) found that there were no differences among sixth, seventh and eighth grade students in their attitudes toward PE teachers.

Furthermore, there were no differences between attitudes of middle school students with disabilities toward PE teachers and elementary and high school students with disabilities. However, elementary school students with disabilities had more positive attitudes toward PE teachers than high school students with disabilities. This may be attributed to PE teachers not receiving adequate training and experiences as undergrad students. Unfortunately, Saudi PE teachers only take one class that focuses on students with disabilities, so they may not be prepared to teach students with disabilities. Lirgg et al. (2017) found that undergraduate classes and field experiences relative to preparing Saudi PE teachers to teach students with disabilities was lacking in depth and scope of experiences. During undergraduate work, out of a rating scale of 1 to 9 with one being not prepared at all and nine being very well prepared, Saudi PE teachers

rated 2.59, 2.41, and 2.56 for visual impairment, hearing impairment, and intellectual disabilities, respectively. In field experience, Saudi PE teachers rated 2.32, 2.38, and 2.30 for visual impairment, hearing impairment, and intellectual disabilities, respectively.

Moreover, the finding indicated that elementary school students without disabilities had more positive attitudes toward PE teachers than elementary school students with disabilities, and middle school students without disabilities had more positive attitudes toward PE teachers than middle school students with disabilities. Block and Obrusnikova (2007) and Lirgg et al. (2017) found that PE teachers lack knowledge about how to work with students with disabilities, so they need more training in order to work effectively with students with disabilities. It appears that Saudi PE teachers are not prepared to teach students with disabilities and do not have enough content knowledge about them, and may even have negative attitudes toward students with disabilities. Lirgg et al. (2017) indicated that the greatest barriers faced by Saudi PE teachers to effectively teach students with disabilities were lack of equipment, lack of administrator support, lack of knowledge, and lack of support from aids. Likewise, Al-Ahmadi (2009) found that Saudi general education needed to include more training focused on teaching students with disabilities. Interestingly, high school students with disabilities had more positive attitudes toward PE teachers than high school students without disabilities. The result suggests that Saudi PE teachers are not providing the necessary skills, knowledge, and variety of sports and activities for high school students, and as a result, the students without disabilities may be more likely to feel bored than are students with disabilities.

The fourth research question indicated that there was not an interaction between two groups of students and students who participated or not in physical activity after school on their attitudes toward enjoyment and usefulness of PE. An interesting finding was that the attitudes of

students with and without disabilities did not differ when it came to enjoyment of PE. This study was consistent with another study (Collins, 2012). It seems that both groups felt the same when it came to degree of enjoyment when they participated in PE. According to the Children's Attraction to Physical Activity (CAPA) survey that studied eight students with visual impairment, the participants enjoyed sports and games and they liked to participate in track, goalball, and wrestling, and one of them said "I love physical activity 100%. I just think it is a good way to release stress" (Ward, Farnsworth, Babkes-Stellino, & Perrett, 2011, p. 495).

In addition, students who participated in physical activities after school had more positive attitudes toward perceived usefulness than students who did not participate in physical activity after school. This may be because students who participate in physical activity after school are exposed to a greater amount of physical activity, causing them to develop more skills and a more positive attitude toward PE.

The result of the fifth research question indicated that the interaction between school levels and attitudes of students with and without disability toward PE was significant. Attitudes of middle school students with and without disabilities and high school students with and without disabilities toward PE were not different. On the other hand, elementary school students without disabilities had more positive attitudes toward PE than elementary school students with disabilities. This may be attributed to the fact that high school and middle school students with and without disabilities may not be receiving the full benefit of PE class because their class may not contain an adequate exposure to a variety of sports or activities and equipment may be lacking. Also, adapted physical education teachers may not use modified equipment, not be part of the IEP team, and may not be prepared very well to teach students with disabilities.

In addition, attitudes of students without disabilities toward PE were different when they changed school level. Their attitudes showed less toward PE when they moved to upper school levels. This finding suggests that elementary school students without disabilities found PE class more enjoyable and useful than middle and high school students, possibly because the PE curriculum and teacher preparation may negatively impact students' experiences, motivations, and feeling toward PE as they get older. The current study was consistent with previous studies (Bryan & Solmon, 2012; Scrabis-Fletcher & Silverman, 2017; Subramaniam & Silverman, 2007). The study also found that there were significant differences in attitudes toward PE between students with disabilities in high school and elementary school and between high school and middle school, but no significant difference in attitude between students with disabilities between elementary and middle school. This change in attitudes once students entered high school could be because the GPA is very important in high school for students who want to qualify to join one of the Saudi universities, so students put less importance on PE, and so are not willing to spend time in PE.

The sixth research question investigated if there is a difference between students with and without disabilities when they participate or not in physical activity after school. The result indicated that there was no significant interaction between the groups of students and level of participation in physical activity outside school. The finding regarding groups of students was significant. This result was consistent with the previous study (Kochersperger, 2005) that indicated students without disabilities were more active in PE than students with disabilities. This difference in attitudes between the two groups may be attributed to students with disabilities having limited experience and knowledge of PE when compared with students without disability

because PE teachers lacked training in teaching students with disabilities, and as a result the PE curriculum did not meet the need of students with disabilities (Haegele & Sutherland, 2015).

The finding of the sixth research question also indicated that students who participated in physical activity after school showed more positive attitudes toward PE than students who did not participate in physical activity after school. The present study was consistent with other studies (Al-Liheibi, 2008; Hünük, & Demirhan, 2010; Liu et al., 2008). This finding suggests that students who participate in physical activity after school recognize the benefits of PE, so they have more positive attitudes toward PE.

Using the regression model that predicts enjoyment and usefulness of PE that related with students' sports and activities preferences, the findings indicated that only individual sports, competitive activities, cooperative activities, and aquatic activities were accurate predictors and can impact attitudes of students with disabilities toward enjoyment of PE. In addition, dual sports, outdoor activities, and aquatic activities were meaningful predictors and can have an effect on attitudes of students with disabilities toward perceived usefulness of PE.

Likewise, cooperative activities, team sports, and fitness activities were accurate predictors and can have an effect on attitudes of students without disabilities toward enjoyment of PE. Also, team sports, cooperative activities, and outdoor activities were accurate predictors and can have an impact on attitudes of students without disabilities toward the perceived usefulness of PE.

The final research question examined which sports and activities in the physical education class were preferred by students with and without disabilities. The findings indicated that students with and without disabilities had similar sports and activities preferences. Team sports were preferred by most participants with and without disabilities. The majority of students

without disabilities and those with hearing impairment, and student with intellectual disabilities seemed to prefer soccer, and those students with visual impairment prefer goalball. This finding was consistent with previous research (Zeng et al., 2011; Smith & St Pierre, 2009; Al-Liheibi, 2008; Hill & Hannon, 2008; Ludans et al., 2011). The majority of students selected team sports because soccer is familiar to them and soccer is considered the most popular game in SA, plus the facilities and equipment are available for soccer. Also, the majority of participants at all school levels and students who participated or not in physical activity outside school preferred aquatic and outdoor activities because they thought they were more enjoyable. This was consistent with previous studies (Greenwood et al., 2001) indicating middle school students prefer swimming, bicycling, roller skating and bowling, and also was in agreement with previous studies (Subramaniam & Silverman, 2007; Zing et al., 2011) that indicated students preferred activities that included risk and challenge.

In addition, comparing students with and without disabilities' sports and activities preferences, students with disabilities were more likely to prefer individual sports ($M = 3.40$), dual sports ($M = 3.54$), cooperative sports ($M = 4.16$), and outdoor activities ($M = 3.94$) than students without disabilities ($M = 2.95$), ($M = 2.81$), ($M = 3.17$), and ($M = 3.40$), respectively. Also, comparing student participation or not in physical activity after school, students who participated in physical activity after school preferred team sports ($M = 4.44$) and fitness activities ($M = 3.76$) more than students who did not participate in physical activity after school ($M = 3.99$) and ($M = 3.45$), respectively. Moreover, comparing elementary, middle, and high school students' sports and activities preferences, elementary school students preferred aquatic activity ($M = 4.43$), and cooperative activities ($M = 4.19$) more than middle school students ($M = 3.79$) and ($M = 3.36$), and high school students ($M = 3.40$) and ($M = 3.57$), respectively. Also,

elementary school students preferred team sports ($M = 4.44$) more than high school students ($M = 4.00$).

Implications for Practice

In this section, the researcher provides recommendations for improvement of attitudes of students with disabilities, including PE teachers, PE curriculum, policy maker, and the Ministry of Education in SA.

PE teachers. PE teachers are a crucial factor when it comes to influencing attitudes of students toward PE. It is essential for the PE teacher to be well prepared to meet their students' needs in PE class so that students will connect physical activity with a positive experience and as a result become active adults later in life. Thus, PE teachers should use a variety of strategies in instruction, and they should make modifications in activities when necessary. Also, PE teachers should provide a positive learning environment that focuses on social values, knowledge, skills, and individual growth for each student. Moreover, every adapted physical education teacher should be a member of an IEP team so that they can design an appropriate curriculum for each student. Finally, PE teachers should have more courses in undergraduate school on how to teach students with a disability, and once they become teachers, they should seek out training opportunities that focus on how to most effectively conduct PE classes for students with a disability. Additionally, the Ministry of Education in SA should require certification for all adapted physical education teachers or require at least 9 hours of training that has a focus on the best methods for teaching adapted physical education.

PE curriculum. PE curriculums should meet the needs of students with disabilities just as well as they meet the needs of their peers without disabilities. In order to develop a strong

curriculum for everyone, PE teachers should involve students with disabilities in the process of selecting sports and activities that may lead them to successfully participate and enjoy those activities. Also, the curriculum should include a variety of sports and activities that are appropriate for students with and without disabilities. The curriculum should also provide a chance for enjoyment and the acquisition of knowledge. As a result, students will be more motivated to participate in PE. In addition, PE teachers should involve parents of students in the development of the PE curriculum. Involved parents will be more likely to be supportive of their children's participation in physical activity.

Promoting positive attitudes. Saudi policy makers should develop national physical education standards that promote both the health of students and create the conditions where students are more likely to enjoy their PE classes. In this way, students will be motivated to adopt an active lifestyle throughout their lives.

Regulations of Special Education Programs and Institutes 2001 (RSEPI). This law ensures that students with disabilities have the right to have free education in SA. The law should be revised in order to promote social, cognitive, physical, and psychological development for students with disabilities. For example, the RSEPI should mention that physical education is necessary for students with disabilities. Students with a disability should have the opportunity to participate in aquatic activities, physical fitness, and individual and team sports with their peers without disabilities as much as possible. Also, this law should focus on full inclusion for students with disabilities so that they can study in the same classes as their counterparts, as much as possible. Thus, lawmakers should use the least restrictive environment possible to place students with disabilities in appropriate classes so that they can be educated with their peers instead of segregating them into groups based on their disabilities.

PE class. Required PE classes for middle and high school students in SA are only 45 minutes per week, which is not enough time for students to acquire enough knowledge about a sport or activity, and certainly not enough time for them to develop good skills in any activity. Therefore, the Ministry of Education should require at least 150 minutes each week of instructional PE for elementary school students, and require 200 minutes each week for middle and high school students as a way to combat obesity and help students stay active and healthy. Also, the Ministry of Education should require assessments and the issuance of grades in physical education, including gauging students' physical fitness, knowledge of PE, and skill level attainment in a variety of sports and activities. This requirement should be applied to all students, with and without disabilities.

Domain of learning. Physical education teachers should use three domains of learning when designing a curriculum, cognitive, psychomotor, and effective as the bases for developing a successful physical education curriculum. If these three domains are used to design the curriculum, students will acquire physical skills, will enjoy physical activity, and will develop knowledge about physical activity. In order to ensure that curricula are designed that include these three domains, the Ministry of Education should provide more training in Bloom's Taxonomy of learning domains.

The Ministry of Education responsibility. Saudi Arabia must enact laws that require girls to participate in PE even if, to satisfy cultural norms, they participate separately from boys. Also, the Ministry of Education should offer appropriate facilities in order to protect students from the sun and inclement weather, and provide the equipment that is appropriate for students with and without disabilities. Moreover, the Ministry of Education should make certain that PE teachers are qualified and given the opportunity to develop health promotion programs at all

school levels. Finally, it should employ paraprofessional teachers to help PE teachers adapt their programs so that full inclusion will be successful.

Students' sports and activities. Students who are in 5th grade to 12th grade should participate in more group activities than in individual or dual activities. Games should include challenging and competitive activities. Activities of students with disabilities should include more cooperative, outdoor and aquatic activities as much as possible so that students with disabilities may feel more enjoyment.

