

## AN ABSTRACT OF THE DISSERTATION OF

Erin Ashleigh Siebert for the degree of Doctor of Philosophy in Kinesiology presented on July 21, 2017.

Title: Examining the Implementation of Inclusive Extracurricular Athletics by Physical Education Teachers.

Abstract approved:

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Current literature supports the benefits of participation in extracurricular activities (Barnett & Weber, 2008). However, a report from the U.S. Government Accountability Office (GAO) found that students with disabilities participated in athletics to varying degrees, but at consistently lower rates than students without disabilities (US Government Accountability Office, 2010). In January 2013, in response to this report, the Department of Education released a policy statement in the form of a Dear Colleague letter clarifying the guarantee of equal accessibility based on Section 504 of the Rehabilitation Act of 1973 as it applies to extracurricular physical activities for schools that receive federal funds. The current study sought to a) examine the awareness and implementation of an equal opportunity policy regarding inclusive extracurricular athletics for students with disabilities and b) explore the utility of integrated frameworks that built off the Theory of Planned Behavior (TPB) and evaluate which was able to better predict inclusive behaviors of physical educators. Two hundred sixty-nine physical educators from across

the United States participated in an online survey assessing attitude, subjective norms, perceived behavioral control, intention, implementation intention, task efficacy, and barrier efficacy toward inclusion in extracurricular athletics.

The first manuscript examined teachers' awareness of the policy and factors affecting their behavior regarding the inclusion of students with disabilities in extracurricular athletics. Teachers' awareness was analyzed using percentages, 95% confidence intervals and Chi-square tests, while behavior used interclass correlations and separate hierarchical regressions. Current channels of communication were effective, as the majority of the teachers were aware of the policy, but more could be done to reach the remaining respondents (over 30%) who were still unaware. Undergraduate coursework was significantly related to physical educator teachers' awareness of the policy. The results support the importance of undergraduate adapted physical education coursework. Results of the hierarchical regression revealed that intention, implementation intention, task efficacy, barrier efficacy, and coaching status significantly influenced behavior. Utilization of common physical education curricula might provide teachers an opportunity to practice inclusion techniques and promote sport participation by allowing students with disabilities to develop their motor skills.

In order to successfully implement the inclusive extracurricular athletics policy, the programs should be based on a theoretical foundation. The purpose of the second manuscript was to compare four different conceptual models to determine which one fit the data the best and better predicted physical education teachers' implementation of inclusive extracurricular athletics. Path analyses were used to evaluate the TPB (Ajzen, 1991) and three independent integrated models (Jin, 2012; Pawlowski, 2016; Roberts,

Maddison, Magnusson, & Prapavessis, 2010). Results indicated that none of the models met all the goodness of fit criteria; however, Jin (2012) met 3 of 4 specified criteria. The addition of implementation intention and self-efficacy in the three proposed integrated models by Pawlowski (2016), Roberts et al. (2010), and Jin (2012) similarly explained a substantially greater amount of behavior than the TPB alone,  $R^2 = .35, .37, .36$  and  $.11$ , respectively. Further studies are needed to elucidate the role of implementation intention and self-efficacy and examine the arrangement of relationships in the proposed integrated framework. Future work should also examine those directly involved with extracurricular athletics and explore ways to reach those who remain unaware of the policy.

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Examining the Implementation of Inclusive Extracurricular Athletics  
by Physical Education Teachers

by  
Erin Ashleigh Siebert

A DISSERTATION

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degree of

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Doctor of Philosophy dissertation of Erin Ashleigh Siebert presented on July 21, 2017

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I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader upon request.

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Erin Ashleigh Siebert, Author

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The costs of this process have been great; hopefully in the end the good outweighs the bad.

## CONTRIBUTION OF AUTHORS

Erin Ashleigh Siebert conceptualized this project, collected data, conducted data analyses, interpreted the findings, and drafted the manuscripts.

Joonkoo Yun, Ph.D., assisted in conceptualization of the project, research design, data analysis and provided editorial comments and suggestions on the final draft.

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## Chapter 1: General Introduction

Examining the Implementation of Inclusive Extracurricular Athletics  
by Physical Education Teachers

The benefits of physical activity are well documented (CDC, 2015; Haskell et al., 2007; Lee et al., 2012); however, youth in the US are not meeting current physical activity recommendations (CDC, 2014). Despite past successful efforts to increase physical activity during physical education classes, there is not enough time for students to meet national physical activity requirements during physical education class time alone (Mckenzie et al., 2004; Palmer & Bycura, 2014). Furthermore, researchers and professional organizations have suggested that physical educators should instead focus on encouraging students to be physically active outside of school and refer students to existing community-based sport and recreation programs (Society of Health and Physical Educators [SHAPE] of America, 2013; Thom, 2011; Yun & Beamer, in press).

Extracurricular activities provide opportunities for physical activity participation and academic and social development (Barnett & Weber, 2008; Howie, Lukacs, Pastor, Reuben, & Mendola, 2010; Trudeau & Shephard, 2008). However, a report from the U.S. Government Accountability Office (GAO) found that students with disabilities participated in extracurricular athletics to varying degrees, but at consistently lower rates than students without disabilities (US Government Accountability Office, 2010). Following this report, the Department of Education Office for Civil Rights released a policy statement that clarified the guarantee of equal accessibility based on Section 504 of the Rehabilitation Act of 1973, stating that schools that receive federal funds are required by law to provide equal opportunities for students with disabilities for participation in extracurricular physical activities with reasonable accommodations (US

Department of Education Office for Civil Rights, 2013). This means that schools with extracurricular athletic programs need to provide adaptations, modifications, or additional support personnel for existing sport programs as needed, but should not change the fundamental nature of the game, give students with disabilities an unfair advantage, or compromise safety (US Department of Education Office for Civil Rights, 2015). These accommodations are necessary to facilitate the participation of students with disabilities and are similar to the types of accommodations made in physical education classes.

Physical education teachers have been identified as ideally suited to implement this policy (Silliman-French & French, 2013). In fact some of the earliest proponents of inclusive extracurricular athletics have been adapted physical education teachers who have taken a keen interest in adapted athletics (Poulin et al., 2013). While this federal mandate stipulates that such opportunities be accessible to all students, programs might not provide services that offer meaningful participation to students with disabilities and teachers might be unaware of inclusive extracurricular programs or of the laws that mandate their existence (Tymeson, 2013).

In order to understand physical education teachers' behavior toward the implementation and development of inclusive extracurricular opportunities for students with disabilities it is important to examine potential factors that might influence physical educators' implementation of this policy using a theoretical approach. The Theory of Planned Behavior (TPB; Ajzen, 1991) is a frequently used theoretical framework in adapted physical activity (Jeong & Block, 2011; Sato, Haegele, & Foot, 2017; Taylor & Yun, 2012). However, despite its popular use, the TPB has been criticized as intention alone has not been shown to form a strong association with behavior (Gollwitzer, 1999;

Kodish, Kulinna, Martin, Pangrazi, & Darst, 2006; Martin & Kulinna, 2004; Motl et al., 2005). For example, a study found that the stages of change instead of intentions within the TPB better predicted physical activity behavior in adults with disabilities (Kosma, Ellis, Cardinal, Bauer, & McCubbin, 2007). Therefore, a greater understanding might be gained by using an integrated framework, and an examination of the utility of such a framework is needed to potentially address the limitations of the TPB.

Researchers have begun to propose integrated frameworks that build off of the TPB and have advocated for the use of additional variables (i.e., implementation intention, task efficacy and barrier efficacy) as they have been shown to explain a substantial amount of variance in behavior (Foley et al., 2008; Jin, 2012; Pawlowski, 2016; Roberts et al., 2010). Three similar integrative frameworks have been used in previous studies to predict physical activity intentions and behavior in high school students during leisure-time physical activity (Roberts et al., 2010), in inclusive physical education classes (Jin, 2012) and to examine out of school physical activity promotion by adapted and general physical education teachers (Pawlowski, 2016). While these frameworks have been shown to better predict the behavior of interest in their studies, they have not been cross validated with each other.

The use of an integrated framework is necessary to examine the complexities of behavior and many of the variables that might influence it. Additionally, physical educators are important for the successful implementation of inclusive extracurricular athletics for students with disabilities. Therefore, the purpose of this study was to examine teachers' awareness and implementation of inclusive extracurricular athletics

and explored the utility of the proposed integrated frameworks. The following specific aims and questions were addressed by this work.

Aim 1: To understand and examine physical education teachers' awareness of and potential factors affecting the inclusion of students with disabilities in extracurricular athletics.

Question 1: What is the awareness of the inclusive extracurricular athletics policy among physical education teachers?

Questions 2: What factors affect physical educators' implementation of inclusive extracurricular athletics for students with disabilities?

Aim 2: Examine the effectiveness of an integrative framework to understand and predict inclusion behavior of physical educators regarding the implementation of extracurricular athletics for students with disabilities.

Question 1: Which model, the TPB or the integrated frameworks, will fit the data best and better predict inclusive behavior?

#### Delimitations

1. Physical education teachers include both adapted and general physical education teachers who are currently practicing in the United States, whose schools were included on the National Center for Education Statistics database, and had readily accessible, accurate and up-to-date contact information available on their websites or were teachers with Twitter and Facebook accounts.
2. Physical education teachers had a work email account and internet access.
3. Physical education teachers were willing to participate in an online survey.

### Assumptions

1. All participants will complete the survey honestly.
2. Self-report of current inclusion behavior and extracurricular opportunities are accurate.
3. Survey measures used in this study are capable of providing evidence of valid and reliable scores.
4. Respondents are representative of adapted and general physical educators and current practices across the United States.
5. Respondents will only participate in the survey once. For example, if they are sent an invitation to participate via email they will not also participate in the survey if they also saw a social media recruitment post.

### Limitations

1. Survey response rate from email solicitation of 11.11% was lower than desired.
2. National Center on Education Statistics school registry and school websites might not be up to date and might not include a complete list of all schools in the states selected.
3. Directory and contact information was not available on all school websites for all schools randomly selected in the sampling frame.
4. Small number of adapted physical education respondents.
5. Not all participants were directly involved with extracurricular athletics.
6. Quality or level of inclusion of students with disabilities was not assessed.

## Operational Definitions

1. Attitude – the degree to which engaging in the behavior is positively or negative valued (Ajzen, 1991).
2. Awareness – being conscious of and having knowledge about something, in this case the clarification of schools' responsibilities for providing equal opportunities for extracurricular athletics to students with disabilities as outlined in the January 25, 2013 Dear Colleague letter.
3. Barrier efficacy - an individual's belief in overcoming barriers in their capability to perform the desired behavior.
4. Inclusion in extracurricular physical activity - promoting participation in already existing extracurricular physical activities, providing adaptations and accommodations, and engaging in creating and coaching disability specific sports.
5. Implementation intention – an individual's creation of a plan encompassing when, where, and how the intention is translated into the desired behavior and focuses on the process of achieving said behavior (Gollwitzer, 1993).
6. Intention – decision to enact a given behavior and an individual's willingness to engage in that behavior (Gollwitzer, 1993).
7. Perceived behavioral control – an individual's perception of the ease or difficulty of performing the desired behavior based on their reflection of external facilitators or barriers (Jeong & Block, 2011).
8. Perceived responsibility – who is deemed to be responsible for a specified behavior.

9. Physical education teacher - an instructor that spends their working day teaching content related to the development of a) physical and motor fitness; b) fundamental motor skill and patterns; and c) skills in aquatics, dance, and individual and group games. They might work with students with or without disabilities. If working with students with disabilities they might provide specially designed instruction within a physical education context.
10. Self-efficacy - an individual's belief in their capability to organize and execute the courses of action required to produce the desired behavior (Bandura, 1997).
11. Subjective norm – the perceived social pressures to engage or not to engage in the desired behavior (Ajzen, 1991).
12. Task efficacy – an individual's belief in his or her capability to perform the necessary behavior.
13. Theory of Planned Behavior (TPB) – is a theoretical framework that says an individual's behavior is determined by their intentions and perceptions of control over behavior, while their intentions are influenced by attitudes, subjective norms, and perceived behavioral control (Ajzen, 2001).

## Chapter 2.

### Examining Physical Educators' Awareness and Implementation of Inclusive Extracurricular Athletics for Students with Disabilities

### Abstract

The purpose of this study was to examine the awareness and implementation of an equal opportunity policy for students with disabilities in extracurricular athletics. A national sample of 269 physical educators completed an online survey assessing their awareness of the federal policy, inclusion behavior, perceived behavioral control, intentions, implementation intentions, task efficacy and barrier efficacy towards inclusion of students with disabilities in extracurricular athletics. Pearson chi-square tests revealed that teachers with undergraduate adapted physical education coursework were more likely to be aware of the policy. Hierarchical regression analyses revealed that intentions, implementation intentions, barrier efficacy, and coaching status were associated with administrative behaviors, while implementation behaviors were associated with intentions, implementation intentions, task efficacy, and coaching status. Current channels of policy dissemination sufficiently reached a majority of the sample but more can be done to reach those unaware of the policy through undergraduate coursework and professional development opportunities. Utilizing physical education teacher education curricula and service learning programs might help teachers to promote sport participation and develop inclusion techniques.