Implications for Future Studies

A review of literature and the results of this study indicate that several research topics would be helpful in any attempt to improve PE in SA. First, because the study only includes the Eastern Province in SA, it is recommended that future studies include several main provinces such as Riyadh and Makkah. Second, the study's design used only quantitative research. Future research should be qualitative research or a mix of quantitative and qualitative research. Third, future research should measure attitudes of PE teachers, parents, and friends toward PE because their attitudes may have an effect on the attitudes of students. Also, if the Ministry of Education in SA allows female students to participate in PE, future research should compare male and female students' attitudes toward PE classes, as well as their attitudes toward sports and activities outside of school. Finally, future research is needed to fully understand why students' attitudes toward PE decrease as they enter high school.

Conclusions

The present SATPES of all participants seems to indicate moderately positive attitudes toward PE. The study shows that students with visual impairment and intellectual disabilities had

less positive attitudes toward PE than students without disabilities and students with hearing impairment. In general, the findings indicated that students with disabilities showed less positive attitudes toward the usefulness of PE than did students without disabilities, but there was no difference between students with and without disability in enjoyment of PE. Moreover, student attitudes toward PE class became less positive as they moved to upper school levels. Thus, in order to enhance students' learning, we should create positive learning environments that focus on more cognitive activities and on enjoyment. Students need more knowledge about their health and their bodies, and they need to know how to develop strategies that will help them do well in sports and other activities, and they need to enjoy their PE classes so that they will develop favorable attitudes toward physical activity even outside of school.

Finally, the researcher concludes that students with disabilities are willing to participate in PE, but they need more knowledge about the variety of sports and activities that are available to them, and they need to be able to participate in activities that are enjoyable to them, so they will be more likely to have an active lifestyle throughout their lives.

References

- Aghenta, E. B. (2014). *Using the theory of planned behavior to explain physical activity among college students* (Unpublished master's theses). Western Kentucky University. Retrieved from <http://digitalcommons.wku.edu/cgi/viewcontent.cgi?article=2367&context=theses>
- Ajzen, I. (2012). The theory of planned behavior. In Van Lange, P.A.M., Kruglanski, A.W., & Higgins, E.T. (Ed.), *Handbook of Theories of Social Psychology, 1*, 438- 459. London. SAGE Publications Ltd.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211.
- Ajzen, I. (2006). *Constructing a theory of planned behavior questionnaire*. Retrieved from <http://people.umass.edu/~ajzen/pdf/tpb.measurement.pdf>.
- Al Ahmadi, N. (2009). *Teachers' perspectives and attitudes towards integrating students with learning disabilities in regular Saudi public schools* (Doctoral Dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3371476)
- Aldabas, R. A. (2015). Special education in Saudi Arabia: History and areas for reform. *Creative Education, 6*(11), 1158-1167.
- Al Dhaifallah, A., Mwanri, L., & Aljouidi, A. (2015). Childhood obesity in Saudi Arabia: Opportunities and challenges. *Saudi Journal of Obesity, 3*(1), 2-7.
- Al-Faiz, H. S. (2006). *Attitudes of elementary school teachers in Riyadh, Saudi Arabia toward inclusion of children with autism in public education* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3262967)
- Al-Hazzaa, H. M. (2004). The public health burden of physical inactivity in Saudi Arabia. *Journal of Family and Community Medicine, 11*(2), 45-51.
- Alquraini, T. (2010). Special education in Saudi Arabia: Challenges, perspectives, future possibilities. *International Journal of Special Education, 25*, 139-147.
- Alquraini, T. A. (2011). *Teachers' perspectives of inclusion of the students with severe disabilities in elementary schools in Saudi Arabia* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3466148)
- Al-Liheibi, A. (2008). *Middle and high school students' attitudes toward physical education in Saudi Arabia* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3317791)

- Allport, G.W. (1935). Attitudes. In C. Murchison (Ed.), *Handbook of social psychology*. Worcester, Mass: Clark University Press.
- Al-Mousa, N. (2010). *The experience of the Kingdom of Saudi Arabia in mainstreaming students with special educational needs in public schools*. Riyadh: The Arab Bureau of Education for the Gulf States. Retrieved from <http://unesdoc.unesco.org/images/0019/001916/191663e.pdf>
- Al-Othman, I. (2002). *Status of special education services for students with autism in Saudi Arabia* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3055380)
- Alsulhe, T. (2011). *Comparison of the attitudes between undergraduate physical education students in Saudi Arabia and the United States toward teaching students with disabilities* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3464575)
- Bagozzi, R.P., & Bumkrant, R. E. (1979). Attitude organization and attitude-behavior relationship. *Journal of Personality and Social Psychology*, 37, 913-929.
- Barbotte, E., Guillemin, F., & Chau, N. (2001). Prevalence of impairments, disabilities, handicaps, and quality of life in the general population: A review of recent literature. *Bulletin of the World Health Organization*, 79(11), 1047-1055.
- Baker, E.T., Wang, M. C., & Walberg, H. J. (1994). The effects of inclusion on learning. *Educational Leadership*, 52(4), 33-35.
- Bebetsos, E., Derri, V., Filippou, F., Zetou, E., & Vernadakis, N. (2014). Elementary school children's behavior towards the inclusion of peers with disabilities, in mainstream physical education classes. *Procedia-Social and Behavioral Sciences*, 152, 819-823.
- Belcher, B. R., Berrigan, D., Dodd, K. W., Emken, B. A., Chou, C. P., & Spuijt-Metz, D. (2010). Physical activity in US youth: Impact of race/ethnicity, age, gender, & weight status. *Medicine and Science in Sports and Exercise*, 42(12), 2211-2221.
- Bibik, J. M., Goodwin, S. C., & Orsega-Smith, E. M. (2007). High school students' attitudes toward physical education in Delaware. *Physical Educator*, 64(4), 192-204.
- Bem, D. J. (1970). *Beliefs, attitudes, and human affairs*. Belmont, CA: Brooks/Cole.
- Blinde, E. M., & McCallister, S. G. (1998). Listening to the voices of students with physical disabilities: Experiences in the physical education classroom. *Journal of Physical Education, Recreation & Dance*, 69(6), 64-68.

- Block, M. E. (1995). Development and validation of the Children's Attitudes Toward Integrated Physical Education–Revised (CAIPE–R) Inventory. *Adapted Physical Activity Quarterly*, 12(1), 60-77.
- Block, M. E., Elliot, S., & Stanec, S. (2007). What is physical education? In M. E. Block (Ed.), *A teacher's guide to including children with disabilities in general physical education* (3rd ed., pp.1-13). Baltimore: P. H. Brookes
- Block, M.E., & Obrusnikova, I. (2007). Facilitating social inclusion. In M. E. Block (Ed.), *A teacher's guide to including children with disabilities in general physical education* (3rd ed., pp. 15-29). Baltimore: P. H. Brookes.
- Brickell, T. A., Chatzisarantis, N. L., & Pretty, G. M. (2006). Using past behaviour and spontaneous implementation intentions to enhance the utility of the theory of planned behaviour in predicting exercise. *British Journal of Health Psychology*, 11(2), 249-262.
- Bryan, C. L., & Solmon, M. A. (2012). Student motivation in physical education and engagement in physical activity. *Journal of Sport Behavior*, 35(3), 267-285.
- Carlson, T. B. (1995). We hate gym: Student alienation from physical education. *Journal of Teaching in Physical Education*, 14(4), 467-477.
- Carroll, M. (2013). Barriers to women's sports participation in Saudi Arabia (Doctoral dissertation). Retrieved from https://informaaustralia.files.wordpress.com/2014/09/mark-carroll-barriers-to-women_s-sports-participation-in-saudi-arabia.pdf
- Cairney, J., Kwan, M. Y., Velduizen, S., Hay, J., Bray, S. R., & Faight, B. E. (2012). Gender, perceived competence and the enjoyment of physical education in children: A longitudinal examination. *International Journal of Behavioral Nutrition and Physical Activity*, 9(26), 1-8.
- Centers for Disease Control and Prevention. (2010). *National health and nutrition examination survey*. 2003-2008. Retrieved from <http://www.cdc.gov/ncbddd/disabilityandhealth/documents/obesityfactsheet2010.pdf>
- Centers for Disease Control and Prevention. (2015). *Defining childhood obesity*. Retrieved from <https://www.cdc.gov/obesity/childhood/defining.html>
- Chatterjee, S. (2013). Attitudes toward physical education of school going adolescents in West Bengal. *International Journal of Innovative Research in Science, Engineering and Technology*, 2(11), 6068-6073.

- Chung, M. H., & Phillips, D. A. (2002). The relationship between attitude toward physical education and leisure-time exercise in high school students. *Physical Educator*, 59(3), 126-139.
- Coates, J., & Vickerman, P. (2008). Let the children have their say: Children with special educational needs and their experiences of physical education—a review. *Support for Learning*, 23(4), 168-175.
- Collins, R. (2012). *Attitudes of middle school students with disabilities toward physical education: A mixed methods examination* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3536032)
- Couturier, L. E., Chepko, S., & Coughlin, M. A. (2005). Student voices-what middle and high school students have to say about physical education. *Physical Educator*, 62(4), 170-177.
- Dessemontet, R. S., Bless, G., & Morin, D. (2012). Effects of inclusion on the academic achievement and adaptive behavior of children with intellectual disabilities. *Journal of Intellectual Disability Research*, 56(6), 579-587.
- Dyson, B., DiCesare, E., Coviello, N., & Dyson, L. (2009). Students' perspectives of urban middle school physical education programs. *Middle Grades Research Journal*, 4(4), 31-52.
- Dyson, B. P. (1995). Students' voices in two alternative elementary physical education programs. *Journal of Teaching in Physical Education*, 14(4), 394-407.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth, TX: Harcourt Brace Jovanovich.
- Ellis, D. N., Wright, M., & Cronis, T. G. (1996). A description of the instructional and social interactions of students with mental retardation in regular physical education setting. *Education and Training in Mental Retardation and Developmental Disabilities*, 31, 235-242.
- Fazio, R. H., & Zanna, M. P. (1981). Direct experience and attitude-behavior consistency. *Advances in Experimental Social Psychology*, 14, 161-202.
- Folsom-Meek, S. L. (1992). *A comparison of upper elementary school children's attitudes toward physical activity*. Retrieved from <http://files.eric.ed.gov/fulltext/ED350297.pdf>
- Fong, S. S., Ha, A. S., Chan, T. W., & Au, M. K. (2014). The Enjoyment of physical activity determines body mass index in young people with physical disabilities. *Open Journal of Preventive Medicine*, 4 (5), 241-249.

- Frey, G. C., Stanish, H. I., & Temple, V. A. (2008). Physical activity of youth with intellectual disability: Review and research agenda. *Adapted Physical Activity Quarterly*, 25(2), 95-117.
- Fuchs, D., & Fuchs, L. S. (1998). Competing visions for educating students with disabilities: Inclusion versus full inclusion. *Childhood Education*, 74(5), 309-316.
- Goodwin, D. L., & Watkinson, E. J. (2000). Inclusive physical education from the perspective of students with physical disabilities. *Adapted Physical Activity Quarterly*, 17(2), 144-160.
- Gonzalez, V. E. (1992). *On human attitudes: Root metaphors in theoretical conceptions*. Goteborg, Sweden: Vasastadens Bokbinderi AB.
- Graham, G. (2008). Children's and adults' perceptions of elementary school physical education. *The Elementary School Journal*, 108(3), 241-249.
- Greenwood, M., Stillwell, J., & Byars, A. (2001). Activity preferences of middle school physical education students. *Physical Educator*, 58(1), 26-29.
- Hagger, M., Cale, L., Almond, L., & Krüger, A. (1997). Children's physical activity levels and attitudes towards physical activity. *European Physical Education Review*, 3(2), 144-164.
- Haegele, J. A., & Sutherland, S. (2015). Perspectives of students with disabilities toward physical education: A qualitative inquiry review. *Quest*, 67(3), 255-273.
- Hick, M. K., Wiggins, M. S., Crist, R. W., & Moode, F. M. (2001). Sex differences in grade three students' attitudes toward physical activity. *Perceptual and Motor Skills*, 93, 97-102.
- Hicks, L. L. (2004). *Attitudes toward physical education and physical activity of students enrolled in the classes of teachers of the year* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3154647)
- Hill, G., & Hannon, J. C. (2008). An analysis of middle school students physical education physical activity preferences. *Physical Educator*, 65(4), 180-194.
- Hilgard, E. R. (1980). The trilogy of mind; cognition, affection, and conation. *Journal of the History of Behavioral Sciences*, 16, 107-117.
- Hogg, M., & Vaughan, G. (2005). *Social Psychology (4th edition)*. London: Prentice-Hall.