**Key Words:** Students with disabilities, policy implementation, promotion of physical activity, inclusive extracurricular athletics

## Examining Physical Educators' Awareness of and Implementation of Inclusive Extracurricular Athletics for Students with Disabilities

Physical activity is important for overall health (CDC, 2015; Haskell et al., 2007), and the benefits of regular physical activity participation are well documented (Lee et al., 2012). However, despite the benefits of physical activity, youth in the US are not participating at the recommended levels. For example, in the 2013 Youth Risk Behavior Survey only 27.1% of high school students reported engaging in any kind of physical activity that increased heart rate and made them breathe hard some of the time for at least 60 minutes for each day over the previous 7 days (CDC, 2014).

Although there is some debate, youth with disabilities are generally believed to engage in lower levels of physical activity than others. Rimmer and Rowland (2008) reported that adolescents with disabilities, aged 11-16, were found to be 4.5 times less physically active compared with their age-matched peers without disabilities and were more likely to engage in sedentary behavior. The 2001 Youth Risk Behavior Survey found that the proportion of youth with physical disabilities who participated on sports teams was significantly less than for those without disabilities (Grunbaum et al., 2002). These low rates of physical activity participation raise concerns, as physical activity participation often tracks from adolescence into adulthood, such that physically inactive youth tend to become inactive adults (Rimmer & Rowland, 2008).

In an effort to address low levels of physical activity, the role of schools and extracurricular programs have been identified as avenues for physical activity promotion. In particular, due to their content area and position in the school, physical educators are uniquely positioned to promote physical activity (McKenzie & Lounsbery, 2013).

Additionally, the Council on Children with Disabilities Executive Committee of the American Academy of Pediatrics (AAP) has recommended that youth with disabilities increase their levels of physical activity participation by engaging in competitive and recreational sports and physical activities throughout childhood and adolescence (Murphy & Carbone, 2008). As such, physical educators should encourage students to be physically active outside of school and refer students to community-based sports and recreation programs (Thom, 2011). Promotion of extracurricular physical activity by physical educators is crucial because, despite successful efforts to increase physical activity, there is not enough time for students to meet national physical activity requirements during physical education class time alone (Palmer & Bycura, 2014). National physical education teaching standards have also highlighted physical educators' responsibility to promote student engagement in physical activity outside of school as an important component of their job (Society of Health and Physical Educators (SHAPE) of America, 2013).

Successful implementation of federal policy can be an effective way to improve physical activity participation. In the past, various government policies, such as Title IX, have been enacted to ensure equal opportunity. Though originally intended to benefit women, both men and women have been allowed ample sport and athletic opportunities as an outcome of this policy and it has changed many physical activity behaviors (National Coalition for Women and Girls in Education (NCWGE), 2012). However, despite past success, recommended policies and practices are not always uniformly adopted across the United States (Johnston, O Mally, Terry-McElrath, & Colabianchi,

2013; Metos & Nanney, 2007; Nanney & Davey, 2008; Taber, Chriqui, & Chaloupka, 2011).

The federal government has recognized promotion of physical activity outside of school as an important issue, and released a federal policy regarding extracurricular physical activity participation for students with disabilities. On January 25<sup>th</sup>, 2013, the US Department of Education Office for Civil Rights released a policy statement promoting physical activity of students with disabilities using the “Dear Colleague letter” form (US Department of Education Office for Civil Rights, 2013). This letter promotes physical activity levels among individuals with disabilities through a clear indication of the guarantee of equal accessibility for extracurricular athletics based on Section 504 of the Rehabilitation Act of 1973 and 2010 the U.S. Government Accountability Office report. This policy clarified the guarantee of accessibility for extracurricular physical activity opportunities, ensuring that students with disabilities should be included and play alongside their peers with and without disabilities (US Department of Education Office for Civil Rights, 2013). This was done in part, to more clearly define schools’ responsibilities, encourage implementation of the policy, and ensure all students an equal opportunity to participate in extracurricular athletics (Arnhold, Young, & Lakowski, 2013).

According to the policy, schools that receive federal funds are required to provide equal opportunities for students with disabilities to participate in extracurricular physical activities (US Department of Education Office for Civil Rights, 2013). This might include providing reasonable accommodations such as using a light along with a starter pistol so that a deaf runner can compete in a track and field event. These accommodations

might include adaptations, modifications, and support personnel for existing sport programs. The requirement of equal opportunity does not mean changing essential elements that could affect the fundamental nature of the game, giving a student with a disability an unfair advantage, changing the nature of selective teams, or compromising student safety. Additionally, the guidance urges, but does not require, that school districts create additional opportunities for students with disabilities to participate in separate or different extracurricular athletic activities. The guidance provides many examples of reasonable accommodations, explicitly spells out what is not required and encouraged the development of alternative disability specific sports; however, who should be responsible for implementing this policy is not clear. Though many of the examples reference support personnel, the guidance never specifically defines who should implement the policy.

Despite this ambiguity of who is responsible for this policy implementation, professionals in adapted physical activity have suggested that physical education teachers are ideally suited and qualified to take up the mantle to implement this policy (Silliman-French & French, 2013). In fact, adapted physical education specialists have long advocated for the inclusion of students with disabilities and were some of the first to provide opportunities for adapted athletics (Poulin et al., 2013). Often, it is this grassroots involvement of key stakeholders that is critical for successful policy implementation as seen in other school health policies (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999; Henderson & Mapp, 2002; Kehm, Davey, & Nanney, 2015). Additionally, some states, such as Maryland and Minnesota, have been providing extracurricular athletic opportunities for students with disabilities long before the 2013 Department of Education release of the policy clarification (Poulin et al., 2013). Even with these early advocates

for inclusive athletics, some statewide programs, and support systems such as the American Association of Adapted Sports Program (AAASP), inclusive athletic opportunities are not currently available to all students. Furthermore, despite the federal mandate teachers might be unaware of inclusive extracurricular programs or of the laws that mandate their existence (Tymeson, 2013). Therefore, the primary purpose of this study was to evaluate physical education teachers' awareness of the policy and current dissemination practices. Due to the relatively recent release of this policy it was hypothesized that few teachers would be aware of the policy.

In order to develop inclusive extracurricular opportunities for students with disabilities, it is important to understand potential factors that might influence physical educators implementation of this policy. The Theory of Planned Behavior (TPB; Ajzen, 1991) is a common theoretical framework used in adapted physical activity (Jeong & Block, 2011; Sato et al., 2017; Taylor & Yun, 2012) and suggests that attitude, subjective norms, and perceived behavioral control act on intentions, while intentions and perceived behavioral control act on behavior (Ajzen, 1991). However, the theory of planned has been criticized as intention alone has not been shown to form a strong association with behavior (Gollwitzer, 1999; Kodish et al., 2006; Martin & Kulinna, 2004; Motl et al., 2005). Previous studies have advocated for the use of additional variables (i.e., implementation intention, task efficacy and barrier efficacy) as they have been shown to explain a substantial amount of variance in behavior (Foley et al., 2008; Jin, 2012; Pawlowski, 2016; Roberts et al., 2010). Therefore, the secondary purpose of this study was to explore these potential factors affecting physical education teachers' behavior toward the implementation of inclusive extracurricular athletics for students with

disabilities. It was hypothesized that adapted physical educators who aware of the policy and held more favorable beliefs and intentions towards inclusion would be more likely to provide inclusive extracurricular athletic opportunities.

## **Method**

### **Participants**

A total of 269 adapted and general physical education teachers from across the United States participated in this study. Through a stratified national sample physical education teachers were recruited from California, Georgia, Illinois, Kansas, Maryland, Minnesota, Oregon, Pennsylvania, Utah, Virginia, Washington, and Wisconsin, as well as through social media sites on Facebook and Twitter. Participants were split between male (44.7%) and female (54.1%), with 81% identified as white, 6.4% as Black/African American, 1.1% Asian, less than 1% American Indian/Alaskan Native, less than 1% Pacific Islander, and 3% selected “other” for race. For ethnicity 3.5% identified as Hispanic or Latino/Latina and 96.5% as non-Hispanic or Latino/Latina. The average participant age was  $43 \pm 10.9$  years. Across education levels 35.6% held a Bachelors degree, 58.1% had a Masters degree, 1.9% had a PhD, and 4.5% selected other. The majority of respondents had a primary teaching focus in physical education ( $n = 242$ ) and the remainder focused on adapted physical education ( $n = 27$ ). Just over 30% of respondents held an adapted physical education credential at the state and/or national level, while 81% had taken adapted physical education coursework at the undergraduate level. Lastly, 64% of respondents indicated that they coached sport programs. See table 2.1 for more detailed information.

Table 2.1 Demographic characteristics of participants

Sample Characteristics	Physical Education Teachers % (n)
Age (years)	43.05 ± 10.9
Sex	
Female	53.9% (145)
Male	44.6% (120)
Race	
White	87.4% (235)
Black/African American	6.7% (18)
Asian	1.5% (4)
American Indian/Alaskan Native	0.7% (2)
Pacific Islander	0.7% (2)
Other	3% (8)
Ethnicity	
Hispanic	3.3% (9)
Education	
Bachelors	35.3% (95)
Masters	58.4% (157)
PhD	1.9% (5)
Other	4.5% (12)
Primary Teaching Focus	
Adapted physical education (APE)	10.0% (27)
General physical education (GPE)	90.0% (242)
PE Licensure	96.7% (260)
APE Certificate/endorsement	
State	26.0% (70)
APENs	3.3% (9)
Both	1.5% (4)
None	62.8% (169)
Unsure	6.3% (17)
Years at same school	11.04 ± 9.02
Adapted coursework	
Undergrad	81.4% (219)
Graduate	33.1% (89)
Coaching	
Yes	63.6% (171)
No	36.4% (98)

Note: The sum of participants in each category might not equal the total number of subjects in the study due to missing data or option to select more than one response.

Respondents also provided information about the schools where they taught indicating geographic and socioeconomic classification as well as grades levels taught and approximate class size. Geographic classification was fairly split between rural (42.0%) and urban (47.6%) location, with 10.4% unsure of their school classification. Socioeconomic classification is estimated using Title 1 classification. Title 1 classification represents the number of low-income students served in a given school. For an entire school to qualify, at least 40% of the student body must be enrolled in the free and reduced lunch program. Therefore, Title 1 schools tend to have larger concentrations of low-income students and receive supplemental funding to assist in meeting educational goals. Over 40% of the schools represented in this study were classified as Title 1 schools, 32% were not, 22.7% of teachers were unsure of classification, and the remaining 4.1% taught at multiple schools with different classification status. Grades taught included Pre-K (6.3%), elementary school (32%), middle school (40.1%), high school (40.1%), multiple schools (22.7%), and K-12 (5.6%). Teachers were able to select more than one grade level. Typical class size ranged from less than 20 students (11.9%) to more than 50 students (5.6%).

### **Instrument**

The online survey asked about teachers' awareness of the policy, intentions and efficacy beliefs, inclusion behavior and other factors that might impact teachers' behavior. Study variables assessed the inclusion of students with disabilities in extracurricular athletics as outlined in the January 25<sup>th</sup>, 2013, Dear Colleague letter (US Department of Education Office for Civil Rights, 2013) and physical educators' role in actively

implementing inclusive extracurricular physical activities. Reported internal consistencies are based on data from measures in this study.

### *Awareness*

Teachers' awareness of the policy and knowledge of school-sponsored extracurricular physical activity opportunities for students with disabilities was measured. For awareness of policy, teachers indicated whether, prior to engaging in the study, they were aware of this policy. This was assessed using one item and with a yes/no response. To assess knowledge of extracurricular physical activity opportunities available to students with disabilities, teachers reported on programs currently available in their school district. These programs included interscholastic (i.e., organized sport competitions where different schools compete against one another), intramurals (i.e., sport competition among students enrolled in the same school), physical activity clubs (e.g., parks and recreation programs, travel leagues, etc.), and special activity organizations (e.g., Special Olympics). Respondents indicated whether programs were selective (e.g., restricted by number, skill or grade level) or non-selective (e.g., included all students, including those with disabilities without restriction). These items were separately evaluated due to the possibility of a teacher being aware of the policy but working in a school district that does not currently offer inclusive extracurricular opportunities.

### *Behaviors*

Based on the behaviors specified in the January 25<sup>th</sup>, 2013, Dear Colleague letter, behavior items were classified into two categories: implementation and administrative behaviors. The guidelines provided specific behaviors that schools are legally mandated

to provide, and also strongly encouraged but did not require the development of disability-specific sports. Implementation behaviors measured the adaptation and promotion behaviors required by the guidelines, while administrative behaviors measured the management aspects required for the growth of separate disability sport leagues.

Both behavior categories were modified from Hodges Kulinna, McCaughtry, Martin, Cothran, and Faust (2008) and Pawlowski (2016). Hodges Kulinna et al. (2008) examined the use of a mentorship program in young teachers' implementation of health-related fitness curriculum, and Pawlowski (2016) examined promotion of after school physical activity promotion within the educational setting. Items were modified to focus on the inclusion of students with disabilities in extracurricular athletics. These items assessed the frequency that the teachers engaged in implementation and administrative behaviors and were scored on a 7-point scale ranging from never to daily.