- Horne, R. (1991). The education of children and youth with special needs: What do the laws say? *NICHY News Digest*, 1(1), 1-16.
- Hünük, D., & Demirhan, G. (2010). Turkish adolescents' attitudes toward physical education. *Perceptual and Motor Skills*, 111(2), 324-332.
- Hu, H., Duan, J., Wang, G., & Arao, T. (2014). Reliability and validity of a Chinese version of the students' attitudes toward physical education scale and its related factors. *Advances in Physical Education*, 4(04), 181-189.
- Insko, C.A., & Schopler, T. (1972). *Experimental social psychology*. New York: Academic.
- Kasser, S. L., & Lytle, R. K. (2013). *Inclusive physical activity: Promoting health for a lifetime* (2nd Ed.). Champaign, IL: Human Kinetics.
- Kochersperger, K. A. (2005). *A comparative study of physical activity levels of students with disabilities to students without disabilities* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3185180)
- Lieberman, L. J., Houston-Wilson, C., & Kozub, F. M. (2002). Perceived barriers to including students with visual impairments in general physical education. *Adapted Physical Activity Quarterly*, 19 (3), 364-377.
- Lisboa, F. L. F. (1997). Interaction and social acceptance of children with autism in physical education. *Brazilian International Journal of Adapted Physical Education Research*, 4, 1-14.
- Lirgg, C., Gorman, D., Al-Salim, Z., & Hadadi, A. (2017). *Teaching Students with disabilities: A Saudi Arabian perspective*. Paper presented at the Society of Health and Physical Educator, Boston, MA.
- Liu, W., Wang, J., & Xu, F. (2008). Middle school children's attitudes toward physical activity. *The ICHPER-SD Journal of Research in Health, Physical Education, Recreation, Sport & Dance*, 3(2), 78-85.
- Loovis, E. M., & Loovis, C. L. (1997). A disability awareness unit in physical education and attitudes of elementary school students. *Perceptual and Motor Skills*, 84(3), 768-770.
- Lubans, D. R., Morgan, P. J., & McCormack, A. (2011). Adolescents and school sport: The relationship between beliefs, social support, and physical self-perception. *Physical Education & Sport Pedagogy*, 16(3), 237-250.

- Mohsin, S. M. (1990). *Attitude: Concept, formation, and change*. Darya Ganji, New Delhi: Wiley.
- Motalebi, S. A., Iranagh, J. A., Abdollahi, A., & Lim, W. K. (2014). Applying of theory of planned behavior to promote physical activity and exercise behavior among older adults. *Journal of Physical Education and Sport*, 14(4), 562-568.
- Mpofu, E. (2003). Enhancing social acceptance of early adolescents with physical disabilities: Effects of role salience, peer interaction, and academic support interventions. *International Journal of Disability, Development, and Education*, 50(4), 435-454.
- Murata, N. M., Hodge, S. R., & Little, J. R. (2000). From the field-students' attitudes, experiences, and perspectives on their peers with disabilities. *Clinical Kinesiology*, 54(3), 59-66.
- Murphy, N. A., & Carbone, P. S. (2008). Promoting the participation of children with disabilities in sports, recreation, and physical activities. *American Academy of Pediatrics*, 121(5), 1057-1061.
- National Association for Sport & Physical Education. (1995). *Moving into the future: National standards for physical education*. St. Louis, MO: Mosby.
- National Information Center for Children and Youth with Disabilities. (2012). *Categories of disability under IDEA*. Retrieved from http://www.parentcenterhub.org/wp-content/uploads/repo_items/gr3.pdf
- Ng, M., Fleming, T., Robinson, M., Thomson, B., Graetz, N., Margono, C., ... & Abraham, J. P. (2014). Global, regional, and national prevalence of overweight and obesity in children and adults during 1980–2013: A systematic analysis for the Global Burden of Disease Study 2013. *The Lancet*, 384(9945), 766-781.
- Nugent, P., & Faucette, N. (1995). Marginalized voices. *Journal of Teaching in Physical Education*, 14, 418-430.
- Obrusníková, I., Válková, H., & Block, M. E. (2003). Impact of inclusion in general physical education on students without disabilities. *Adapted Physical Activity Quarterly*, 20(3), 230-245.
- Ogden, C. L., Carroll, M. D., Fryar, C. D., & Flegal, K. M. (2015). Prevalence of obesity among adults and youth: United States, 2011–2014. *NCHS Data Brief*, 219, 1-8.
- Ohlenkamp, N. (2000). Benefits of sport judo for blind and visually impaired people. Retrieved from <http://judoinfo.com/blind.htm>.

- Oppenheim, A. N. (1992). *Questionnaire design, interviewing and attitude measurement*. New York: St. Martin's Press.
- Orunaboka, T. T. (2011). Attitude of Nigeria secondary school students towards physical education as a predictor of achievement in the subject. *Journal of Education and Practice, 2*(6), 71-77.
- Pan, C. Y., Liu, C. W., Chung, I. C., & Hsu, P. J. (2015). Physical activity levels of adolescents with and without intellectual disabilities during physical education and recess. *Research in Developmental Disabilities, 36*, 579-586.
- Pano, G., & Markola, L. (2012). 14-18 Years old children attitudes, perception, and motivation towards extra curricular physical activity and sport. *Journal of Human Sport and Exercise, 7*(1), 51-66.
- Place, K., & Hodge, S. R. (2001). Social inclusion of students with physical disabilities in general physical education: A behavioral analysis. *Adapted Physical Activity Quarterly, 18*(4), 389-404.
- Ponchillia, P. E., Strause, B., & Ponchillia, S. V. (2002). Athletes with visual impairments: Attributes and sports participation. *Journal of Visual Impairment & Blindness, 96*(4), 267-272.
- Portman, P. A. (1995). Who is having fun in physical education classes? Experiences of sixth-grade students in elementary and middle schools. *Journal of Teaching in Physical Education, 14*(4), 445-453.
- Prochaska, J. J., Sallis, J. F., Slymen, D. J., & McKenzie, T. L. (2003). A longitudinal study of children's enjoyment of physical education. *Pediatric Exercise Science, 15*(2), 170-178.
- Rafferty, Y., Piscitelli, V., & Boettcher, C. (2003). The impact of inclusion on language development and social competence among preschoolers with disabilities. *Exceptional Children, 69*(4), 467-479.
- Reddy, S., & LaBarbara, P. (1985). Hierarchical models of attitude. *Multivariate Behavioral Research, 20*, 450-471.
- Rikard, G. L., & Banville, D. (2006). High school student attitudes about physical education. *Sport, Education, and Society, 11*(4), 385-400.
- Ridarick, T., & Ringlaben, R. (2013). *Elementary special education teachers' attitudes regarding inclusion*. Retrieved from <http://www.lynchburg.edu/sites/default/files/GraduateStudies/Journal/teacher-attitudes.pdf>

- Scrabis-Fletcher, K., & Silverman, S. (2017). Student perception of competence and attitude in middle school physical education. *Physical Educator*, 74(1), 85-103.
- Sherrill, C., & Toulmin, M. (1977). *Children's attitude inventory towards physical education*. Unpublished manuscript, Texas Woman's University, Denton, TX.
- Silverman, S., & Subramaniam, P. R. (1999). Student attitude toward physical education and physical activity: A review of measurement issues and outcomes. *Journal of Teaching in Physical Education*, 19(1), 97-125.
- Simonson, M. R., & Maushak, N. (1996). Instructional technology and attitude change. Fischler College of Education: Faculty Books and Book Chapters. 12. *Handbook of Research on Educational Communications and Technology*, (pp. 984-1016). New York, NY. Macmillan Library Reference.
- Smith, M. A., & St Pierre, P., E. (2009). Secondary students' perceptions of enjoyment in physical education: An American and English perspective. *Physical Educator*, 66(4), 209-221.
- Society of Health and Physical Educators. (2016). *2016 SHAPE of the nation: Status of physical education in the USA*. Retrieved from http://www.shapeamerica.org/advocacy/son/2016/upload/Shape-of-the-Nation-2016_web.pdf
- Spencer-Cavaliere, N., & Watkinson, E. J. (2010). Inclusion understood from the perspectives of children with disability. *Adapted Physical Activity Quarterly*, 27(4), 275-293.
- Subramaniam, P. R., & Silverman, S. (2007). Middle school students' attitudes toward physical education. *Teaching and Teacher Education*, 23(5), 602-611.
- Subramaniam, P. R., & Silverman, S. (2000). Validation of scores from an instrument assessing student attitude toward physical education. *Measurement in Physical Education and Exercise Science*, 4(1), 29-43.
- Sushma, R. (2013). Pre-service teachers perception on inclusive education. *International Journal of Education and Psychological Research*, 2 (2), 73-75.
- The Kingdom of Saudi Arabia Ministry of Higher Education Saudi Arabian Cultural Mission, Washington, DC. (2006). *Education system in Saudi Arabia*. Retrieved from http://www.sacm.org/Publications/58285_Edu_complete.pdf
- Triandis, H. C. (1971). *Attitude and attitude change*. New York: John Wiley.

- Tripp, A., French, R., & Sherrill, C. (1995). Contact theory and attitudes of children in physical education programs toward peers with disabilities. *Adapted Physical Activity Quarterly*, 12(4), 323-332.
- Trudeau, F., & Shephard, R. J. (2005). Contribution of school programmes to physical activity levels and attitudes in children and adults. *Sports Medicine*, 35(2), 89-105.
- U.S. Department of Health and Human Services and U.S. Department of Agriculture. (2005). *Dietary guidelines for Americans*, 2005 (6th ed.). Washington, DC: U.S. Government Printing Office.
- Van Biesen, D., Busciglio, A., & Vanlandewijck, Y. (2006). Attitudes towards inclusion of children with disabilities: The effect of A Paralympic School Day on Flemish elementary children. Proceedings of: *The 8th European Conference of Adapted Physical Activity*, September 7-9, Olomouc, Czech Republic.
- Veal, M. L., & Compagnone, N. (1995). How sixth graders perceive effort and skill. *Journal of Teaching in Physical Education*, 14, 431-444.
- Ward, S., Farnsworth, C., Babkes-Stellino, M., & Perrett, J. (2011). Parental influence and attraction to physical activity for youths who are visually impaired at a residential-day school. *Journal of Visual Impairment & Blindness*, 105(8), 493-498.
- Wing Kwan, M. Y., Bray, S. R., & Martin Ginis, K. A. (2009). Predicting physical activity of first-year university students: An application of the theory of planned behavior. *Journal of American College Health*, 58(1), 45-55.
- World Health Organization. (2016). *Physical activity* (Fact sheet). Retrieved from <http://www.who.int/mediacentre/factsheets/fs385/en/>
- World Health Organization. (2015). *Adolescent health*. Retrieved from http://www.who.int/topics/adolescent_health/en/
- Woodson-Smith, A., Dorwart, C. E., & Linder, A. (2015). Attitudes toward physical education of female high school students. *Physical Educator*, 72(3), 460-479.
- Xafopoulos, G., Kudláček, M., & Evaggelinou, C. (2009). Effect of the intervention program “Paralympic School Day” on attitudes of children attending international school towards inclusion of students with disabilities. *Acta Universitatis Palackianae Olomucensis. Gymnica*, 39(4), 63-71.
- Yazdani, S., Yee, C. T., & Chung, P. J. (2013). Factors predicting physical activity among children with special needs. *Preventing Chronic Disease*, 10, 1-8.

- Younes-Alhourani, S. (2015). *Middle school students' perceptions of enjoyment in physical education and its relationship to participation in physical activity outside the school* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3689378)
- Zajonc, R. B., & Markus, H. (1982). Affective and cognitive factors in preferences. *Journal of Consumer Research*, 9, 123-131.
- Zamzami, M. S. (2005). *Attitudes of preservice physical education teachers toward teaching movement skills to students with disabilities in inclusive classrooms in Saudi Arabia* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3207137)
- Zeng, H. Z., Hipscher, M., & Leung, R. W. (2011). Attitudes of high school students toward physical education and their sport activity preferences. *Journal of Social Sciences*, 7(4), 529.

Appendixes

Appendix A

English Version of the Instrument

Attitudes of Students Toward Physical Education and Their Sports and Activities Preferences in Saudi Arabia

Dear students: Thank you for taking part in this survey. The purpose of this survey is to examine attitudes of children and adolescents with and without disabilities toward physical education in Saudi Arabia. Although this survey is completely voluntary, we would like to help us because understanding both positive and negative attitudes of students toward physical education may be important in determining if there is a need for revise curriculum offering and additional teaching in the area of disabilities. This survey will take no more than 15 or 20 minutes to complete.

I- Personal Information:

What is your school name?

What is your current grade level?

How old are you?

What is your disability?

- Visual Impairment Hearing Impairment
- Intellectual Disabilities Students without disabilities
- Another disability :.....

If you have a disability, what situation do you interact with students without disability in your physical education classes?