Implementation behaviors were assessed using six items and focused on modifying equipment, adapting activities, and providing accommodations to facilitate participation,  $\alpha = .92$ . Administration behaviors were assessed using four items and refer to tasks related to organizing and running sport programs such as scheduling events, arranging team transportation, and fundraising to cover costs,  $\alpha = .90$ . Composite scores were obtained for both behavior types by averaging item scores for an overall score between one and seven. Higher scores indicated greater frequency of behavior

### *Intentions*

Physical education teachers' intention to implement inclusive extracurricular athletics was assessed as a multidimensional construct consisting of general intention and implement intention. General intention was based on the TPB (Ajzen, 1991) and is

believed to directly affect behavior. It was measured with five items adapted from Hodges Kulinna et al. (2008). These items were scored on a 7-point scale ranging from strongly disagree to strongly agree. Internal consistency was found to be  $\alpha = .96$ .

Implementation intention is thought to address the gap between general intention and behavior (Gollwitzer, 1993) and assesses the plan in place for completing a behavior (i.e., when, where, how) (Roberts et al., 2010). It was measured using four items scored on a 7-point scale ranging from strongly disagree to strongly agree. Items were modified from Roberts et al. (2010). Internal consistency was found to be  $\alpha = .97$ . Composite scores were obtained for all constructs by averaging item scores for an overall score between one and seven. Higher scores indicated greater favorability/likelihood to include students with disabilities in extracurricular physical activities.

#### *Efficacy Beliefs and Perceived Control*

Self-efficacy was measured through two constructs task and barrier efficacy. Task efficacy assessed teachers' belief in their ability to engage in inclusive behaviors, while barrier efficacy assessed teachers' belief in their ability to overcome barriers to perform the behavior (Roberts et al., 2010). Both task and barrier efficacy were modified from Roberts et al. (2010). Task efficacy was measured using ten items scored on a 5-point scale ranging from 1 (not at all confident) to 5 (completely confident) where participants indicate their confidence to include students with disabilities over increasing intensity (i.e., frequency of inclusion such as once a month or every time) and duration (i.e., length of time included in the physical activity). Internal consistency was found to be  $\alpha = .97$ . Barrier efficacy was measured using four items scored on a 5-point scale ranging from 1 (not at all confident) to 5 (completely confident) presenting different scenarios with

common barriers to including student with disabilities. Internal consistency was found to be  $\alpha = .86$ . Composite scores were obtained for each construct by averaging items for an overall score between one and five, with higher scores indicating more favorable beliefs about including students with disabilities in extracurricular athletics.

While perceived behavioral control has common characteristics with self-efficacy, they are different constructs measuring distinctive beliefs (Ajzen, 2002; Bandura, 2004; Foley et al., 2008). Perceived behavior control measured participants beliefs about the degree to which including students with disabilities in extracurricular athletics was up to them. This was assessed using three items scored on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). Responses were summed with higher scores indicating greater perceived control over the inclusion of students with disabilities. Internal consistency was found to be  $\alpha = .95$ .

#### *Other Potential Factors*

Demographic variables thought to influence teachers' awareness and behavior were teaching focus, adapted coursework, and coaching status. For teachers' awareness of the policy teaching focus, adapted coursework and coaching status were examined. For behavior teaching focus and coaching status were examined. Respondents indicated either general physical education or adapted physical education as their primary teaching focus. Adapted coursework was assessed using three items and measured whether respondents had taken any undergraduate and graduate adapted physical education coursework, as well as how many adapted physical education specific courses they had taken. Responses for number of course ranged from 0 to more than 5. Finally, respondents indicated whether they coached any sports.

Lastly, additional demographic questions addressing teacher and school characteristics were assessed. These questions included age, gender, education level, teaching certification/licensure, years teaching, years at same school and primary teaching focus. Additionally, questions focused on coaching-related certification or trainings, sports coached and sport programs offered by their school district to students with and without disabilities. Demographic questions related to teacher characteristics included the teachers' current caseload of students with disabilities and average number of students with disabilities in a typical class, while school characteristics included grades taught, geographic classification, and funding classification (e.g. Title 1 classification).

### **Procedures**

Participants were recruited from a stratified national sample of physical education teachers from K-12 public school via their work email and invited to participate in an online survey. For the stratified national sample, two states were randomly selected from each of the six regions of the United States in accordance with the SHAPE America regional breakdowns. Once 12 states were identified a sample weight for each state was calculated by dividing that state's population by the total population. Then, a proportional number of schools based on that state's population weight were determined. Using the National Center on Education Statistics (NCES) school search website (<http://nces.ed.gov/ccd/schoolsearch/>), potential public K-12 schools were randomly identified. Schools were redrawn arbitrarily if a previously identified school had to be replaced due to lack of information, school closure, or if the school was a correctional facility or military academy.

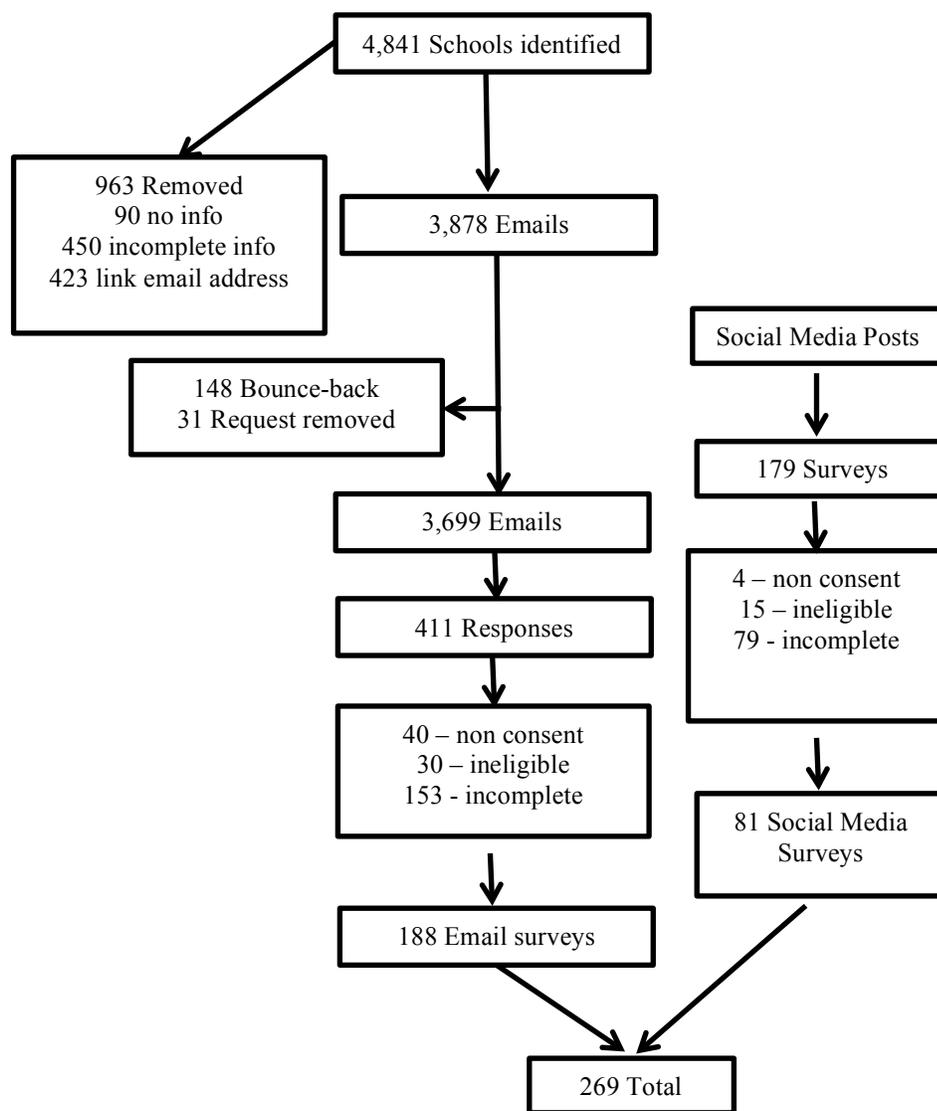
Online searches of the selected schools' websites were conducted to gather physical education teachers' email contact information. A total of 3,878 potential participants were identified and initial invitation emails were sent out. Of those, 148 emails bounced back and were undeliverable, and 31 individuals requested that their email address be removed from the list, such that 3,699 follow-up emails were sent. Participants were contacted over a period of two months in the spring of 2017. Each participant was invited to participate in the study at least four times. The number of reminders were based on survey response, such that reminder emails were no longer sent once participant response to survey requests slowed down (Dillman, Smyth, & Christian, 2014). A coupon for free shipping to a popular physical education equipment catalogue was provided at the end of the survey, with information about this coupon included in the recruitment emails to entice participants.

In addition to the national sample, physical educators were also recruited from social media sites via Facebook and Twitter. Recruitment posts were targeted to pages that physical educators might frequent such as PE central, SHAPE America, Disability Sport, and PhysEdGames. Different social media groups and pages were selected based on the researchers contacts and knowledge of programs. The posts invited individuals to click a link to the online survey if they wished to participate. One to five posts were made to each site over the course of two months. If posts were taken down or the researchers were contacted by the groups to desist no additional posts were made to those sites. Repeated posts to sites were separated by one week.

The survey was administered through Qualtrics (Qualtrics, Provo, UT) and allowed those that clicked the link to participate anonymously. First, respondents were

presented with a cover letter that included an explanation of the study, and consent information. Participants gave their consent by selecting “yes” when asked, “Do you consent to participate in this study?” If the participant consented they proceeded to the eligibility question to determine if they were currently teaching at least one unit of physical education. If respondents were eligible they continued to rest of the survey. Of the 3,699 survey requests distributed via email 411 submitted the survey for a response rate of 11.11%. Of these, 40 did not consent, 30 were ineligible, and 153 were incomplete (missing more than 20% of the survey). For the social media recruitment, 179 surveys were submitted, of these 4 did not consent, 15 were ineligible and 79 were incomplete. A total of 188 surveys from the stratified national sample and 81 surveys from the social media sample were included in the data analysis (see figure 2.1). The Oregon State Institutional Review Board approved this study and participants indicated their consent when they submitted the survey.

Figure 2.1 Survey response pattern



## Analysis

Demographic variables were reported and descriptive statistics were calculated for variables of interest. Prior to the main analysis, one-way ANOVAs were used to compare the two sampling groups on all major outcome variables and key demographic factors. No significant differences were found between the two groups. Therefore, they were assumed to be from the same population and the data were combined for further analysis.

First, for preliminary data analysis, surveys with more than 20% missing data were removed, as the proportion of missing data affects the quality of statistical inferences (Dong & Peng, 2013). However, methods of imputation have been found to be stable for data sets with up to 25% missing data (Scheffer, 2002). To assess whether the remaining missing data were missing at random Little's MCAR test (Little, 1988) was used. Little's test was not significant,  $X^2 = 13811.99$ ,  $p = .57$ . Therefore the missing data can be assumed to be missing at random and can be replaced. The missing data were replaced using Expectation-Maximization. Expectation maximization uses information from the data that are present to predict what missing values should be. This method is preferred as it does not result in decreased sample size as list wise deletion might, which removes all of the participant's data when only one data point is missing (Dong & Peng, 2013). Only data used in the regression analysis were replaced.

Awareness of the 2013 policy clarification about students with disabilities in extracurricular athletics and methods of policy dissemination were calculated with percentages and 95% confidence interval of teachers' responses. To examine differences in awareness comparisons between teacher and school characteristics were run using Chi-

square tests. Knowledge of available inclusive physical activity opportunities was calculated with percentages and 95% confidence interval of teachers' responses. To examine factors affecting implementation of the extracurricular physical activity policy two separate hierarchical regressions were run on implementation and administrative behaviors. Independent variables of interest were perceived behavioral control, intention, implementation intention, task efficacy, barrier efficacy, awareness, teaching focus, coaching, and adapted coursework. First variables from TPB (perceived behavioral control and intention) were entered, then additional variables that were previously suggested (implementation intention, task efficacy, barrier efficacy) were entered. Last, demographic variables (teaching focus, coaching and awareness) were entered into the regression model. All demographic variables were dummy coded. Analyses were conducted in SPSS 24 (IBM Corp, 2016).

## **Results**

### *Awareness of Policy*

In the overall sample 63.7% (n = 171, 95% CI 57.82-69.32%) were previously aware of the extracurricular physical activity policy. Comparing percent aware between teaching focus groups, 62.0% of physical education teachers were aware and 77.8% of adapted physical education teachers were aware of the policy. However, there was no significant difference between teaching focus ( $\chi^2 (1, n = 269) = 2.62, p = .11$ ) on awareness of the policy. Among those that had taken at least one undergraduate course in adapted physical education 67.1% were aware of the policy while those that had not were only 48.0% aware, with a significant difference between the two groups ( $\chi^2 (1, n = 269) p = .01$ ). There were no other significant differences between groups among graduate

course work, number of courses, currently teaching students with disabilities, coaching, rural/urban classification, and Title I classification (see table 2.2).