- All fully included
- All self-contained
- Some classes are self-contained and other are full included

Do you participate in physical activities or sports outside of school?

- Yes No

What is your average class size?

- Under 10 students 11 – 20 students
- 21 – 30 students 31 – 40 students

II- Activities and Sports Preferences:

Please choose the degree of importance of activities and sports by recycling one number for each statement. There is no right or wrong answer.

		How important do you feel each of these activities are?				
	Physical activities and sports/ games	Very Important 5	Important 4	Somewhat important 3	Not very Important 2	Not at all important 1
1	Team sports (e.g., soccer, basketball, goalball, volleyball)	5	4	3	2	1
2	Individual sports (e.g., track and field, archery, gymnastic, cycling, and bowling)	5	4	3	2	1
3	Dual sports (e.g., tennis, table tennis, badminton, and blind table tennis)	5	4	3	2	1
4	Fitness activities (e.g., aerobic activities, weight lifting, and flexibility)	5	4	3	2	1
5	Self-defense (e.g., wrestling, Judo, and taekwondo)	5	4	3	2	1
6	Competitive activities (person, people, or groups that are trying to win a contest or be more successful than others)	5	4	3	2	1
7	Cooperative activities (activities are designed to require students to work and cooperate with one another)	5	4	3	2	1
8	Outdoor recreation and adventures (e.g., climbing walls, hiking, fishing, and camping)	5	4	3	2	1
9	Aquatic activities (e.g., swimming, diving, and water polo)	5	4	3	2	1

III- Students Attitudes Toward Physical Education Survey:

DIRECTIONS:

1. Please read each statement carefully before answering.
2. This is not a test. There are no “right” or “wrong” answers to any of the statements. Just answer as honestly as you can.
3. Circle one number for each statement that best describes your feelings and beliefs toward physical education in your school. You should answer according to the numbers listed below.

5 = Strongly agree

4 = Agree

3 = Uncertain

2 = Disagree

1 = Strongly disagree

4. Please answer all statements.

N	Item	SD	A	U	DA	SD
		5	4	3	2	1
1	The games I learn in physical education make my physical education class interesting for me.	5	4	3	2	1
2	The games I learn in my physical education class make learning unpleasant for me.	5	4	3	2	1
3	The games I learn in my physical education class get me excited about physical education.	5	4	3		1
4	My physical education teacher makes my physical education class seem unimportant to me.	5	4	3	2	1
5	I feel the games I learn in physical education make my physical education class boring for me.	5	4	3	2	1
6	I feel the games I learn in my physical education class are useless to me.	5	4	3	2	1
7	The games I learn in my physical education class seem important to me.	5	4	3	2	1
8	My physical education teacher makes my physical education class seem important to me.	5	4	3	2	1
9	My physical education teacher makes my physical education class interesting for me.	5	4	3	2	1

N	Item	SD 5	A 4	U 3	DA 2	SD 1
10	The games I learn in my physical education class are useful to me.	5	4	3	2	1
11	I feel my physical education teacher makes learning in my physical education class fun for me.	5	4	3	2	1
12	I feel my physical education teacher makes my physical education class boring for me.	5	4	3	2	1
13	I feel the games I learn in my physical education class are valuable to me.	5	4	3	2	1
14	The games I learn in my physical education class seem unimportant to me.	5	4	3	2	1
15	My physical education teacher makes learning in my physical education class unpleasant for me.	5	4	3	2	1
16	My physical education teacher makes my physical education class useful for me.	5	4	3	2	1
17	I feel my physical education teacher makes learning in my physical education class valuable for me.	5	4	3	2	1
18	I feel my physical education teacher makes learning in my physical education class useless for me.	5	4	3	2	1
19	My physical education teacher gets me excited about physical education.	5	4	3	2	1
20	I feel the games I learn in my physical education class make learning fun for me.	5	4	3	2	1

Notes:.....

Appendix B

Arabic Version of the Instrument

اتجاهات الطلاب نحو التربية البدنية والأنشطة الرياضية والبدنية المفضلة لديهم بالمملكة العربية السعودية في المملكة العربية السعودية

أخي الطالب ... المحترم

أطرح بين يديك هذا الاستبيان الذي أرجو منك الإفادة والمساعدة بتعبنته مشكورا، حيث إن هذا الاستبيان يهدف للتحقق من اتجاهات الطلاب ذوي الاحتياجات الخاصة و زملائهم طلبة التعليم العام نحو درس التربية البدنية. علما بأن مشاركتك في هذا الاستبيان ستكون طوعية، فالهدف مساعدتنا لمعرفة اتجاهات الطلاب الإيجابية والسلبية تجاه التربية البدنية وذلك من أجل تطوير وتنقيح مناهج التربية البدنية وكذلك تقديم المزيد من الدورات لمعلمي التربية البدنية في مجال الإعاقة. أدعوك جميعا لتعبئة هذا الاستبيان الذي قد يستغرق من وقتكم حوالي 20 دقيقة كحد أقصى.

I- المعلومات و البيانات الشخصية:

ما اسم مدرستك ؟

في أي صف تدرس؟

كم عمرك؟

ماذا نوع إعاقتك؟

إعاقه بصرية إعاقه سمعية إعاقه فكرية

الطالب بدون إعاقه إعاقه أخرى:

إذا كنت من طلاب ذوي الاحتياجات الخاصة، في أي الفصول تدرس في حصة التربية البدنية ؟

اندماج كلي مع طلاب التعليم العام

مستقل عن طلاب التعليم العام

أحيانا أكون في فصول التعليم العام وأحيانا أكون فقط مع طلاب ذوي الاحتياجات الخاصة

هل تمارس أنشطة التربية البدنية خارج المدرسة؟

نعم لا

ما متوسط عدد الطلاب في الفصل الواحد؟

أقل من 10 طلاب 11-20 طالب

21-30 طالب 31-40 طالب

II- الأنشطة البدنية والألعاب الرياضية المفضلة :

أرجو اختيار درجة الأهمية التي تمثل وجهة نظرك على الأنشطة البدنية والألعاب الرياضية التالية باختيار رقم واحد لكل عبارة، علماً بأنه ليس هناك إجابة صحيحة وأخرى خاطئة.

أي الأنشطة والألعاب الرياضية تعتقد انها مهمة في دروس التربية البدنية؟					الأنشطة البدنية والألعاب الرياضية	
غير مهمة	مهمة قليلاً	مهمة إلى حد ما	مهمة جداً	مهمة للغاية		
1	2	3	4	5		
1	2	3	4	5	الألعاب الجماعية: (كرة القدم، كرة السلة، كرة الطائرة، كرة اليد، و كرة الهدف)	1
1	2	3	4	5	الألعاب الفردية: (الجباز، ألعاب القوى، و رياضة الدراجات الهوائية)	2
1	2	3	4	5	الألعاب الزوجية: (تنس طاولة، كرة المضرب "تنس"، كرة الريشة، و تنس الطاولة للمكفوفين)	3
1	2	3	4	5	اللياقة البدنية: (التمرينات الهوائية، تمرينات القوة، وتمرينات الأظالة)	4
1	2	3	4	5	ألعاب الدفاع عن النفس: (الكاراتية، الجودو، والتايكوندو)	5
1	2	3	4	5	الأنشطة التنافسية: (شخص أو فريق واحد فقط له الحق بالفوز)	6
1	2	3	4	5	الأنشطة التعاونية : (مجموعة من التلاميذ تتعاون لأداء نشاط معين)	7
1	2	3	4	5	الأنشطة الترويحية الخارجية: (المشي على الكورنيش ، والتسلق ، والبولينج)	8
1	2	3	4	5	الأنشطة المائية : (السباحة ، الغطس، و كرة الماء)	9

III- مقياس اتجاهات الطلاب نحو التربية البدنية:

التعليمات:

1. من فضلك اقرأ العبارات جيدا قبل الإجابة.
2. ليس هناك اجابة خاطئة وأخرى صحيحة، فقط أجب بكل صدق وأمانة.
3. من فضلك أرجو اختيار رقم واحد لكل عبارة التي تصف رأيك ومشاعرك تجاه التربية البدنية في مدرستك. ينبغي أن تجيب وفقا للأرقام المدرجة أدناه.
 5= أوافق بشدة
 4= أوافق
 3= غير متأكد
 2= غير موافق
 1= غير موافق بشدة
4. من فضلك أجب على العبارات التالية:

غير موافق بشدة 1	غير موافق 2	غير متأكد 3	أوافق 4	أوافق بشدة 5	الفقرة	
1	2	3	4	5	الألعاب التي أتعلمها في درس التربية البدنية تجعلها ممتعة بالنسبة لي.	1
1	2	3	4	5	الألعاب التي أتعلمها في درس التربية البدنية تجعل التعلم غير محبب بالنسبة لي.	2
1	2	3	4	5	الألعاب التي أتعلمها في درس التربية البدنية تجعلني مسروراً من التربية البدنية.	3
1	2	3	4	5	مدرس التربية البدنية يجعل درس التربية البدنية يبدو غير مهماً بالنسبة لي.	4
1	2	3	4	5	أنا أشعر أن الألعاب التي أتعلمها في درس التربية البدنية تجعل الدرس مملاً بالنسبة لي.	5
1	2	3	4	5	الأنشطة البدنية التي أتعلمها خلال درس التربية البدنية غير مفيدة بالنسبة لي.	6
1	2	3	4	5	الأنشطة البدنية التي أتعلمها خلال درس التربية البدنية مهمة بالنسبة لي.	7
1	2	3	4	5	مدرس التربية البدنية يجعل درس التربية البدنية يبدو مهماً بالنسبة لي.	8

غير موافق بشدة 1	غير موافق 2	غير متأكد 3	أوافق 4	أوافق بشدة 5	الفقرة	
1	2	3	4	5	مدرس التربية البدنية يجعل درس التربية البدنية ممتعاً.	9
1	2	3	4	5	الأنشطة البدنية التي أتعلّمها خلال درس التربية البدنية مفيدة بالنسبة لي.	10
1	2	3	4	5	أنا أشعر أن مدرس التربية البدنية يجعل التعلم في مادته ممتع.	11
1	2	3	4	5	أنا أشعر أن مدرس التربية البدنية يجعل الدرس مملاً بالنسبة لي.	12
1	2	3	4	5	أنا أشعر أن الأنشطة البدنية التي أتعلّمها خلال درس التربية البدنية قيمة بالنسبة لي.	13
1	2	3	4	5	الألعاب التي أتعلّمها في درس التربية البدنية تبدو غير مهمة بالنسبة لي.	14
1	2	3	4	5	مدرس التربية البدنية يجعل التعلم في مادته غير محبب بالنسبة لي.	15
1	2	3	4	5	مدرس التربية البدنية يجعل مادته مفيدة بالنسبة لي.	16
1	2	3	4	5	أنا أشعر أن مدرس التربية البدنية يجعل التعلم في مادته ذو قيمة بالنسبة لي.	17
1	2	3	4	5	أنا أشعر أن مدرس التربية البدنية يجعل التعلم في مادته غير مفيد بالنسبة لي.	18
1	2	3	4	5	مدرس التربية البدنية يجعلني مسروراً من درس التربية البدنية.	19
1	2	3	4	5	أنا أشعر أن الألعاب التي أتعلّمها في درس التربية البدنية تجعل التعلم مرحاً بالنسبة لي.	20

ملاحظات:

Appendix C

Instrument Items for Subscales and Subdomains

	Item	Enjoyment		Usefulness	
		Curriculum	Teacher	Curriculum	Teacher
1	The games I learn in physical education make my physical education class interesting for me.	*			
2	The games I learn in my physical education class make learning unpleasant for me.	*			
3	The games I learn in my physical education class get me excited about physical education.	*			
5	I feel the games I learn in physical education make my physical education class boring for me.	*			
20	I feel the games I learn in my physical education class make learning fun for me.	*			
9	My physical education teacher makes my physical education class interesting for me.		*		
11	I feel my physical education teacher makes learning in my physical education class fun for me.		*		
12	I feel my physical education teacher makes my physical education class boring for me.		*		
15	My physical education teacher makes learning in my physical education class unpleasant for me.		*		
19	My physical education teacher gets me excited about physical education.		*		
6	I feel the games I learn in my physical education class are useless to me.			*	
7	The games I learn in my physical education class seem important to me.			*	
10	The games I learn in my physical education class are useful to me.			*	

	Item	Enjoyment		Usefulness	
		Curriculum	Teacher	Curriculum	Teacher
13	I feel the games I learn in my physical education class are valuable to me.			*	
14	The games I learn in my physical education class seem unimportant to me.			*	
4	My physical education teacher makes my physical education class seem unimportant to me.				*
8	My physical education teacher makes my physical education class seem important to me.				*
16	My physical education teacher makes my physical education class useful for me.				*
17	I feel my physical education teacher makes learning in my physical education class valuable for me.				*
18	I feel my physical education teacher makes learning in my physical education class useless for me.				*