Table 2.2 Comparisons of those aware of the policy by demographic variables

	Aware		Unaware		Pearson Chi Square
	(n)	Percent	(n)	Percent	
Teaching focus					
PE	150	62.0%	92	38.0%	.106
APE	21	77.8%	6	22.2%	
APE credential					
State certified	44	62.9%	26	37.1%	.148
National cert.	8	88.9%	1	11.1%	
Both	4	100%	0	0.0%	
None	102	60.4%	67	39.6%	
Undergraduate course					
At least 1 course	147	67.1%	72	32.9%	.011*
No coursework	24	48.0%	26	52.0%	
Grad course					
At least 1 course	53	59.6%	36	40.4%	.336
No coursework	118	65.6%	62	34.4%	
Number of courses					
None	35	63.6%	20	36.4%	.331
At least 1 course	50	56.8%	38	43.2%	
A couple of courses	50	69.4%	22	30.6%	
More than 5 courses	35	68.6%	16	31.4%	
Currently teaching students with disabilities					
Yes	154	63.9%	87	36.1%	.897
No	16	61.5%	10	38.5%	
Current serving on an IEP					
Yes	100	68.5%	46	31.5%	.067
No	71	57.7%	52	42.3%	
Coaching					
Yes	115	67.3%	56	32.7%	.097
No	56	57.1%	42	42.9%	
Classification					
Rural	69	61.1%	44	38.9%	.734
Urban	83	64.8%	45	35.2%	
Title I					
Yes	71	64.0%	40	36.0%	.082
No	61	70.9% <sup>o</sup>	25	29.1%	
Not sure	31	50.8%	30	49.2%	
Itinerant	8	72.7%	3	27.3%	

Note \*P < .05

Of those who were previously aware of the policy, respondents indicated how they were informed of the policy and could select more than one type. Options included adapted physical education teachers (24%), other physical education teachers (23%), professional conference (20%), university class (19%), continuing education unit (16%), special education director (15%), in-service training (12%), special education teacher (12%), journal article (11%), principal (10%), coach (9%), athletic director (8%), news (4%), as well as other sources (9%). Many respondents indicated that they had been made aware of the policy through multiple sources (46%). See table 2.3 for more information.

Table 2.3 Type of policy dissemination

	n	Percent	95% CI	
			Upper	Lower
School principal	17	9.94	14.43	5.46
Special education director	25	14.62	19.92	9.32
Conference	34	19.88	25.87	13.90
APE teacher	41	23.98	30.38	17.58
Athletic director	14	8.19	12.30	4.08
Coach	15	8.77	13.01	4.53
Continuing education	27	15.79	21.26	10.32
In-service training	21	12.28	17.20	7.36
Journal	19	11.11	15.82	6.40
Special education teacher	20	11.70	16.51	6.88
PE teacher	39	22.81	29.10	16.52
News	7	4.09	7.06	1.12
University class	33	19.30	25.21	13.38
Other	15	8.77	13.01	4.53
Multiple sources	79	46.20	53.67	38.73

Note: Respondents could select multiple options

Respondents specified who they deemed to be responsible for implementing inclusive extracurricular athletics. Responses included athletic directors, coaches of the particular sport, adapted physical educators, physical educators, special education teachers or other party. Respondents indicated the degree to which they agreed that each of the differing parties was responsible for policy implementation. The majority of

respondents selected adapted physical educators (85.5%) followed by special education teachers (82.1%) next coaches (81.4%) then physical education teachers (78.8%) and lastly, athletic directors (72.9%) as the individuals responsible for implementing the policy.

*Knowledge of existing programs.*

Teachers indicated which sport programs had selective requirements (e.g., restrictions on the number of players on a given team, skill level, grade level, etc.) or were non-selective. Types of sports programs offered included interscholastic (i.e., players from one school compete against players from another school), intramurals (i.e., players from the same school compete against each other), physical activity clubs (i.e., teams organized without reference to schools such as parks and rec programs) and special activity organizations (e.g., Special Olympics). For each of the four types of sport programs offered respondents indicated that physical activity opportunities were currently available for all students with physical activity clubs being the most inclusive (83.6%), and interscholastic sports being the most selective (48.7%) (see table 2.4).

Table 2.4. Selective requirements for type of sport programs offered

		Percent (n)	95% CI	
			Upper	Lower
Interscholastic	Selected	48.7 (131)	54.67	42.73
	All students	51.3 (138)	57.28	45.33
Intramurals	Selected	23.0 (62)	28.08	18.02
	All students	77.0(207)	81.98	71.92
PA clubs	Selected	16.4 (44)	20.78	11.94
	All students	83.6 (225)	88.06	79.22
Special activity orgs	Selected	20.1 (54)	24.86	15.29
	All students	79.9 (215)	84.71	75.14

Note PA = physical activity, orgs = organizations such as the Special Olympics

### *Potential Factors Affecting Behaviors*

Interclass correlations between major outcome variables theoretically related to implementation and administrative behaviors in addition to demographic variables; awareness, teaching focus and coaching, were run. Implementation behaviors were significantly correlated with all variables except intentions ( $r = .11$ ,  $p = .07$ ) and teaching focus ( $r = .10$ ,  $p = .09$ ). Administrative behaviors were significantly correlated with all variables except teaching focus ( $r = .09$ ,  $p = .12$ ). Interclass correlations, mean and standard deviation for all variables entered in the hierarchical regressions are depicted in table 2.5. The variable with the highest average score was intention (5.78 out of 7) and the variable with the lowest average score was administrative behavior (2.15, 2 = less than once a month).

Table 2.5. Interclass correlation and descriptive statistics of study variables

	1	2	3	4	5	6	7	8	9	10
1. AD	1.00									
2. IMP	.537**	1.00								
3. PBC	.217**	.284**	1.00							
4. INT	.112	.251**	.304**	1.00						
5. II	.301**	.446**	.282**	.670**	1.00					
6 TE	.285**	.496**	.275**	.255**	.311**	1.00				
7. BE	.294**	.384**	.225**	.217**	.288**	.545**	1.00			
8. AW	.176**	.238**	.124*	.133*	.273**	.273**	.169**	1.00		
9. TF	.104	.094	.042	.067	.112	.170**	.211**	.099	1.00	
10. CH	.195**	.207**	.217**	.061**	.013	.128*	.044	.095	.024	1.00
M	2.15	4.25	4.48	5.78	4.71	4.01	3.43	NA	NA	NA
SD	1.74	1.99	1.76	1.36	1.76	.96	.98	NA	NA	NA

Note \* $P < .05$ , \*\* $P < .001$  1 = administrative behavior, 2 = implementation behavior, 3 = perceived behavioral control, 4 = intention, 5 = implementation intention, 6 = task efficacy, 7 = barrier efficacy 8 = awareness, 9 = teaching focus, 10 = coaching, M = mean, SD = standard deviation. All scores were on a scale of 1 to 7 with 1 indication lower/less favorable scores, except task and barrier efficacy, scored on a scale of 1 to 5.

Factors affecting teachers' implementation of the policy were examined using two separate hierarchical regression analyses for the two different behaviors (i.e., implementation and administration). Results of the hierarchical regression revealed that all models were significant. Items were entered into the hierarchical regression following their theoretical implications first through the TPB, then the additional variables suggested by previous studies were added, and demographic variables with the potential to affect behavior were entered last. Results of the regressions are shown in table 2.6 and 2.7.

For implementation behaviors, Model 1 had an  $R = .33$ ,  $F_{(2, 267)} = 16.53$ ,  $p < .001$ . The first model included perceived behavior control and intention, with 11.06% of the variance explained. Model 2 had an  $R = .61$ ,  $F_{(5, 264)} = 30.4$ ,  $p < .001$ . The second model included variables from the first and added implementation intention, task efficacy, and barrier efficacy, and explained an additional 25.57% of the variance. Model 3 had an  $R = .62$ ,  $F_{(8, 261)} = 20.65$ ,  $p < .001$ . The third model included variables from the second and teachers' awareness of the policy, teaching focus, and coaching status. These variables explained an additional 2.26% of variance. Results of the hierarchical regression showed that intention  $\beta = -.15$ ,  $p < .05$ , implementation intention  $\beta = .39$ ,  $p < .001$ , task efficacy  $\beta = .31$ ,  $p < .001$  and coaching  $\beta = .15$ ,  $p < .01$  were significant predictors of behavior.

For administrative behaviors, Model 1 had an  $R = .22$ ,  $F_{(2, 267)} = 6.90$ ,  $p < .001$ . In the first model, perceived behavior control and intention, explained 4.93% of the variance. Model 2 had an  $R = .42$ ,  $F_{(5, 264)} = 11.53$ ,  $p < .001$ . In the second model, the addition of implementation intention, task efficacy, and barrier efficacy explained an additional 13.05% of the variance. Model 3 had an  $R = .46$ ,  $F_{(8, 261)} = 8.48$ ,  $p < .001$ . In the third

model, the addition of teachers' awareness of the policy, teaching focus, and coaching status explained an additional 2.71% of the variance. Results of the hierarchical regression showed that intention  $\beta = -.21$ ,  $p < .01$ , implementation intention  $\beta = .33$ ,  $p < .001$ , barrier efficacy  $\beta = .16$ ,  $p < .05$ , and coaching  $\beta = .16$ ,  $p < .01$ , significantly predicted behavior.

Table 2.6. Hierarchical regression results for implementation behavior

Variable	Model 3			
	Model 1 B	Model 2 B	B	95% CI
Perceived behavioral control	.26**	.12*	.08	[.05, .12]
Intention	.26**	-.21*	-.21*	[-.27, -.15]
Implementation intention		.43**	.44**	[.38, .49]
Task efficacy		.68**	.64**	[.58, .70]
Barrier efficacy		.21	.23	[.18, .28]
Awareness			.11	[.08, .15]
Teaching focus			-.17	[-.21, -.12]
Coaching			.61**	[.55, .67]
R <sup>2</sup>	.11	.37	.39	
F	16.53**	30.40**	20.65**	
$\Delta R^2$		.26	.02	
$\Delta F$		13.87	-9.75	

Note: \* $p < .05$ , \*\* $p < .01$ .

Table 2.7. Hierarchical regression results for administrative behavior

Variable	Model 3			
	Model 1 B	Model 2 B	B	95% CI
Perceived behavioral control	.20**	.12*	.09	[.05, .12]
Intention	.06	-.26**	-.27**	[-.33, -.20]
Implementation intention		.32**	.32**	[.27, .38]
Task efficacy		.22	.17	[.12, .21]
Barrier efficacy		.27*	.28*	[.23, .33]
Awareness			.12	[.08, .16]
Teaching focus			.13	[.09, .17]
Coaching			.59**	[.53, .64]
R <sup>2</sup>	.05	.18	.21	
F	6.90**	11.53**	8.48**	
$\Delta R^2$		.13	.03	
$\Delta F$		4.64	-3.06	

Note: \* $p < .05$ , \*\* $p < .01$ .

## Discussion

The purpose of this study was to evaluate physical education teachers' awareness of the policy and examine the factors affecting their implementation of inclusive extracurricular athletics for students with disabilities. This study found that the majority of physical educators were aware of the policy and this awareness was significantly related to undergraduate coursework in adapted physical education. Also, the study found that teachers' implementation behavior of the inclusive extracurricular activities was influenced by intention, implementation intention, and coaching, while task efficacy, and barrier efficacy influenced implementation and administrative behaviors, respectively.

Given the high level of awareness of the policy, current channels of dissemination appear to be appropriate. Some of the top channels of communication included teachers' colleagues (e.g., adapted and general physical education teachers) and professional development opportunities such as conferences, university classes, and continuing education opportunities. Till, Ferkins and Handcock (2011) found that teachers highly valued a collaborative approach and benefitted from their colleagues' insights when engaged in a professional development program for school wide physical activity promotion. Professional development is an intentional, continuous and systematic process through which new and/or different skills and knowledge's are gained (Day, 1999; Guskey, 2000). Professional development can be very useful in times of change, assisting with knowledge and skill building, especially when teachers collaborate, share ideas and feel supported (Day, 1999; Till et al., 2011). For example, in response to the lack of teacher education programs that provide pre-service training for low incidence disabilities, specifically traumatic brain injury, researchers have created two professional

development models to address this underserved population (Glang, Todis, Sublette, Brown, & Vaccaro, 2010). It is evident that physical education teachers are receiving pertinent information thru professional development and professional networking. This development is key to effective teaching and can be achieved through many different types of opportunities (Sears, Edgington, & Hynes, 2014; Souza, 2015).

Undergraduate adapted physical education coursework was significantly related to policy awareness, such that those who had taken undergraduate adapted physical education coursework were more likely to be aware of the policy. It is common for physical education teacher education programs to require at least one adapted physical education course, typically introductory in nature (Ayers & Housner, 2008; Perlman & Piletic, 2012). Previous studies have linked undergraduate adapted physical education coursework with positive feelings toward inclusion in physical education classes (Beamer & Yun, 2014; Obrusnikova, 2008). Although it has been suggested that one course might not be sufficient for physical educators to teach students with disabilities (Hardin, 2005), it might be enough to make physical educators aware of this particular policy.