Appendix D

Figures of All Interactions

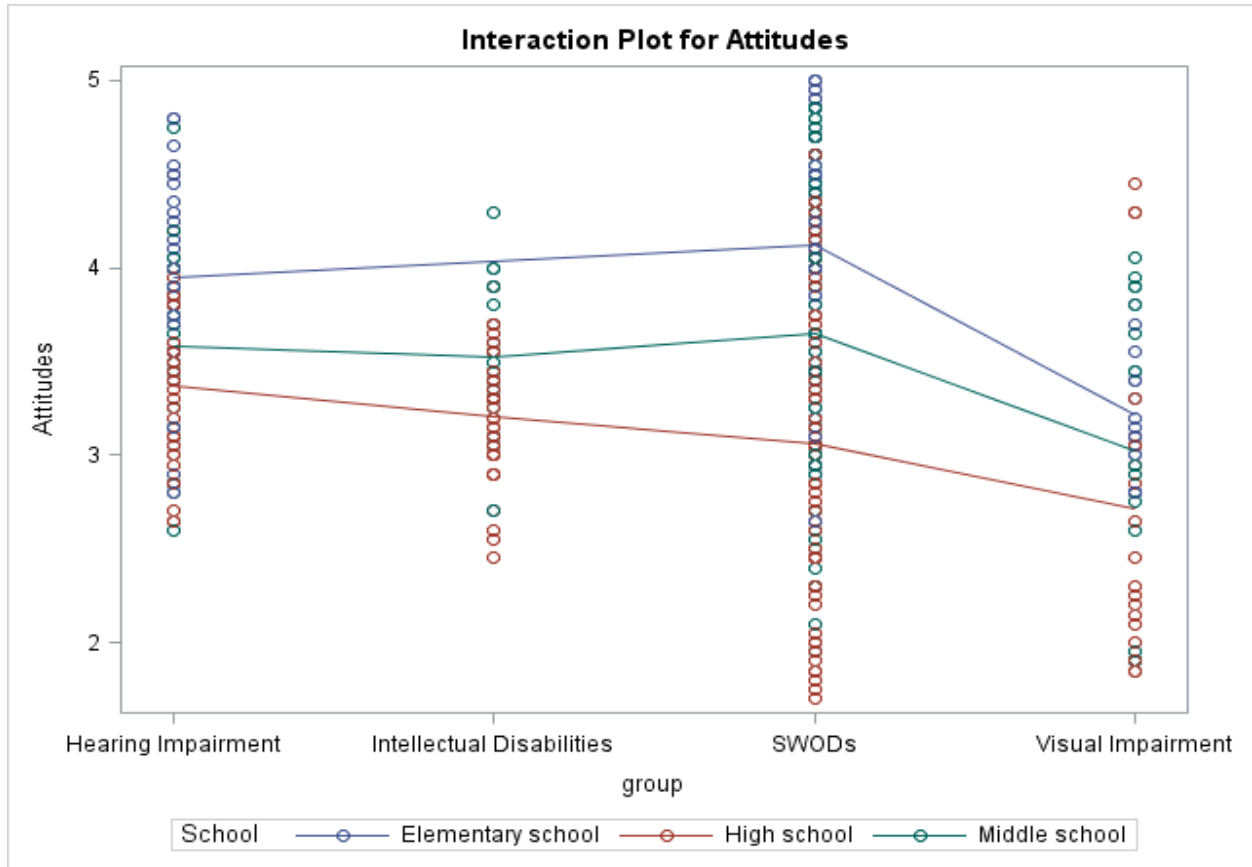


Figure C. 1. The Interaction on attitudes of students toward PE class between four groups of students and school levels.

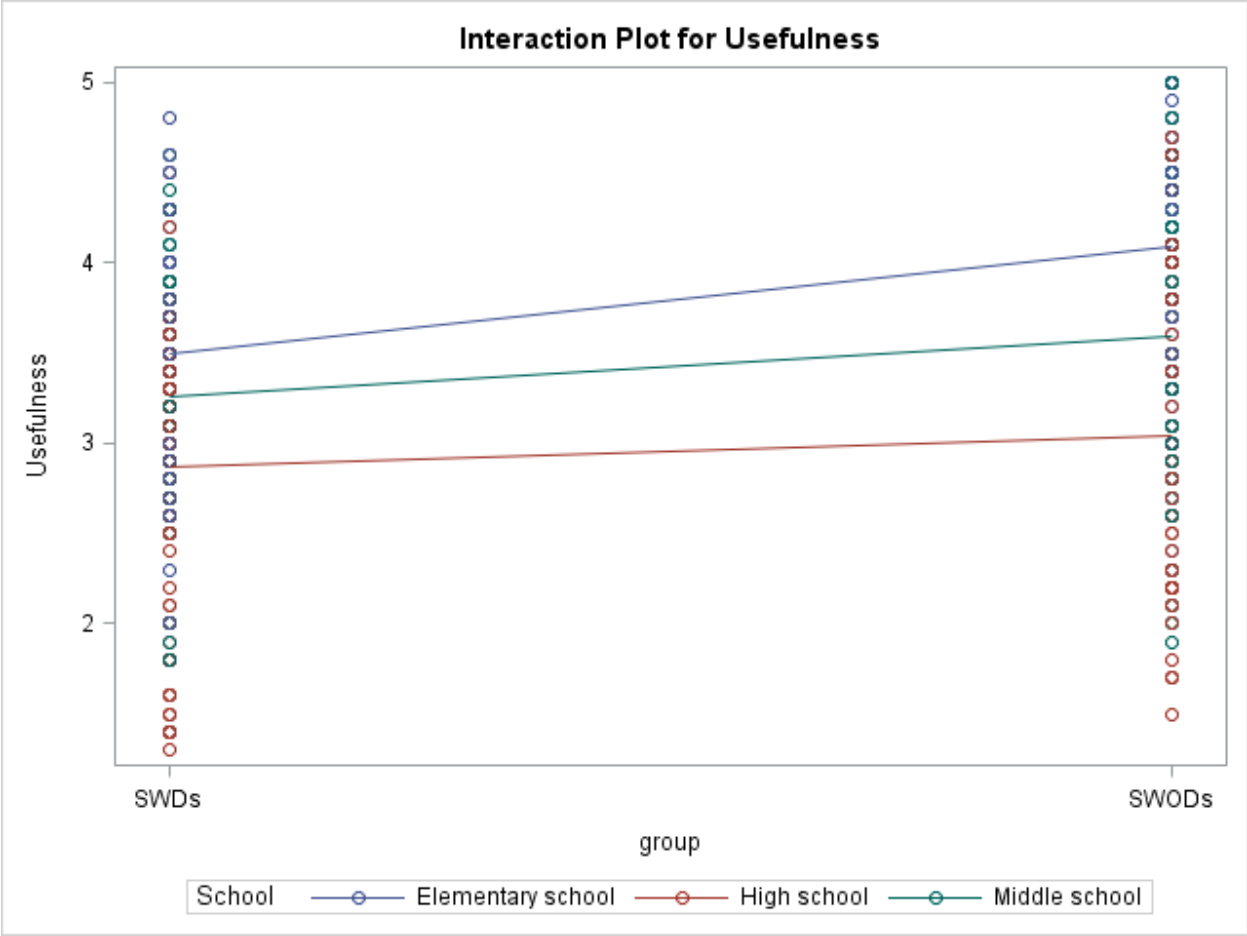


Figure C. 2. The interaction on students' attitudes toward usefulness of PE class between school levels and groups of students.

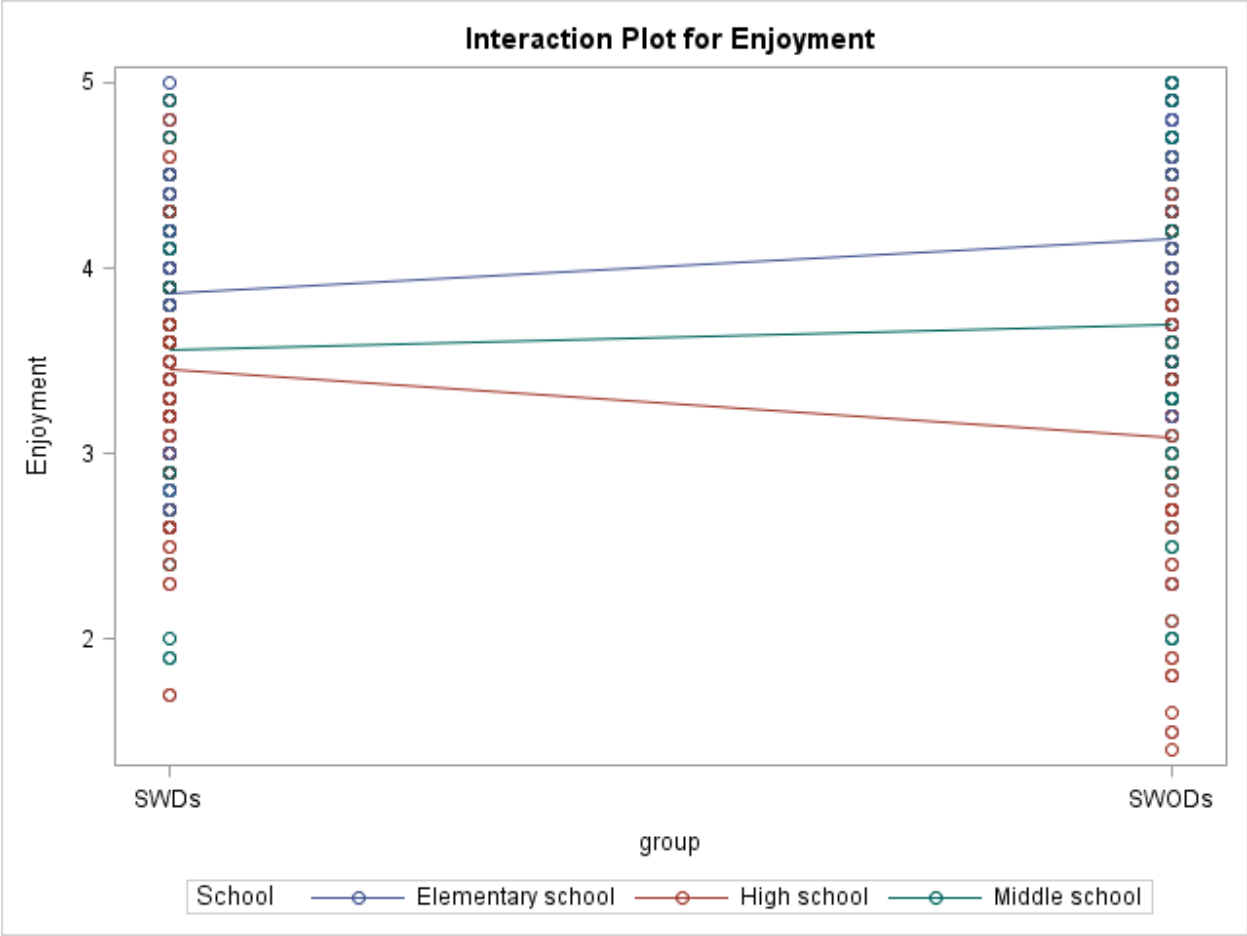


Figure C. 3. The interaction on students' attitudes toward enjoyment of PE class between groups of students and school levels.