Researchers have also suggested that the order and way in which adapted physical education content is presented might affect successful inclusion of students with disability (Jin, Yun, & Wegis, 2013). Rooted in the transtheoretical model (Prochaska, Norcross, & DiClemnte, 1994) and the premise that people do not change their behavior all at once, Jin et al. (2013) proposed a curriculum to address the inclusion of students with disabilities for physical education teacher education programs. In the first stage, a lecture-based class utilizes cognitive strategies to address teacher intentions toward inclusion, which might be an ideal opportunity to make teachers aware of the inclusive

extracurricular athletics policy. The results of this study support the use of one introductory undergraduate adapted physical education class as an effective way to make physical educators aware of the policy.

While the majority of respondents were aware of the policy, and this is an essential step in the process of behavior change, it is important to note that behavior change might require more than just simply making individuals aware of this particular policy. Previous public health interventions have shown that while awareness and knowledge are a critical first step, they are not by themselves enough to change health behaviors (Corace & Garber, 2014; Kelly & Barker, 2016). One interesting but expected finding was that awareness did not directly influence behavior. The regression analyses indicated that awareness of the policy was not one of the variables directly related to behavior. Previous studies examining other behaviors had similar results. For example, when examining cigarette smoking behavior it has been found that awareness of the negative health outcomes of smoking does not result in the desired behavior of smoking cessation (Xu, Liu, Sharma, & Zhao, 2015). Unsuccessful policy implementation is often a result of lack of capacity development to help the implementers (i.e. physical educators) acquire the skills they need to implement the policy (Spillane, Reiser, & Reimer, 2002). In order to increase policy implementation, dissemination efforts need to address inadequate capacity development for implementers, inappropriate or a lack of evaluation measures, and issues related to funding (Howie & Stevick, 2014). Current online resources through the department of education provide policy specifics, examples of appropriate adaptations, and protocols for grievance procedures but do not provide evaluation protocols or address capacity development, and the policy provides no

additional federal funding, though schools might lose funding if found to be noncompliant (US Department of Education Office for Civil Rights, 2013, 2015). Understanding why individuals engage in behavior is complex as it is influenced by many factors. Therefore, understanding these potential factors is necessary and future efforts should address the many factors affecting behavior change such as developing skills to effectively modify and adapt activities and equipment and fostering a sense of belief in their ability to include of students with disabilities.

Self-efficacy, as measured through task and barrier efficacy, was shown to influence behavior, such that task efficacy was the biggest predictor of implementation behaviors and barrier efficacy influenced administrative behaviors. As a predictor of behavior, raising teachers' self-efficacy toward working with students with disabilities in extracurricular athletics will theoretically lead to greater frequency of inclusion of students with disabilities in these programs (Bandura, 1986). There are four factors that affect an individual's level of self-efficacy (master experiences, vicarious experiences, verbal persuasion, and physiological response [Bandura, 1986]). Therefore, in order to positively impact teachers' beliefs in their ability to include students with disabilities in extracurricular athletics they have to be afforded successful experiences, observe others having successful experiences and/or receive positive verbal encouragement. One way to do this is through service learning programs that promote the inclusion of students with disabilities. Service learning, a common component of teacher education programs, has been shown to be an effective teaching tool (Eyler, Giles, Stenson, & Gray, 2001). Service learning combines community service with academic study, providing students an opportunity to apply knowledge gained in a classroom in a "real-world" setting

(Prentice & Garcia, 2000). Within adapted physical education, service learning programs have been shown to positively impact pre-service teachers feelings toward working with individuals with disabilities (Hardin, 2005; Hodge, Tannehill, & Kluge, 2003). By applying these same concepts to adapted sport participation teachers can develop the skills for the inclusion of students with disabilities in extracurricular athletics.

Implementation intention was a predictor of implementation behavior and one of the strongest predictors of administrative behavior. This finding is similar to other studies (Jin, 2012; Pawlowski, 2016; Roberts et al., 2010) that found implementation intention to be one of the most salient factors influencing behavior. Implementation intention encompasses the creation of a detailed plan to engage in the behavior (Roberts et al., 2010). Physical education teachers should be well versed in creating lesson plans detailing educational goals and lesson objectives. The addition of promoting inclusive extracurricular athletics or specifying adaptations and accommodations necessary for the inclusion of students with disabilities could be easily incorporated into lesson plans. Physical education teacher education programs could also help develop the skills and knowledge's teachers need to make detailed plans for the inclusion of students with disabilities. It might be that this act of making a plan is what is so important for translating intentions into behavior.

The addition of implementation intention affected the relationship between intention and behavior. This study showed that implementation intention plays an important role in translating intention into implementation and administrative behavior. Intention can be thought of as consisting of two phases, one that is motivational and occurs before making the decision to engage in the behavior and one that is volitional and

occurs after making the decision (Armitage & Sprigg, 2010; Gollwitzer, 1999). The motivational phase increases the likelihood of an individual engaging in the behavior, while the volitional phase takes this motivation and puts it into action (Jin, 2012), such that the effect of the addition of implementation intention might change the relationship between intentions and behavior.

This study also found that coaching was one of the top predictors of behavior. Intuitively these results make sense, as educators cannot engage in implementation of inclusive extracurricular athletics if they are not first involved in these programs. However, not all physical education teachers coach sports. As was found in this study only about 60% of respondents indicated that they were involved in coaching sports as either a head, assistant, or position (e.g., goalie) coach. Therefore, future efforts should examine those directly involved with extracurricular athletics including coaches, athletic directors and student athletes.

No differences between adapted and general physical educators were found for policy awareness. This was surprising because adapted physical education typically places a large emphasis on inclusion and socialization efforts as well as an advocacy approach (Lytle, Lavay, & Rizzo, 2010; Tripp, Rizzo, & Webbert, 2007). However, a previous study examining differences in out of school physical activity promotion between adapted and general physical educators also found no difference by teaching focus (Pawlowski, 2016). There are a few potential reasons for this unexpected finding. First, this policy has received special attention including specific sessions at professional conferences (e.g. National Consortium for Physical Education for Individuals with Disabilities, 2014; National Adapted Physical Education, 2016) as well as increased

national media coverage regarding disability and physical activity, including substantial increases in Paralympic coverage (National Center on Health, Physical Activity and Disability (NCHPAD), 2016). This increased attention might have helped to make physical educators aware of the issues.

The second potential reason there was no difference in awareness of the policy observed between the two groups is due in part to the current focus of teacher training in adapted physical education. Current training in adapted physical education focuses on the creation of specialized instruction to meet the unique individual needs of students with disabilities. This training provides adapted physical educators with a highly specialized skill set to safely and effectively teach students with disabilities in a public school setting (Lytle et al., 2010). Highly qualified adapted physical educators should have comprehensive content knowledge of and skill sets in the areas of physical education content knowledge, disability studies, motor assessment, special education law, development of IEPs, individual teaching and learning styles, adaptations and modifications for physical education, behavior management, collaboration and consultation, advocacy, inclusion practices, community and family resources, professional leadership and assistive technology for physical education (Lytle et al., 2010). Despite the potential overlap with physical activity promotion and adapted physical education content knowledge areas such as inclusion practices and community and family resources, physical activity promotion might not be commonly emphasized in current physical education teacher education programs (McKenzie & Lounsbery, 2014).

The last potential reason might be the small number of adapted physical educators included in this study. Just over 10% of respondents identified as adapted physical

educators. Of the adapted physical educators, 77.8% were aware of the policy, while only 62% of general physical educators were aware. Therefore, there was a difference in the level of awareness between adapted and general physical educators, although this was not significant. Future studies should target adapted physical educators and general physical educators separately to more accurately assess differences between these two groups.

This study is not without its limitations. First, this study had a low survey return rate of 11%, though it is similar to those seen in previous studies (Morgan, 2013; Pawlowski, 2016). Recruitment and survey distribution occurred during the spring, which can be a very busy time for teachers and may have conflicted with Spring Break. Due to the timing of emails, teachers may have received more than one request to participate while on vacation and away from their work email. These repeated follow-up emails might have been filter or removed as redundant or spam messages. As well, recruitment materials specifically mentioned inclusion and extracurricular athletics, physical activities, and sports. It may be that those who responded to the study were those already interested in inclusion or extracurricular activities for students with disabilities. This might explain the surprisingly high number of teachers that were aware of the policy. Furthermore, physical educators might choose to coach sports in addition to their teaching responsibilities, but they are not required to. Future studies should examine those directly involved with extracurricular athletics such as athletic directors, coaches, parents and student athletes. Lastly, this study examined general implementation and administrative behaviors. Future studies are needed to provide a more detailed analysis of the quality, frequency and overall participation of students with disabilities in extracurricular athletics.

## **Conclusion**

Overall, the majority physical educators were aware of the policy. While current channels of communication were effective more can be done to increase dissemination and implementation by addressing multiple facets of behavior change. Through physical education teacher education curricula and service learning programs teachers' self-efficacy towards inclusion might be changed leading to more teachers promoting sport participation and utilizing inclusion techniques. This participation might help to increase the accumulation of time spent in physical activity and potentially lead to more individuals meeting the current physical activity guidelines.

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## Chapter 3

Examining the Utility of an Integrated Framework on Physical Education Teachers'

Implementation of Inclusive Extracurricular Athletics.

### Abstract

The purpose of this study was to examine integrated frameworks that built off the Theory of Planned Behavior (TPB) and evaluate which was able to better predict physical educators' inclusion of students with disabilities in extracurricular athletics. A total of 269 physical educators from across the United States participated in an online survey assessing attitude, subjective norms, perceived behavioral control, intention, implementation intention, task efficacy, barrier efficacy and behavior related to inclusion of students with disabilities in extracurricular athletics. Path analyses were used to examine the TPB and three integrated frameworks. Results indicated that none of the models met all of the criteria for goodness of fit tests, however each of the three proposed integrated frameworks met two or more of the criteria. The addition of implementation intention, task efficacy, and behavior efficacy to the TPB in the integrated frameworks helped to better explain physical education teachers' inclusive behaviors for students with disabilities in extracurricular athletics.

Key words: integrated framework, inclusive extracurricular athletics, students with disabilities

Examining the Utility of an Integrated Framework on Physical Education Teachers'  
Implementation of Inclusive Extracurricular Athletics.

School based extracurricular activities are those activities that fall outside of the general education curriculum but are affiliated with the school nonetheless. Current literature supports the benefits of participation in extracurricular activities (Barnett & Weber, 2008) including academic achievement (Cosden, Morrison, Gutierrez, & Brown, 2004; Holloway, 2000; National Center for Educational Statistics (NCES), 1995; Trudeau & Shephard, 2008) social skill development (Howie et al., 2010), emotional development (Eime, Young, Harvey, Charity, & Payne, 2013; Massoni, 2011) and increased opportunities for physical activity participation (Leek et al., 2011). Recommendations have been made for physical educators to encourage students to be physically active outside of physical education classes and refer students to extracurricular programs to promote physical activity engagement (Thom, 2011; Yun & Beamer, in press).

However, youth with disabilities are less likely to be engaged in extracurricular physical activities (Belley-Ranger et al., 2016; Rimmer & Rowland, 2008). A report from the U.S. Government Accountability Office (GAO) found that students with disabilities participated in athletics to varying degrees, but at consistently lower rates than students without disabilities (US Government Accountability Office, 2010). In response to this report, the Department of Education Office for Civil Rights released a policy statement that clarified the guarantee of equal accessibility based on Section 504 of the Rehabilitation Act of 1973. According to the policy, schools that receive federal funds are required to provide equal opportunities for students with disabilities to participate in extracurricular physical activities with reasonable accommodations (US Department of

Education Office for Civil Rights, 2013). Reasonable accommodations might include adaptations, modifications or additional support personnel for existing sport programs (e.g. using a light along with a starter pistol so that a deaf runner can compete in a track event) but should not change the fundamental nature of the game, give students with disabilities an unfair advantage or compromise safety (US Department of Education Office for Civil Rights, 2015). These types of accommodations are similar to those made in physical education classes and facilitate the participation of students with disabilities, therefore, physical educators have been identified as ideally suited to implement this policy (Silliman-French & French, 2013). However, despite this federal mandate programs might not provide services that offer meaningful participation to students with disabilities and teachers might be unaware of inclusive extracurricular programs or of the laws that mandate their existence (Tymeson, 2013).

In order to develop these inclusive extracurricular athletic programs, the use of a theoretical framework is needed. One popular theoretical framework used in adapted physical education is the Theory of Planned Behavior (TPB; Jeong & Block, 2011; Sato et al., 2017; Taylor & Yun, 2012). The TPB posits that behavior is influenced by an individual's intentions and perceived behavioral control, while their intentions are influenced by attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). Thus according to the TPB, physical educators need strong intentions, positive attitudes, a supportive social environment and a strong sense of control toward implementing inclusive extracurricular physical activity opportunities for students with disabilities.

While the TPB might be popularly used and has made significant contributions in understanding physical education teachers' behavior, it is not without its limitations. Previous studies have shown a gap between intention and actual behavior, with intention alone not being strongly associated with behavior (Gollwitzer, 1999; Kodish et al., 2006; Martin & Kulinna, 2004; Motl et al., 2005). This gap leaves room for questions as to which additional factors contribute to the translation of intention into behavior over other factors (Armitage & Conner, 2000; Gollwitzer, 1993). For example, a study by Kosma, Ellis, Cardinal, Bauer and McCubbin (2007) found that by using stages of change instead of intention in TPB, they were better able to predict physical activity among adults with disabilities. It is believed that a greater understanding can be gained from using an integrated theory comprised of multiple models, rather than pit one model against another (Brawley, 1993). Therefore, an examination of the utility of an integrated framework is needed to potentially address the limitations of the TPB.

Several previous studies have suggested that the use of a multidimensional approach to intention be incorporated to the TPB to provide a more detailed understanding of behavior change (Ajzen, 2002; Foley et al., 2008; Jin, 2012; Pawlowski, 2016; Roberts et al., 2010). Intention has traditionally been considered a proximal determinant of behavior and measured as a one-dimensional concept, however, evidence suggests evaluation of intention as a multidimensional construct consisting of intention and implementation intention might provide more insight into behavior variance (Armitage & Conner, 2000). Implementation intention is concerned with the plan in place for completing a behavior (i.e., when where, how) rather than overall behavior outcomes (intention) and has been shown to have stronger associations with behavior than intention

(Roberts et al., 2010). Therefore in order to better understand behavior, implementation intention in addition to general intentions might need to be incorporated into the integrated framework (Gollwitzer, 1993; Kodish et al., 2006; Kosma et al., 2007; Martin & Kulinna, 2004; Motl et al., 2005).

The integration of self-efficacy into the TPB might also increase the ability to predict variance in behavior. Many researchers have argued that perceived behavioral control has common characteristics with self-efficacy as both are concerned with the perceived ability to perform a given behavior (Ajzen, 2002; Bandura, 2004; Foley et al., 2008). While self-efficacy and perceived behavioral control might be thought to be similar they are different constructs measuring distinctive beliefs (Jin, 2012). Perceived behavior control measures beliefs about the degree to which engaging in the specified behavior is up to the individual (e.g., do they have the necessary skills) while, self-efficacy measures beliefs about the ease or difficulty (due to external constraints or barriers) of engaging in the specified behavior (Ajzen, 2002). Additionally, perceived behavioral control is more general in nature, while items measuring self-efficacy are more specific because they measure the strength and magnitude of the efficacious beliefs (Roberts et al., 2010). Furthermore, it was found that examining self-efficacy through the separate constructs, task and barrier efficacy, explained a greater amount of the variance and was better than perceived behavioral control in predicting intentions and physical activity behavior (Foley et al., 2008; Hagger, Chatzisarantis, & Biddle, 2002; Jin, 2012; Motl et al., 2005). Therefore, the addition of self-efficacy as measured through task and barrier efficacy in addition to perceived behavioral control, might also need to be incorporated into the model.

Roberts et al. (2010) proposed a promising conceptual model that integrated additional variables to better understand behavior change in adolescents' physical activity behavior during leisure time. His model built off the TPB and incorporated self-efficacy and implementation intention. Self-efficacy was thought to act on intention, implementation intention, and behavior similar to how perceived behavioral control acts in the TPB. Implementation intention was influenced by attitude, subjective norms, perceived behavioral control, self-efficacy, and intention, and directly influenced behavior. Roberts et al. (2010) found that the additional variables helped to explain not only implementation intentions but also better explained a substantial amount of adolescents' physical activity behavior.

Jin (2012) also independently developed a similar integrated framework to better explain students' physical activity behavior in inclusive physical education classes. His model differs from the model created by Roberts et al. (2010) through the mediation of general intention and behavior via implemental intention. He also conceptualized the role of self-efficacy to act directly on behavior and intention, but indirectly on implementation intention, differing slightly from the model proposed by Roberts and colleagues (2010). Jin (2012) found the additional variables helped to explain physical activity behavior of students in physical education classes and confirmed a complete mediation of implementation intention, as intentions were no longer a significant predictor of behavior.

More recently, Pawlowski (2016) proposed a parsimonious integrated model to explain physical education teachers' promotion of out of school physical activity. She expanded on the TPB through the theory of reasoned action and combined social

cognitive theory. Her model differs from the previous models presented as the role of perceived behavioral control was replaced by self-efficacy, but similarly included the addition of implementation intention. Pawlowski (2016) found the addition of implementation intention and use of self-efficacy better predicted physical education teachers' promotion of out of school physical activity.

Together, these integrated frameworks attempt to address the limitations of the TPB. Researchers hoped to address the gap between intention and behavior and explain a greater amount of the variance in behavior through the addition of self-efficacy and implementation intention. However, these models have not been cross-validated by independent studies. It is important to expand our current knowledge and propose new conceptual models, and it is also crucial to cross-validate the generalizability of these proposed models. Therefore, the purpose of this study was to examine which integrated framework was able to better predict inclusive behaviors of physical educators regarding the implementation of extracurricular physical activity opportunities for students with disabilities. It was hypothesized that the integrated frameworks would better explain physical education teachers' inclusion behavior in extracurricular athletics.

## **Method**

### **Participants**

Two hundred sixty-nine physical education teachers (44.6% male and 53.9% female) from the United States participated in this online survey. In terms of educational levels, the majority of participants held Masters degree (58.1%) and a primary teaching focus in physical education (89.96%). The average participant age was  $43.05 \pm 10.9$  years. See table 3.1 for more detailed information on demographic characteristics.

Table 3.1 Demographic characteristics of participants

Sample characteristics	Physical education teachers % (n)
Age (years)	43.05 ± 10.9
Sex	
Female	53.9% (145)
Male	44.6% (120)
Race	
White	87.4% (235)
Black/African American	6.7% (18)
Asian	1.5% (4)
American Indian/Alaskan Native	0.7% (2)
Pacific Islander	0.7% (2)
Other	3% (8)
Ethnicity	
Hispanic	3.3% (9)
Education	
Bachelors	35.3% (95)
Masters	58.4% (157)
PhD	1.9% (5)
Other	4.5% (12)

### Instrument

The online survey administered through Qualtrics (Qualtrics, Provo, UT) was used to obtain information on physical education teachers' beliefs, intentions and behaviors regarding teachers' inclusion of students with disabilities in extracurricular athletics. In addition, demographic information including age, gender, education level, teaching certification/licensure, years teaching, years at same school, primary teaching focus, and grades taught was collected. Survey items were modified from previous studies (Hodges Kulinna et al., 2008; Pawlowski, 2016; Roberts et al., 2010) with internal consistencies based on data from this current study.

Attitude toward behavior, subjective norms and perceived control items were adapted from Hodges Kulinna et al. (2008). Items were modified by replacing health

related fitness curriculum terms with the inclusion of students with disabilities in extracurricular physical activities. Seven items measured attitudes using the stem “including students with disabilities in extracurricular physical activities is...” and were scored on a 7-point scale of opposite paired terms such as pleasant/unpleasant and useless/useful. Subjective norms (12 items) were assessed for six different groups including parents of students with disabilities, parents of student without disabilities, students, administrators, and other teachers. Two items were assessed for each group. For each group, physical educators’ perceived beliefs and motivation to comply were scored on a 7-point scale ranging from strongly disagree to strongly agree. Perceived control was assessed using three items scored on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). Internal consistencies of the three measures of beliefs were .95, .89 and .95, respectively.

Task efficacy and barrier efficacy were adapted from Roberts et al. (2010). These items were adapted by replacing physical activity engagement with inclusion of students with disabilities in extracurricular athletics. Task efficacy was measured using ten items scored on a 5-point scale ranging from 1 (not at all confident) to 5 (completely confident) where participants indicate their confidence to include students with disabilities over increasing intensity (i.e., frequency of inclusion such as once a month or every time) and duration (i.e., length of time included in the physical activity). Internal consistency was found to be  $\alpha = .97$ . Barrier efficacy was measured using four items scored on a 5-point scale ranging from 1 (not at all confident) to 5 (completely confident) presenting different scenarios with common barriers to including student with disabilities. Composite scores were obtained for all constructs by averaging item scores for an overall score between

one and seven, or one and five for task and barrier efficacy, with higher scores indicating more favorable beliefs toward including students with disabilities in extracurricular athletics. Internal consistency for efficacy was found to be  $\alpha = .97$  and  $.86$ , respectively.

General intention items were adapted from Hodges Kulinna et al. (2008) and implementation intentions were adapted from Roberts et al. (2010). Five items were used to measure teachers' intentions to include students with disabilities in extracurricular physical activities and scored on a 7-point scale ranging from strongly disagree to strongly agree. Implementation intentions were measured using four items scored on a 7-point scale ranging from strongly disagree to strongly agree. For intention items, higher scores indicated greater favorability/likelihood to include students with disabilities in extracurricular physical activities. Internal consistencies for intentions were found to be  $\alpha = .96$  and  $.97$ , respectively.

Items to measure behavior, specifically teachers' involvement in implementing extracurricular physical activity opportunities for students with disabilities, were modified from Hodges Kulinna et al. (2008) and Pawlowski (2016). These behaviors were selected based on the guidelines provided in the policy (US Department of Education Office for Civil Rights, 2013). Implementation behaviors focused on including students with disabilities in athletics by adapting and modifying tasks and equipment. Respondents' indicated their frequency of engaging in inclusive behaviors such as, "providing accommodations, adaptations, and modifications" on a 7-point scale ranging from never to daily. Internal consistency was found to be  $\alpha = .91$ . See Appendix G for the online survey.

## Procedures

Participants were recruited through two different approaches, email-solicitation and social media. For the email-solicited sample, a stratified national random sample of K-12 public school teachers was conducted. Two states were randomly selected from each of the six regions of the United States in accordance with the SHAPE America regional breakdowns. Schools were then sampled from lists of public K-12 schools in each state obtained from the National Center on Education Statistics (NCES) school search website (<http://nces.ed.gov/ccd/schoolsearch/>). A sample weight for each state included in the study was calculated using the total population for all 12 states and dividing each state's population by the total population. A proportional number of schools based on that state's population weight were randomly selected and contacted.

Online searches of the selected schools' websites were conducted to gather physical education teachers' email contact information. When no contact information was provided or the website did not specify teaching position, that school was removed from the list and another school was selected. A total of 3,878 potential participants were identified. Of those, 148 emails bounced back and were undeliverable and 31 individuals requested that their email address be removed from the list, such that 3,699 follow-up emails were sent.

Participants were contacted over a period of two months in the spring of 2017. Each participant was invited to participate in the study at least four times. The number of contacts was based on survey response, such that emails were no longer sent when response to survey requests slowed down (Dillman et al., 2014). A coupon for free shipping to a popular physical education equipment catalogue was provided at the end of

the survey to entice participants. Of the 3,699 survey requests distributed via email 411 submitted the survey for a response rate of 11.11%. Of these 40 did not consent, 30 were ineligible, 153 were incomplete.

In addition to email solicitation, physical educators were also recruited from social media sites via Facebook and Twitter. Recruitment posts were targeted to pages that physical educators might frequent such as PE central, SHAPE America, Disability Sport, and PhysEdGames. Different social media groups and pages were selected based on the researchers' contacts and knowledge of programs. The posts invited individuals to click a link to the online survey if they wished to participate. Multiple posts were made to each site over the course of two months. If posts were taken down or the researchers contacted by the groups to desist no additional posts were made to those sites. Repeated posts to sites were separated by one week.

For the social media recruitment, 179 surveys were submitted, of these 4 did not consent, 15 were not eligible, 79 were incomplete. A total of 188 surveys from the stratified national sample and 81 surveys from the social media sample were included in the data analysis.

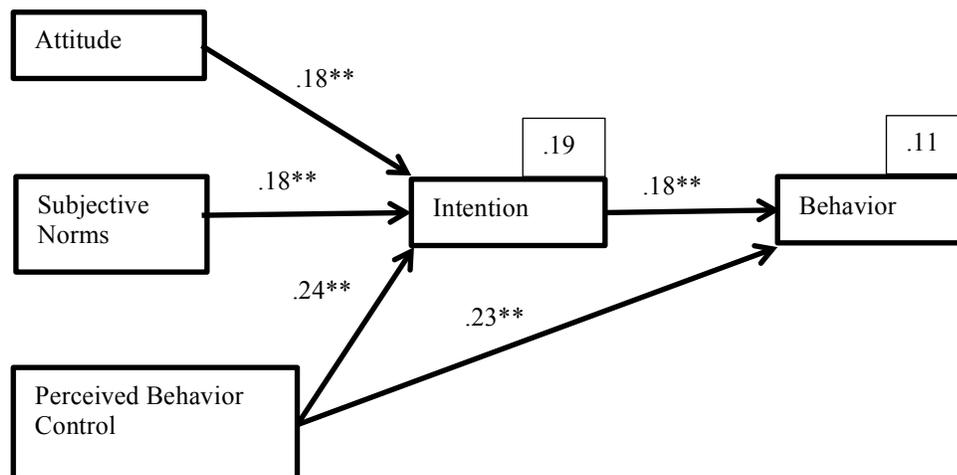
### **Analysis**

To examine any potential group difference (email solicitation vs social media) one-way ANOVAs were used. Comparisons were made across all major outcome variables and key demographic factors. No significant differences were found between groups on any of the variables examined ( $p = .076-.990$ ). Therefore, the data were combined for further analyzes.