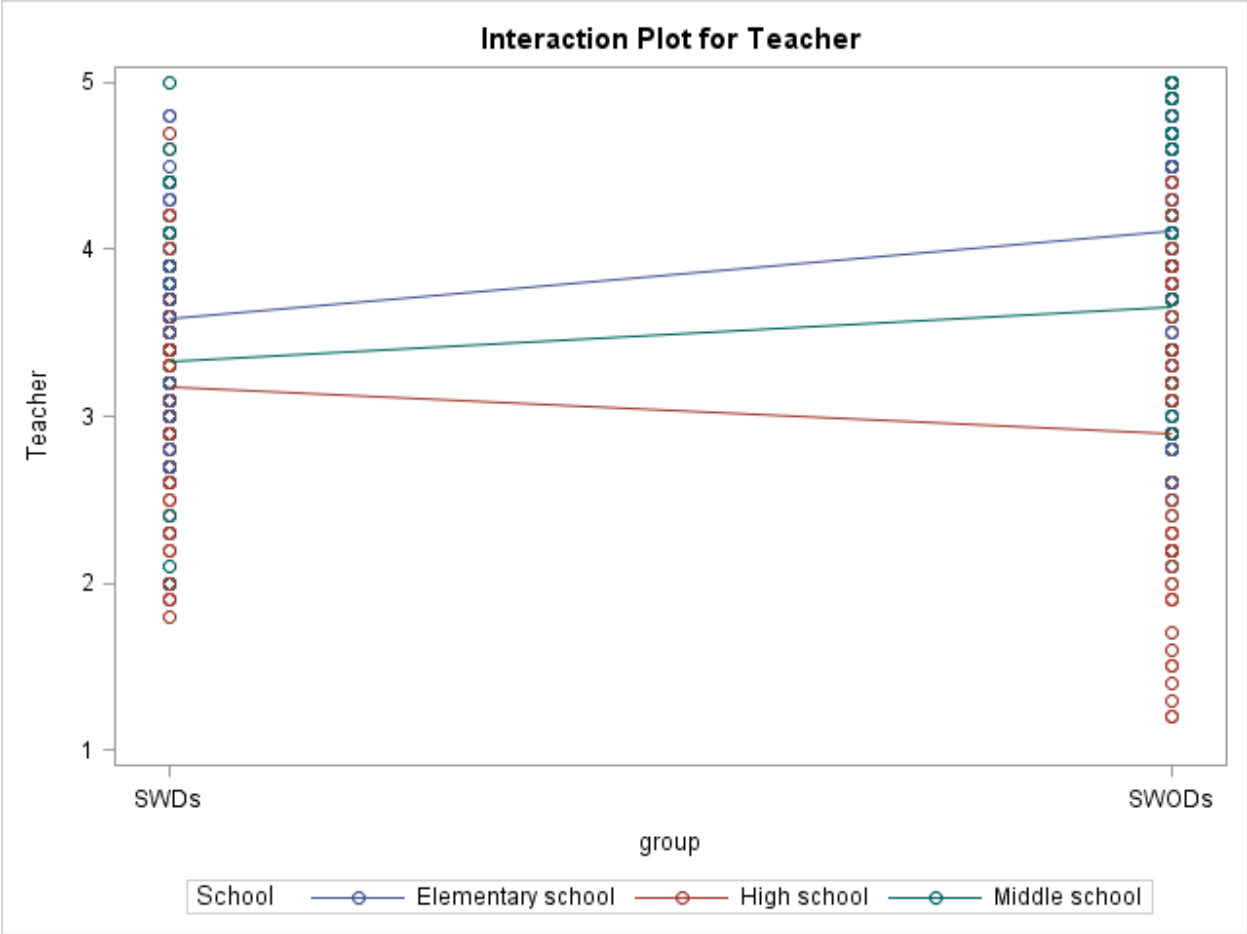


Figure C. 4. The Interaction on students' attitudes toward PE teachers class between two groups of students and school levels.

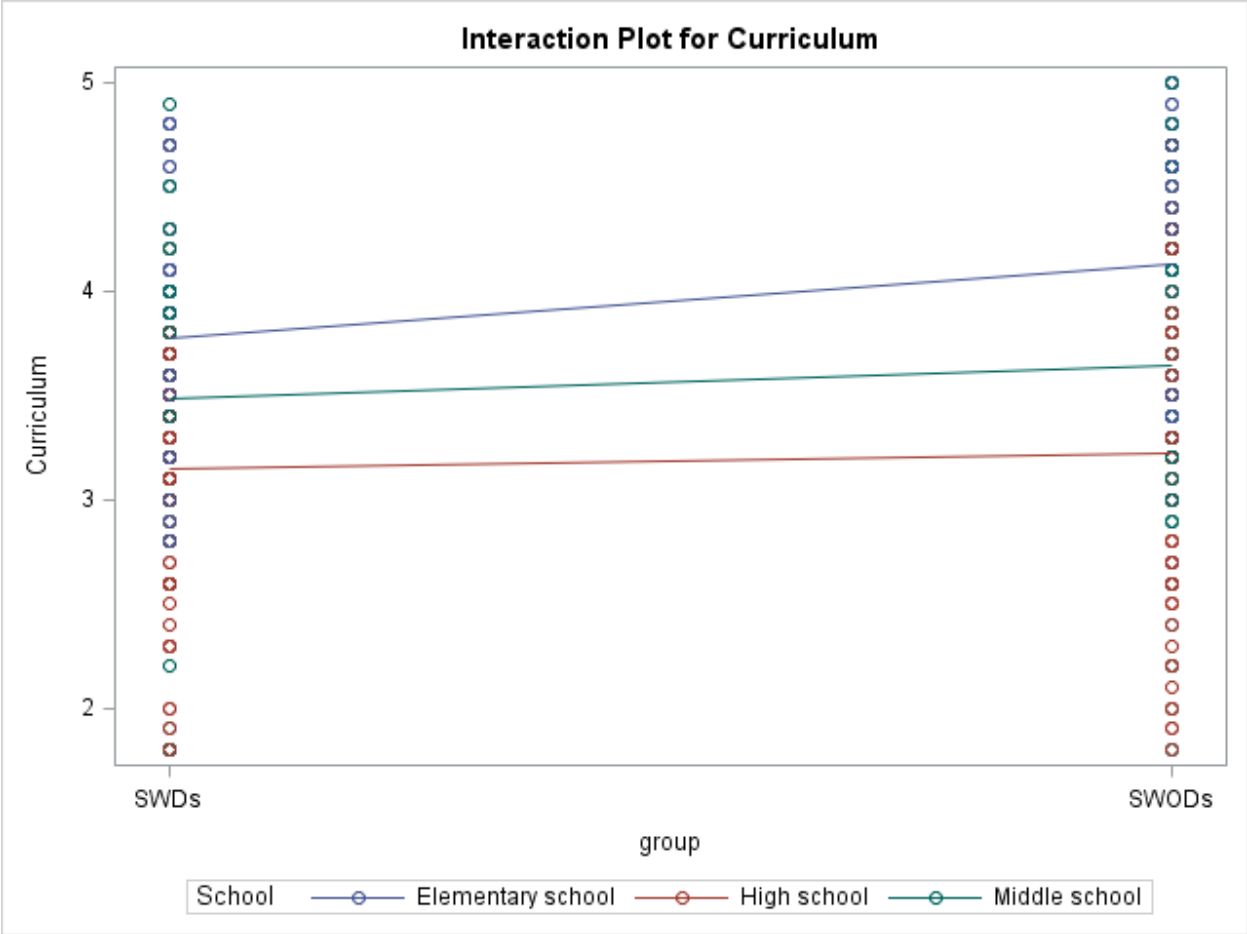


Figure C. 5. The interaction on students' attitudes toward the PE curriculum class between two groups of students and school levels.

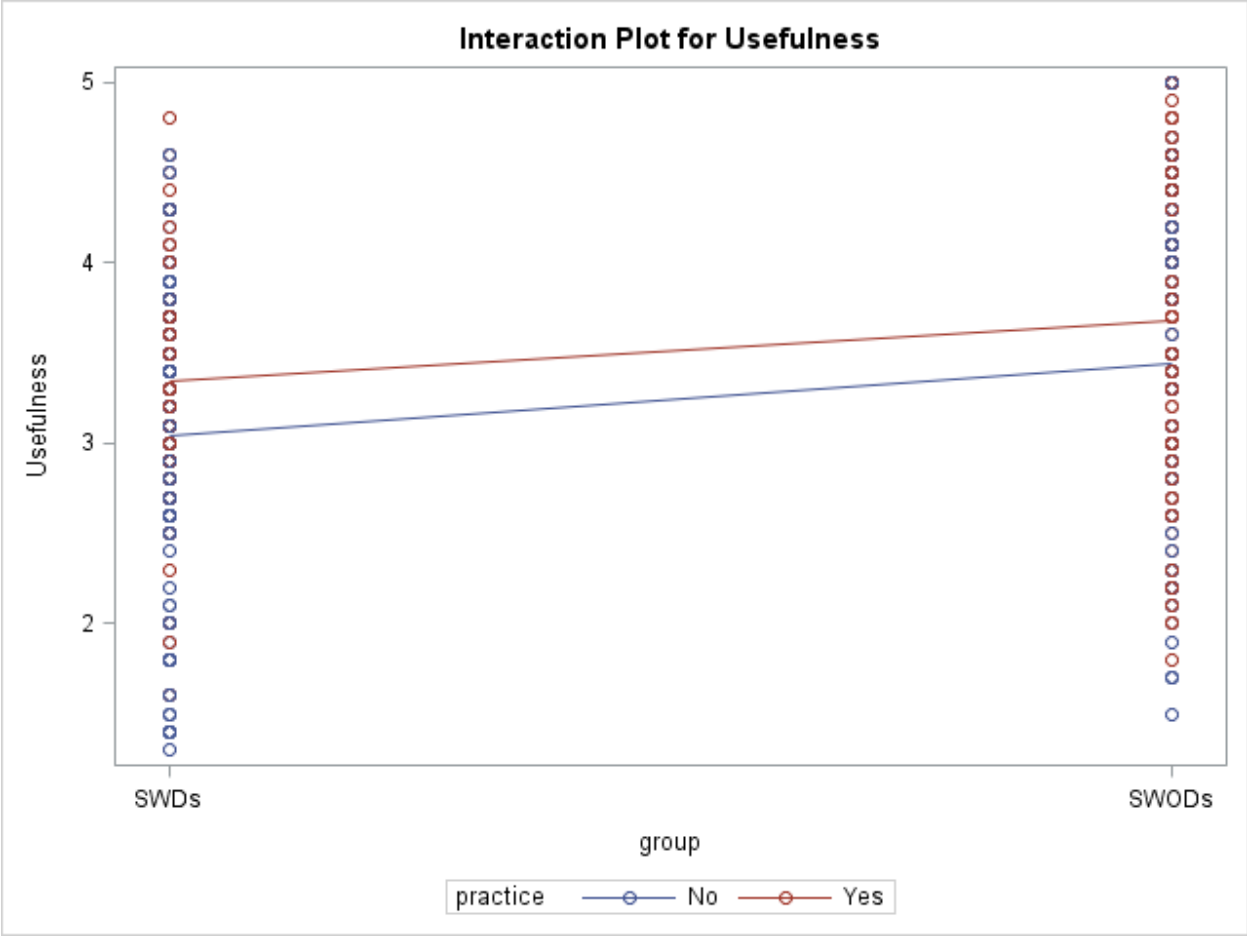


Figure C. 6. The interaction on students' attitudes toward usefulness of PE class between two groups of students and level of a participation in PA after school.

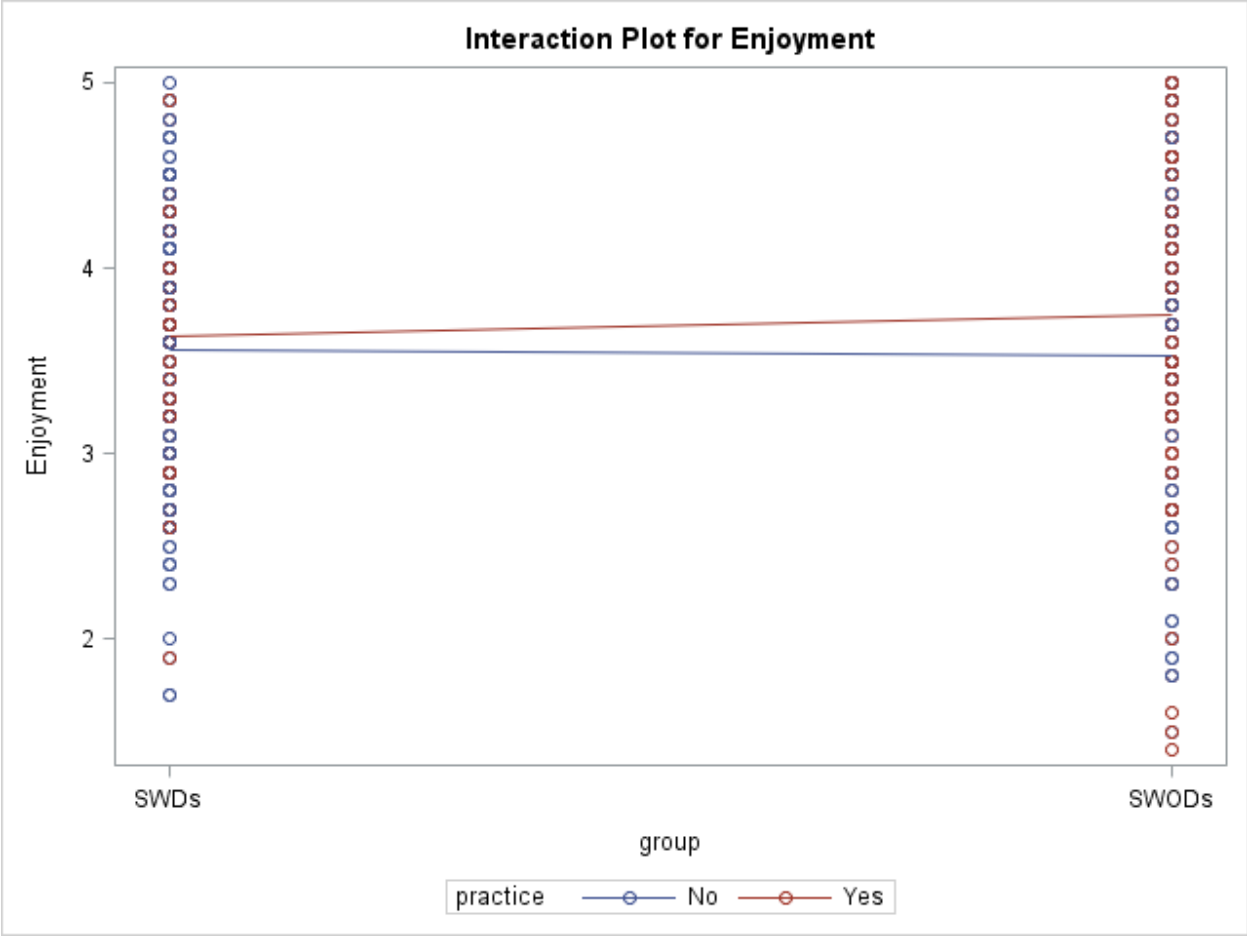


Figure C. 7. The interaction on students' attitudes toward enjoyment of PE class between two groups of students and level of a participation in PA after school.