As the first step of data screening, any surveys with more than 20% missing data were removed. The amount of missing data has been found to affect the quality of statistical inference (Dong & Peng, 2013), however, datasets with up to 25% missing data have been found to be stable (Scheffer, 2002). To determine whether the remaining missing data were missing at random Little's MCAR test (Little, 1988) was used. Little's test was not significant and revealed that the data were missing at random,  $X^2 = 13811.99$ ,  $p = .57$ . Missing data were replaced using Expectation-Maximization. Expectation maximization uses information from the data that are present to predict what missing values should be. This method is preferred over list wise deletion as it does not result in decreased sample size, as list wise deletion might because it removes all of a participant's data when only one data point is missing (Dong & Peng, 2013).

Interclass correlations, descriptive statistics and internal consistencies of major outcome variables are presented in Table 3.2. The TPB and the integrated frameworks proposed by Roberts et al. (2010), Jin (2012), and Pawlowski (2016) were examined via path analysis. For the TPB, path analysis was conducted with pathways connecting attitude toward behavior, subjective norms, and perceived behavioral control to intention, and intention and perceived behavioral control to behavior (Ajzen, 1991) (Figure 3.1).

Figure 3.1 The Theory of Planned Behavior

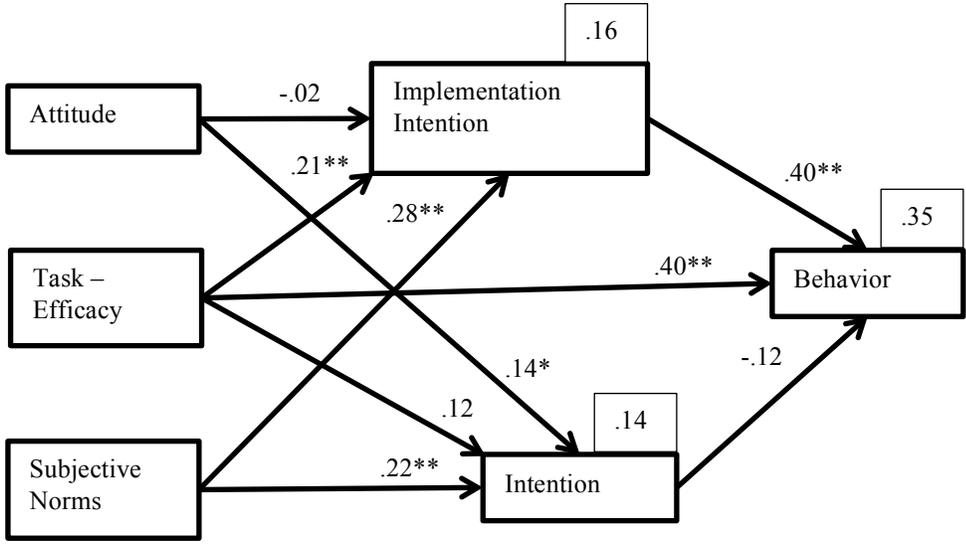


Note: Path coefficients are written above connecting lines and  $R^2$  is shown in a box above its corresponding construct.  $p^* < .05$ ,  $**p < .01$ .

For Pawlowski's (2016) proposed model, path analysis was conducted with pathways connecting attitude toward behavior, subjective norms, self-efficacy to intention and implementation intention, and from intention, implementation intention, and self-efficacy to behavior (Figure 3.2). For Roberts et al.' (2010) proposed model, path analysis was conducted with pathways connecting attitude toward behavior, subjective norms, perceived behavioral control, task efficacy, and barrier efficacy to intention and implementation intention, from intention to implementation intention, and from intention, implementation intention, perceived behavioral control, task efficacy, and barrier efficacy to behavior (Figure 3.3). For Jin's (2012) proposed model, path analysis was conducted with pathways connecting attitude toward behavior, subjective norms, and perceived behavioral control to intention, from intention to implementation intention, and from implementation intention, perceived behavioral control, task efficacy, and barrier

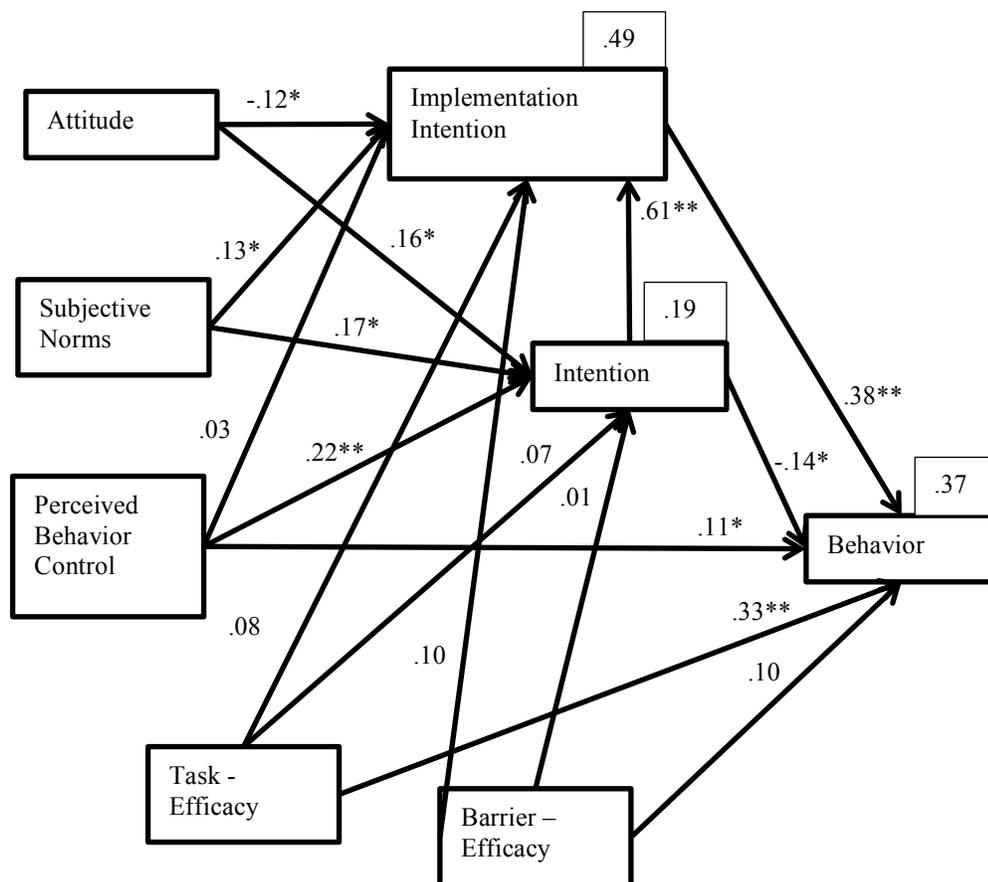
efficacy to behavior (Figure 3.4). All path analysis were conducted using AMOS 23 (Arbuckle, 2014), with all within-factor error terms correlated to improve model fit.

Figure 3.2 Path diagram of Pawlowski's integrated model



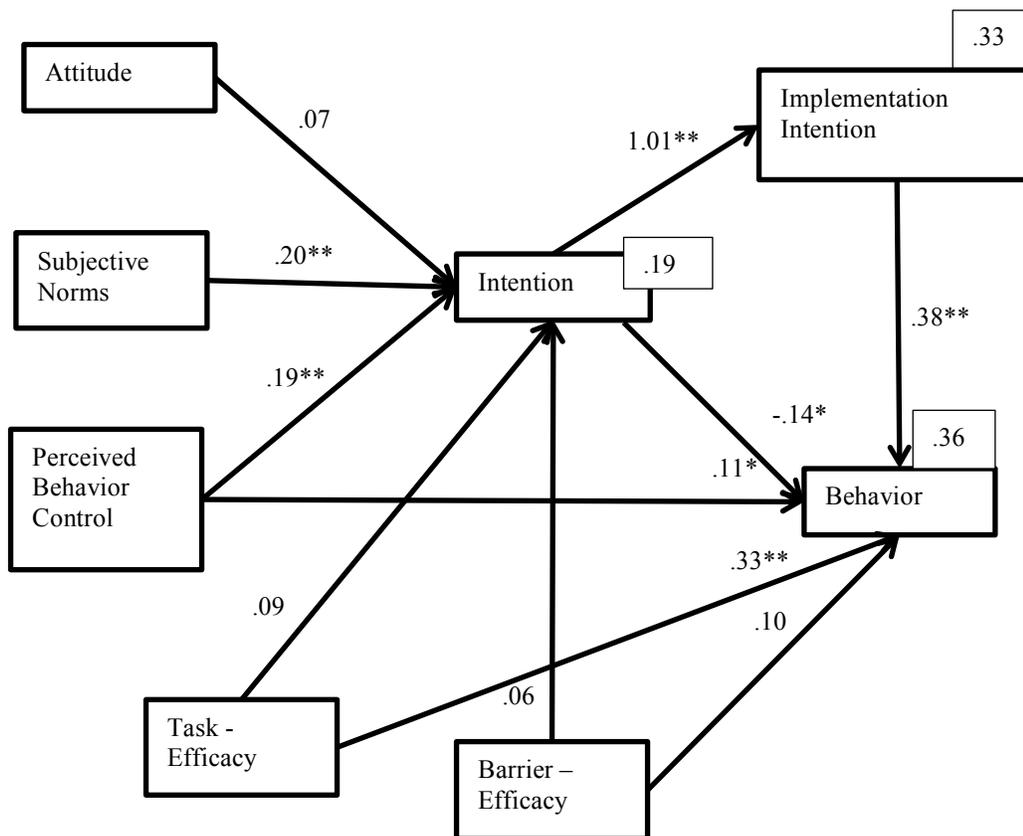
Note: Path coefficients are written above connecting lines and R<sup>2</sup> is shown in a box above its corresponding construct. p\* < .05, \*\*p < .01

Figure 3.3 Path diagram of Roberts et al.'s integrated model



Note: Path coefficients are written above connecting lines and  $R^2$  is shown in a box above its corresponding construct  $p^* < .05$ ,  $**p < .01$

Figure 3.4 Path diagram of Jin's integrated model



Note:  $p^* < .05$ ,  $**p < .01$

Model fit was assessed using several indicators Relative Normed Chi-Square ( $X^2/df$ ), Goodness of Fit (GFI), Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA). The indices  $X^2/df$ , CFI and RMSEA were selected because they have been found to be the most sensitive to sample size, model misspecification, and parameter estimates, while GFI has historically been reported (Hooper, Coughlan, & Mullen, 2008). Relative Normed Chi-Square minimizes the effect of sample size typically seen in the more tradition Chi-Square measurement. There is disagreement about an acceptable ratio for this fit statistic with recommendations for evidence of acceptable fit for scores ranging from below 5.0 (Wheaton, Muthen, Alwin,

& Summers, 1977) to 2.0 (Tabachnick & Fidell, 2007), with a stringent cutoff score below 3.0 (Kline, 2005). Acceptable cutoffs as evidence of good fit have been established for RMSEA at or below 0.06 (Hu & Bentler, 1999) with a stringent upper limit of 0.07 (Steiger, 2007), and for CFI with values greater than or equal to .95 (Hu & Bentler, 1999). GFI is an alternative to the Chi-Square test with an acceptable cutoff of scores higher than .95 (Tabachnick & Fidell, 2007). While root mean square residual (RMR) is also commonly reported, it is based on the scales of each variable, but can be difficult to interpret if the scales have varying levels (e.g., some range from 1 to 5, while others range from 1 to 7; Tabachnick & Fidell, 2007) and were therefore not reported.  $R^2$  was also reported to indicate the proportion of the variance in inclusive extracurricular behaviors explained by the model. The Oregon State University Institutional Review Board approved this study and participants indicated their consent when they submitted the survey.

## **Results**

All variables except task and barrier efficacy were scored on a one to seven scale, which were scored on a one to five scale, with all higher scale scores indicating more favorable outcomes. Attitude had the highest average score ( $M = 6.46$ ), while barrier efficacy had the lowest average score ( $M = 3.43$ ). Descriptive statistics on the variables of interest included means, standard deviation, correlation and internal consistencies of variables of interest are depicted in table 3.2.

Table 3.2 Interclass correlations, descriptive statistics, and internal consistencies of major outcome variables

	1	2	3	4	5	6	7	8
1. IMP	1.00							
2. AT	.21**	1.00						
3. SN	.43**	.48**	1.00					
4. PBC	.28**	.09	.27**	1.00				
5. INT	.25**	.29**	.33**	.30**	1.00			
6. II	.45**	.19**	.35**	.28**	.67**	1.00		
7. TE	.50**	.34**	.40**	.28**	.26**	.31**	1.00	
8. BE	.38**	.36**	.36**	.23**	.22**	.29**	.55**	1.00
M	4.25	6.46	4.74	4.48	5.80	4.71	4.01	3.43
SD	1.99	.88	1.60	1.76	1.37	1.77	.96	.98
A	.89	.96	.93	.89	.95	.97	.97	.86

Note \*P < .05, \*\*P < .001

1 = implementation behavior, 2 = attitude, 3 = subjective norm, 4 = perceived behavioral control, 5 = intention, 6 = implementation intention, 7 = task efficacy, 8 = barrier efficacy, M = mean, SD = standard deviation, a = Cronbach's alpha.