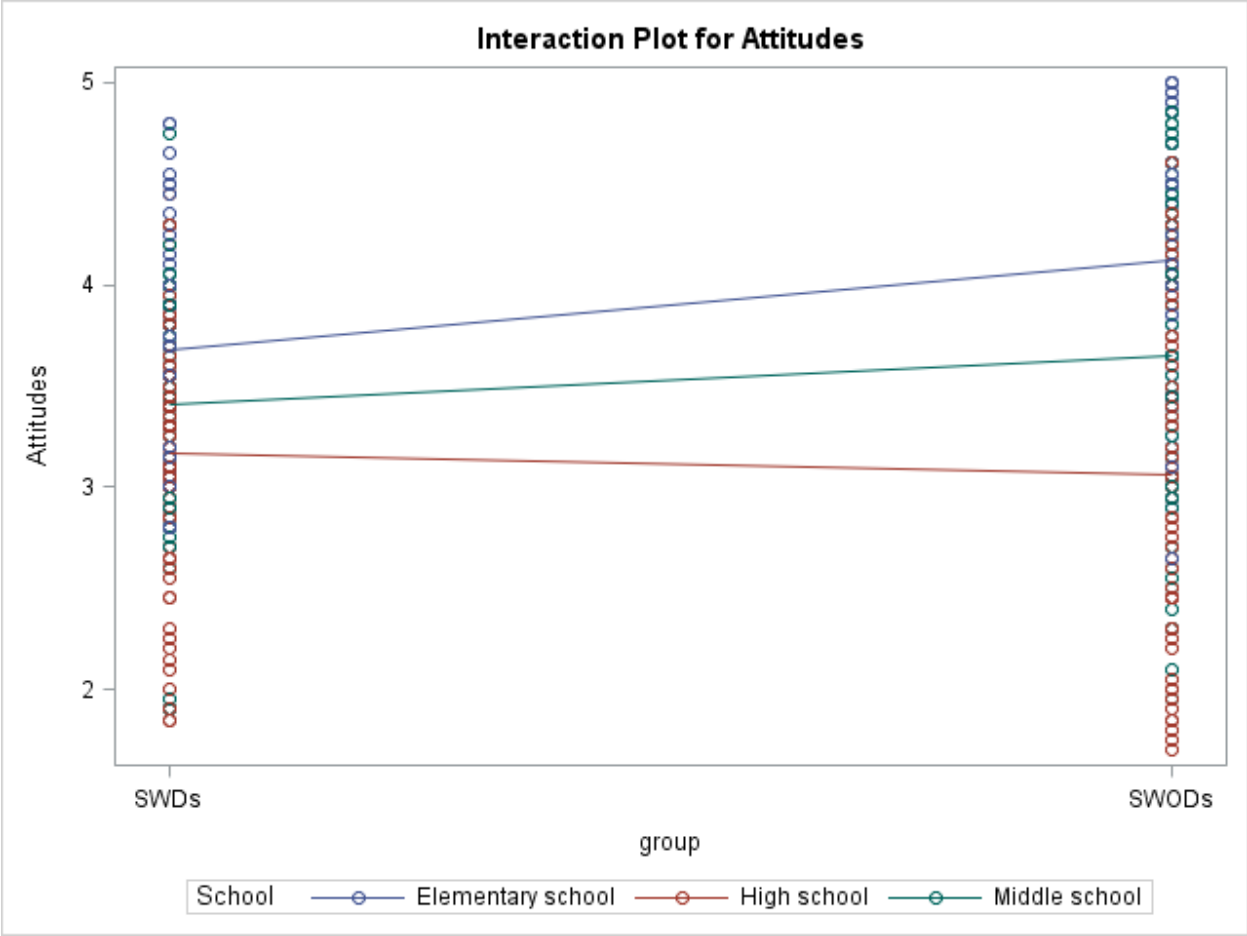


Figure C. 8. The interaction on students' attitudes toward PE class between two groups of students and school levels.

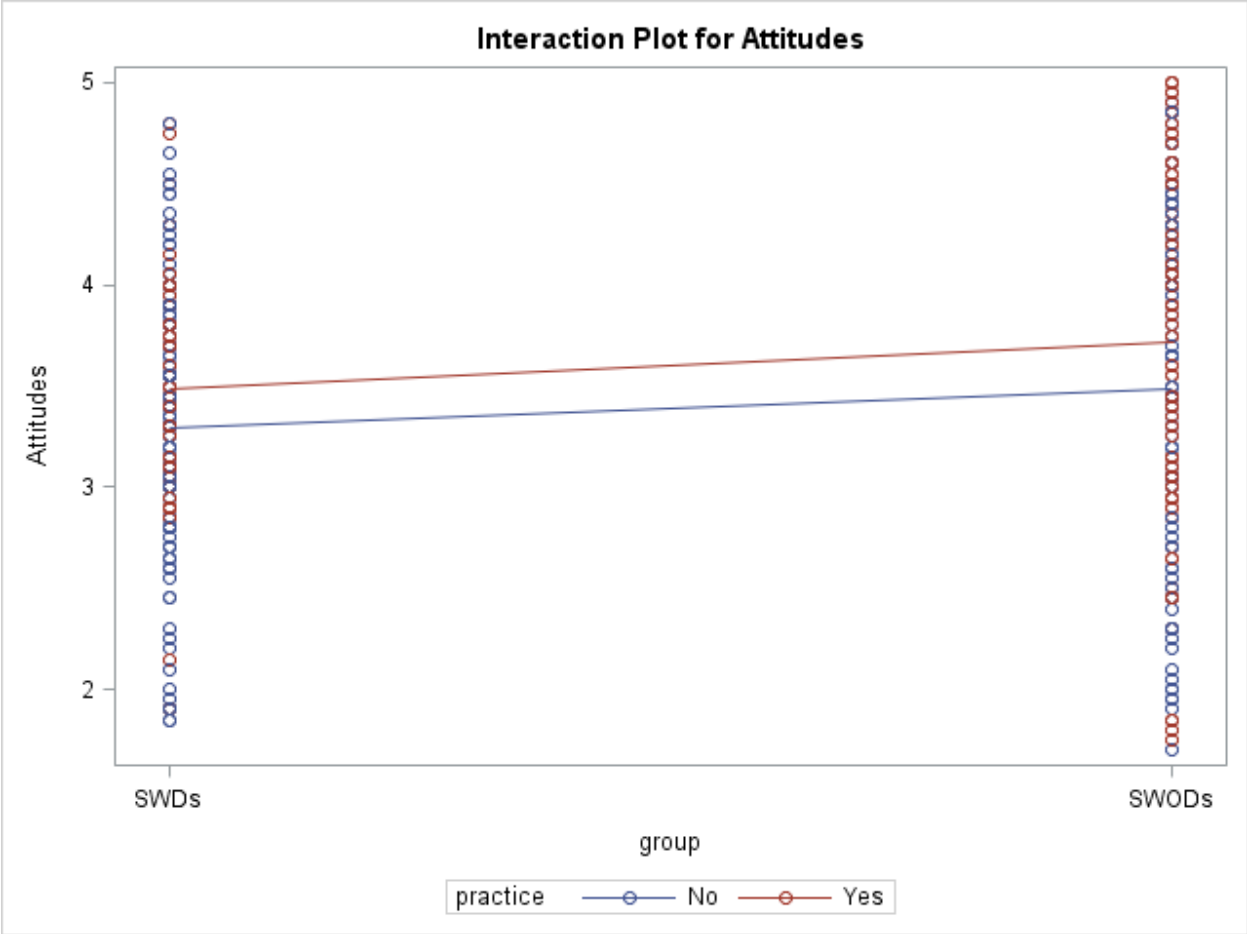


Figure C. 9. The interaction on students' attitudes toward PE class between two groups of students and level of participation in PA after school.

Appendix E

The School District of Eastern Province of Approval for Students' Schools

الرقم : ٣٨٧٧٣٨٥٣
التاريخ : ٥ / ١٤٣٨ هـ
المرفقات : —



المملكة العربية السعودية
وزارة التعليم
(٢٨٠)
الإدارة العامة للتعليم بالمنطقة الشرقية
إدارة التخطيط والتطوير
PD

القيم: المواطنة- الإلتقان- العدل- العمل بروح الفريق- التنمية الذاتية- المسؤولية الاجتماعية	الرسالة: تقديم خدمات تربوية وتعليمية ذات جودة عالية وفق معايير عالمية بمشاركة مجتمعية	الرؤية: الريادة لبناء جيل مبدع
--	---	--------------------------------

حفظهم الله

إلى : المكرمين / مديري مكاتب التعليم
من : مديرة إدارة التخطيط والتطوير
بشأن: تسهيل مهمة الباحث / زهير آل سالم

السلام عليكم ورحمة الله وبركاته ، ، ،

بناءً على موافقتنا بشأن تسهيل مهمة الباحث زهير بن عبد العظيم آل سالم، طالب الدراسات العليا لمرحلة الدكتوراه بجامعة أركانسس بالولايات المتحدة الأمريكية ، و الذي يجري بحثاً بعنوان (اتجاهات الطلاب ذوي الاحتياجات الخاصة و زملائهم طلبة التعليم العام نحو التربية البدنية) ، حيث يتطلب البحث تطبيق استبانة على الطلاب ذوي الاحتياجات الخاصة و زملائهم طلاب التعليم العام في جميع المراحل .

عليه فلا مانع من تسهيل مهمته ، علماً أن التطبيق سيكون من قبل الباحث وفق اللوائح و الأنظمة خلال سنة من تاريخه .

يسعدني شكركم على عنايتكم وتجاوبكم مع ظروف الباحث
والسلام عليكم ورحمة الله وبركاته ، ، ،

نعيمه بنت سالم السعدي

م/الجبر
١٤٣٨ / ٥ / ٢٤ هـ

Appendix F

Institutional Review Board Approval Letter



UNIVERSITY OF
ARKANSAS

Office of Research Compliance
Institutional Review Board

March 21, 2017

MEMORANDUM

TO: Zuhair A. Al Salim
Dean Gorman

FROM: Ro Windwalker
IRB Coordinator

RE: New Protocol Approval

IRB Protocol #: 17-03-538

Protocol Title: *Attitudes of Students with and without Disabilities toward Physical Education and their Sports and Activities Preferences in Saudi Arabia*

Review Type: EXEMPT EXPEDITED FULL IRB

Approved Project Period: Start Date: 03/10/2017 Expiration Date: 03/09/2018

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of one year. If you wish to continue the project past the approved project period (see above), you must submit a request, using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. This form is available from the IRB Coordinator or on the Research Compliance website (<https://vpred.uark.edu/units/rscp/index.php>). As a courtesy, you will be sent a reminder two months in advance of that date. However, failure to receive a reminder does not negate your obligation to make the request in sufficient time for review and approval. Federal regulations prohibit retroactive approval of continuation. Failure to receive approval to continue the project prior to the expiration date will result in Termination of the protocol approval. The IRB Coordinator can give you guidance on submission times.

This protocol has been approved for 400 participants. If you wish to make *any* modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior* to implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 109 MLKG Building, 5-2208, or irb@uark.edu.

Appendix G

Consent Form to Participate in Research (English Version)

Attitudes of Students with and without Disabilities toward Physical Education and Their Sports and Activities Preferences in Saudi Arabia.

Consent for a Minor to Participate in a Research Study

Principal Researcher: **Zuhair A. Al Salim**

Faculty Advisor: **Dean Gorman, PhD.**

This is a parental permission form for research participation. It contains important information about this study and what to expect if you permit your child to participate.

Your child's participation is voluntary.

Please consider the information carefully. Feel free to discuss the study with your friends and family and to ask questions before making your decision whether or not to permit your child to participate. If you permit your child to participate, you will be asked to sign this form and will receive a copy of the form. We must also have your child's assent to participate in this study.

INVITATION TO PARTICIPATE

Your child is being invited to participate in a research study about their attitudes toward physical education and their sports and activities preferences. Your child is being asked to participate in this study because they are the perfect age to start prevention from diseases or health disparities they could develop from not living a healthy lifestyle.

WHAT YOU SHOULD KNOW ABOUT THE RESEARCH STUDY

Who is the Principal Researcher?

Zuhair A. Al Salim

University of Arkansas

Kinesiology- Pedagogy Doctoral Candidate

zalsalim@uark.edu

479-595-5506

Who is the Faculty Advisor?

Dean Gorman, Ph.D.

University of Arkansas

Kinesiology- Pedagogy

dgorman@uark.edu

479-575-2890

What is the purpose of this research study?

The purpose of this study is to investigate attitudes of students with and without disabilities toward physical education classes as well as sports and activities preferences.

Who will participate in this study?

Approximately 400 total students, those without a disability and those with three categories of disability, will be selected for this study. The participants will be between 11- 19 years of age.

What will your child be asked to do?

Complete a survey study about their attitudes toward physical education and their sports and activities preferences. given in their classrooms. This will take about 20 minutes.

What are the possible risks or discomforts?

There are no anticipated risks to participating.

What are the possible benefits to your child if he/she participates in this study?

The study is important because understanding both negative and positive attitudes of students with and without disabilities toward physical education will determine if there is a need for revised curriculum offerings and additional teacher training in the area of disabilities.

How long will the study last?

The surveys will take an approximately 20 minutes to fill out together.

Will your child receive compensation for time and inconvenience if you choose to allow him/her to participate in this study?

No

Will you or your child have to pay for anything?

No, there will be no cost associated with your participants.

What are the options if I do not want my child to be in the study?

If you do not want your child to be in this study, you may refuse to allow him to participate. Your child may refuse to participate even if you give permission. If your child decides to participate and then changes his/her mind, your child may quit participating at any time. Your child will not be punished or discriminated against in any way if you refuse to allow participation or if your child chooses not to participate. Their grade will not be affected in any way if you refuse to participate.

How will my child's confidentiality be protected?

All information will be kept confidential to the extent allowed by applicable State and Federal law and University policy. The survey will be administered in a classroom setting by the principal researcher. There is no identifying information on the surveys so a participant may stop filling it out if they feel uncomfortable answering the questions. The participants will fill out the surveys, then will turn them in by putting them in a sealed box (a slit in the top). The box is sealed so no one can go back and change answering once they turn in the survey or more importantly their confidentiality is not compromised. After all the surveys have been administered and collected, the principal researcher will store the surveys in a locked filing cabinet where no contact will be made by outsiders.

Will my child and/or I know the results of the study?

At the conclusion of the study you will have the right to request feedback about the results. You may contact the faculty advisor, Dean Gorman, PhD. at dgorman@uark.edu (479-575-2890) or Principal Researcher, Zuhair Al Salim at zalsalim@uark.edu (479-595-5506). You will receive a copy of this form for your files.

What do I do if I have questions about the research study?

You have the right to contact the Principal Researcher or Faculty Advisor as listed at the beginning for any concerns that you may have.

You may also contact the University of Arkansas Research Compliance office listed below if you have questions about your rights as a participant, or to discuss any concerns about, or problems with the research.

Ro Windwalker, CIP
Institutional Review Board Coordinator
Research Compliance
University of Arkansas
109 MLKG Building
Fayetteville, AR 72701-1201
479-575-2208
irb@uark.edu

Please return only this page to signify your and your child's consent.

I have read the above statement to my child and have been able to ask questions and express concerns, which have been satisfactorily responded to by the investigator. I understand the purpose of the study as well as the potential benefits and risks that are involved. I understand that participation is voluntary. I understand that significant new findings developed during this research will be shared with me and, as appropriate, my child. I understand that no rights have been waived by signing the consent form. I have been given a copy of the consent form.

Parents' consent:

Parents' signature: _____ Date: _____

Child's assent

I agree to participate in this study.

Student's signature: _____ Date: _____

Appendix H

The Consent Form to Participate in Research (Arabic Form)

اتجاهات طلاب ذوي الاحتياجات الخاصة وزملائهم طلاب التعليم العام نحو التربية البدنية والأنشطة الرياضية والبدنية
المفضلة لديهم بالمملكة العربية السعودية
نموذج موافقة للمشاركة بالدراسة البحثية
الباحث: زهير عبدالعظيم آل سالم
المشرف على الدراسة: دين قورمان

هذا هو نموذج موافقة ولي الأمر للمشاركة البحثية. هذا النموذج يحتوي على معلومات هامة حول الدراسة البحثية وإلى أي مدى إذا كنت تسمح لطفلك بالمشاركة في الدراسة البحثية .

مشاركة ابنكم سوف تكون طوعية.

يرجى النظر في المعلومات بعناية. لا تتردد في مناقشة الدراسة مع أصدقائك وعائلتك وطرح الأسئلة قبل اتخاذ قرارك من أجل السماح لطفلك بالمشاركة. إذا كنت تسمح لطفلك بالمشاركة، سوف يطلب منك ومن ابنك التوقيع في نهاية هذا النموذج من أجل المشاركة في هذه الدراسة.

دعوة للمشاركة

يتم دعوة طفلك للمشاركة في دراسة بحثية حول اتجاهه نحو التربية البدنية وأيضا الأنشطة الرياضية المفضلة لديه. يتم الطلب من طفلك المشاركة في هذه الدراسة لأنه السن المثالي لبدء الوقاية من الأمراض أو التباينات الصحية التي يمكن أن تتطور إلى سوء نمط حياته الصحي.

ماذا ينبغي عليك معرفته عن الدراسة البحثية

من هو الباحث الرئيسي؟ من هو المشرف على الدراسة؟

الدكتور دين قورمان
جامعة اركانسس
علم الحركة
dgorman@uark.edu
479-5752890

زهير آل سالم
جامعة اركانسس
طالب دراسات عليا- علم الحركة
zalsalim@uark.edu
479-595-5506

ما هو الغرض من الدراسة؟

الغرض من الدراسة هو التحقق من اتجاهات الطلاب ذوي الاحتياجات الخاصة وزملائهم طلبة التعليم العام نحو درس التربية البدنية وأيضا معرفة الأنشطة الرياضية والبدنية المفضلة لديهم.

من سوف يكون المشاركون في هذه الدراسة؟

سوف يكون المشاركون في هذه الدراسة تقريبا 400 طالب من ذوي الاحتياجات الخاصة و زملائهم طلاب التعليم العام، والمشاركين سوف تكون أعمارهم تتراوح بين 11-19 سنة

ماذا سوف يطلب من طفلك أن يفعل؟

سوف يطلب منه ان يكمل الدراسة في صفه الخاص، وقد يستغرق تعبئة الاستبيان من وقت ابنكم حوالي 20 دقيقة كحد أقصى.

هل هناك أي مخاطر محتملة؟
ليس هناك أي مخاطر محتملة من أجل المشاركة في الدراسة.

ماهي الفوائد المحتملة الى الطفل إذا هو شارك في هذه الدراسة؟
الفوائد المحتملة عند مشاركة طفلك هو مساعدتنا لمعرفة اتجاهات الطلاب الإيجابية والسلبية تجاه التربية البدنية، وذلك من أجل تطوير وتنقيح مناهج التربية البدنية، وكذلك تقديم المزيد من الدورات لمعلمي التربية البدنية في مجال الإعاقة، وأيضا رفع مستوى مشاركة الطلاب في درس التربية البدنية من أجل تعزيز نمط حياتهم الصحية.

كم من الوقت تستغرق الدراسة؟
الدراسة قد تستغرق من وقت إبتكم حوالي 20 دقيقة كحد أقصى.

هل سوف يحصل طفلك على التعويض عن الوقت إذاسمحت له بالمشاركة في هذه الدراسة؟
لا، هذه الدراسة طوعية تماما.

هل يجب ان تدفع انت أو طفلك أي مبلغ مقابل الدراسة؟
لا، ليس هناك أي مبلغ يتعلق بهذه الدراسة.

ماهي الخيارات إذا أنت لا تريد لطفلك المشاركة في الدراسة؟
إذا كنت لا تريد لطفلك أن يكون في هذه الدراسة أو قرر طفلك عدم المشاركة فأن ذلك لا يترتب على ذلك أي ضرر عليه، ويمكنه الانسحاب من المشاركة في أي وقت إذا هو رغب بذلك، وأيضا لن تتأثر درجاته بأي شكل من الأشكال.

كيف سوف تحمي معلومات طفلي في الدراسة؟
سنبقى جميع المعلومات في سرية تامة إلى الحد المسموح به من قبل سياسة الجامعة، وسوف تدار الدراسة من قبل الباحث الرئيسي. سوف يتم على المشاركين ملئ الدارسة ثم يتم وضعها في صندوق مغلق (فتحة في الجزء العلوي) بحيث لا يسمح لأحد المشاركين بالعودة وتغيير الإجابة.

هل يستطيع طفلي أو أنا أن أعلم بنتائج الدراسة؟
في ختام هذه الدراسة سيكون لديك الحق في طلب نتائج الدراسة. يمكنك الاتصال بمشرف الدراسة الدكتور، دين فورمان- dgorman@uark.edu - (2890-575-479) أو الباحث الرئيسي، زهير آل سالم - zalsalim@uark.edu - (595-479-5506).

ماذا أفعل إذا كان لدي أسئلة حول الدراسة البحثية؟
لديك الحق في الاتصال بالباحث الرئيسي أو مشرف الدراسة كما هو موضح في بداية النموذج لأية مخاوف قد تكون لديك.

يمكنك أيضا الاتصال بجامعة أركنساس - للسؤال عن الالتزام بالبحث _ يرجى الاتصال أدناه_ إذا كان لديك أسئلة حول حقوقك كمشارك، أو لمناقشة أية مخاوف حول أو مشاكل مع البحث.

رو ويندولكر
موظف الالتزام
جامعة أركنساس
مبنى MLKG 109
فايتفيل، AR 72701
479-575-2208
irb@uark.edu

من فضلك أرجع هذه الورقة فقط إذا كنت موافق على المشاركة في الدراسة البحثية.

لقد قرأت البيان أعلاه لطفلي، وكان قادرا على طرح الأسئلة المتعلقة بالدراسة. أنا أفهم الغرض من هذه الدراسة فضلا عن الفوائد والمخاطر المحتملة التي ينطوي عليها. وأنا أفهم أن المشاركة طوعية وأن النتائج سوف يتم تقاسمها معي أو مع طفلي. وأنا أفهم أيضا أن ليس هناك حقوق يتم التنازل عنها من خلال التوقيع على استمارة الموافقة.

اطلعت على المعلومات ولا مانع لأبني من المشاركة.

توقيع ولي الامر: التاريخ:

أنا موافق من أجل المشاركة في هذه الدراسة.

توقيع الطالب: التاريخ:

Appendix I

Permission to Use Survey

7/5/2017

University of Arkansas Mail - Permission for Survey



Zuhair Al Salim <zalsalim@email.uark.edu>

Permission for Survey

6 messages

Zuhair Al Salim <zalsalim@email.uark.edu>
To: psubramaniam@ithaca.edu

Mon, Feb 6, 2017 at 9:53 PM

Hi, Dr. Subramaniam

I am Zuhair Al-Salim, and I am a doctoral candidate at the University of Arkansas-Fayetteville. I would like to use your survey " Students' Attitudes toward Physical Education Scale" (SATPES) because my dissertation will be about "Attitude of Children and Adolescents with and without Disabilities towards Physical Education and Their Sport Activity Preferences in Saudi Arabia". Participants for this study will be student in grades 4 (10 years) to 12 (19 years).

I am glad to contact with you and hear your permission, and I am willing to provide additional information if you would like.

Sincerely
Zuhair Al Salim

Raj Subramaniam <psubramaniam@ithaca.edu>
To: Zuhair Al Salim <zalsalim@email.uark.edu>

Tue, Feb 7, 2017 at 7:15 AM

Hi Zuhir:

You are welcome to use my instrument. Good luck with your research.

Best,
Raj Subramaniam, Ph.D.
Professor & Graduate Program Chair
Department of Health Promotion and Physical Education
Ithaca College
607.274.3659 (office)
607.274.1174 (fax)