Examination of data fit revealed that one of four goodness of fit criteria were met for the original TPB,  $X^2/df(4, N = 269) = 17.13, p < .001$ , CFI = .84, GFI = .96, and RMSEA = .25. Results of the path analysis revealed that under the TPB model, perceived behavioral control and intention significantly predicted implementation behavior with standardized path coefficients,  $\beta = .23, p < .001$  and  $\beta = .18, p < .01$ , respectively,  $R^2 = .11$ . Intention was significantly predicted by attitude ( $\beta = .18, p < .01$ ), subjective norms ( $\beta = .18, p < .01$ ), and perceived behavior control ( $\beta = .24, p < .001; R^2 = .19$ ). More detailed information on the path coefficients is depicted in Figures 3.1 – 3.4. Table 3.3 summarizes the goodness of fit indices. Comparison of variables influence on implementation behavior is depicted in table 3.4.

Table 3.3 Comparison of model fit

Model	Goodness of fit indices			
	X <sup>2</sup> /df	CFI	GFI	RMSEA
Theory of Planned Behavior	17.13	.84	.95 <sup>+</sup>	.25
Pawlowski (2016)	7.51	.97 <sup>+</sup>	.98 <sup>+</sup>	.16
Roberts et al. (2010)	6.09	.98 <sup>+</sup>	.99 <sup>+</sup>	.14
Jin (2012)	4.18 <sup>+</sup>	.97 <sup>+</sup>	.98 <sup>+</sup>	.11

Note: + = met fit criteria, X<sup>2</sup>/df = relative normed chi-square, CFI = comparative fit indices, GFI = goodness of fit, RMSEA = root mean square error of approximation.

Table 3.4 Comparison of potential factors on behavior

Variable	Model			
	TPB B	Pawlowski (2016) B	Roberts et al. (2010) B	Jin (2012) B
Perceived behavior control	.26**	NA	.11*	.11*
Intention	.26**	-.12	-.14*	-.14*
Implementation intention		.45**	.38**	.38**
Task efficacy		.83**	.33**	.33**
Barrier efficacy			.10	.10
R <sup>2</sup>	.11	.35	.37	.36
ΔR <sup>2</sup>		.24	.02	-.01

Note: \*p < .05, \*\*p < .01

The results indicated that Pawlowski's (2016) parsimonious integrated model fit better than the original TPB with two out of four criteria for goodness of fit indices being met, X<sup>2</sup>/df (4, N = 269) = 7.51, p < .001, CFI = .97, GFI = .98, and RMSEA = .16.

Compared to the TPB, in Pawlowski's model implementation intention and task efficacy substantially explained more variance of behavior (R<sup>2</sup> = .35), with standardized path coefficients, β = .40, p < .001 and β = .40, p < .001, respectively. Subjective norms and task efficacy significantly predicted implementation intention, β = .28, p < .001 and β = .21, p < .001, respectively, R<sup>2</sup> = .16. While, attitude and subjective norms significantly predicted intention, β = .14, p < .05 and β = .22, p < .01, respectively, R<sup>2</sup> = .16.

For the integrated framework proposed by Roberts et al. (2010), goodness of fit indices were much improved but still only two out of four indices met the criteria for

good fit,  $X^2/df$  (4, N = 269) = 6.09,  $p < .001$ , CFI = .98, GFI = .99, and RMSEA = .14. Behavior was significantly predicted by perceived behavioral control ( $\beta = .11$ ,  $p < .05$ ), intention ( $\beta = -.14$ ,  $p < .05$ ), implementation intention ( $\beta = .38$ ,  $p < .001$ ), and task efficacy ( $\beta = .33$ ,  $p < .001$ ;  $R^2 = .37$ ). Intention was significantly predicted by attitude ( $\beta = .16$ ,  $p < .05$ ), subjective norms ( $\beta = .17$ ,  $p < .05$ ), and perceived behavioral control ( $\beta = .22$ ,  $p < .001$ ;  $R^2 = .19$ ). Implementation intention was significantly predicted by attitude ( $\beta = -.12$ ,  $p < .05$ ), subjective norms ( $\beta = .13$ ,  $p < .05$ ), and intention ( $\beta = .61$ ,  $p < .001$ ;  $R^2 = .49$ ).

The results of Jin's (2012) integrated model revealed that three out of four of the criteria were met for goodness of fit,  $X^2/df$  (4, N = 269) = 4.18,  $p < .001$ , CFI = .97, GFI = .98, and RMSEA = .11. Behavior was significantly predicted by perceived behavioral control ( $\beta = .11$ ,  $p < .05$ ), intention ( $\beta = -.14$ ,  $p < .05$ ), implementation intention ( $\beta = .38$ ,  $p < .001$ ), and task efficacy ( $\beta = .33$ ,  $p < .001$ ;  $R^2 = .37$ ). Intention was significantly predicted by subjective norms and perceived behavioral control,  $\beta = .20$ ,  $p < .001$ , and  $\beta = .19$ ,  $p < .01$ , respectively,  $R^2 = .18$ . Implementation intention was significantly predicted by intention  $\beta = 1.01$ ,  $p < .001$ ,  $R^2 = .33$ .

### **Discussion**

The purpose of this study was to examine which model, the TPB or the integrated frameworks proposed by Roberts et al. (2010), Jin (2012), and Pawlowski (2016) fit the data best and better predicted inclusive behaviors of physical educators regarding the implementation of extracurricular physical activity opportunities for students with disabilities. Overall, the integrated frameworks fit the data the better than the TPB. Roberts et al. (2010) and Pawlowski (2016) met two of the four criteria and Jin (2012)

met three of the four criteria, while the TPB met only one criterion for fit. However, none of the models met the criteria for RMSEA. Furthermore, the additional variables proposed by the integrated models substantially predicted a greater amount of physical education teachers' implementation behavior than the TPB.

The integrated models met more of the criteria for good fit than did the TPB. Furthermore, when more lenient criteria for model fit were used, Jin's model was the only one that met an additional criterion for model fit, relative normed Chi-square. There is some debate about model fit indices, with some experts calling for complete abandonment of fit indices altogether (Barrett, 2007). Strictly following recommended cut-off scores might lead to a greater likelihood of incorrectly rejecting an acceptable model (Marsh, Hau, & Wen, 2004). However, discrepancies in cut off scores can lead to the same model being classified as either a good or poor fit of the data. Within this study none of the models met the criteria for RMSEA. Though considered as one of the most informative fit indices, acceptable cut-off points indicating good fit have been reduced considerably in recent years (Hooper et al., 2008). This criterion has dropped from a range of 0.05 to 0.10, to more recent cut-off of scores below 0.06 (Hu & Bentler, 1999) with a strict upper limit of 0.07 (Steiger, 2007). Using either of these cut-off criteria still none of the models were considered a good fit using this index. This suggests that while the integrated frameworks better fit the data, more refinement of the proposed integrated model is necessary.

The improvement in the fit indices over the TPB suggests that these integrated frameworks might be more appropriate for examining this data set. This integrated framework built off the TPB and incorporated implementation intention, task efficacy

and barrier efficacy. The addition of these constructs provided not only a better fit but also additional insights, such that the explained variance in behavior more than tripled in the integrated models (35-37%) compared to the TPB (11%).

Across all three integrated frameworks, subjective norms significantly predicted intentions. Perceived behavior control was a significant predictor in both Roberts and colleagues' and Jin's model, but was not included in Pawlowski's. Additionally, attitude was found to be a significant predictor of intention in only Roberts and colleagues' model. This is contradictory to previous findings that found attitude was a significant predictor of intention for physical education teachers' promotion of physical activity in the classroom (Thom, 2011). In this study mean score for attitude was the highest of all variables at 6.46 out of 7 and with very little variance. This could indicate that while teachers hold favorable views toward the inclusion of students with disabilities in extracurricular physical activities, this attitude does not translate into intention. Previous studies found subjective norms to be a significant predictor of intention related to out-of-school physical activity promotion behaviors (Pawlowski, 2016; Thom, 2011). Though other studies have found subjective norms to be non-significant or one of the weakest predictors of intention (Armitage & Conner, 2000). This suggests that teachers' intention to engage in inclusive behaviors could be sensitive to administrators, other teachers, parents and students. Lastly, perceived behavioral control has previously been found to be a significant predictor of intention (Foley et al., 2008; Roberts et al., 2010). Perceived behavioral control emphasizes personal controllability regarding the degree to which people are capable of performing a given behavior (Ajzen, 2002). However, the degree to which teachers feel they have control over implementing inclusive extracurricular

athletics might be dependent on coaching and sport opportunities in the district where they work.

Across the three proposed frameworks implementation intention was always a significant predictor of behavior. However, in Pawlowski's model there was no direct pathway between intention and implementation intention. The amount of variance explained in implementation intention was substantially less ( $R^2 = .16$ ) compared to the other integrated frameworks. Furthermore, Roberts and colleagues' model had the greatest amount of implementation intention explained ( $R^2 = .49$ ) but had saturated implementation intention by connecting all possible pathways to it. In Jin's model only intention was connected to implementation intention but it still explained a large amount of the variance ( $R^2 = .33$ ). This suggests the relationship between intention and implementation intention is an important one.

The addition of implementation intention helped to explain additional variance in behavior, which is similar to findings of other studies (Armitage & Conner, 2000; Jin, 2012; Pawlowski, 2016; Roberts et al., 2010). However, implementation intention had a suppressive effect on intentions toward behavior such that after the addition of implementation intention the pathway between intention and behavior was negative, but predicted a greater amount of the variance in behavior. It might be that implementation intention is a better measure of intention and could replace general intentions in the integrated model. Implementation intention goes further than the general feelings of intention on performing a behavior and provides insight into the planning process behind behavior (Armitage & Conner, 2000; Pawlowski, 2016; Roberts et al., 2010). The forethought and preparedness that goes into creating this detailed plan might help close

the gap between intention and behavior (Kodish et al., 2006; Martin & Kulinna, 2004; Motl et al., 2005; Pawlowski, 2016). Therefore, implementation intention might provide greater insights into teachers' inclusion behavior.

Additionally, this study demonstrated support for the link between self-efficacy, as measured through task and barrier efficacy, and behavior and its ability to better predict variance in behavior (Foley et al., 2008; Hagger et al., 2002; Jin, 2012; Motl et al., 2005; Pawlowski, 2016). Task efficacy significantly predicted implementation behavior. Self-efficacy measures focus on an individual's beliefs about ease or difficulty of performing the behavior (Ajzen, 2002). The additional variance explained by task efficacy suggests that these beliefs might be more important than an individual's belief in their control over that behavior. While perceived behavioral control was a significant predictor of behavior in Roberts and colleagues' and Jin's model, it was not included in Pawlowski's model. Instead task efficacy was included in its place and significantly predicted behavior. However, task efficacy and barrier efficacy did not significantly predict intentions or implementation intentions in any of the models. Perceived behavioral control, task efficacy and barrier efficacy were significantly correlated with one another and it might be that perceived behavioral control explained their effect on intentions and implementation intentions. The findings of this study further support the difference between self-efficacy, specifically task efficacy, and perceived behavioral control constructs, as did Jin (2012). Self-efficacy should be included along with perceived behavior control to further examine its relationship to behavior.

Future studies are needed to cross validate the findings of this study and to examine the generalizability of the proposed model to different populations and

behaviors. For example, Jin (2012) found that implementation intention fully mediated the relationship between intention on physical activity behaviors, while Norman and Conner (2005) found that it partially mediated the relationship between physical activity and intention, and Roberts et al. (2010) found no evidence of such a relationship. This study did not explicitly examine the effect of mediation, but found that implementation intention was a significant predictor of behavior and that it had a suppressive effect on the intention to behavior pathway. Further studies are needed to examine the relationship between constructs and clarify pathways within the proposed integrated model.

This study is not without its limitations. First, this study had a low survey return rate of 11%. This is similar to those seen in previous studies (Morgan, 2013; Pawlowski, 2016), but is below average for typical return rates for electronic surveys (Nulty, 2008). Teachers were recruited in the spring and this may have coincided with vacation time (i.e. Spring Break), which could have lead to email requests inadvertently being ignored or filtered as spam messages. Furthermore, the sample size in the study was smaller than anticipated and may explain some of the poor fit statistics. Second, this study was limited to physical educators who worked at schools with up-to-date websites and school directories, as well as teachers using social media platforms like Facebook and Twitter. Therefore, the teachers and schools included in the sample might differ from those not surveyed. Lastly, the survey was self-report and might be affected by social desirability given the nature of the questions. As well emails and social media post used key words like inclusion, extracurricular athletics and sports to get participants attention and might have targeted those that had a proclivity toward inclusive extracurricular athletics.

## Conclusion

Overall this study supports the use of the proposed integrated frameworks to examine physical education teachers' intentions and implementation of inclusive extracurricular athletics for students with disabilities. These integrated frameworks built off the TPB and added a multidimensional approach to intentions with the addition of implementation intention, and incorporated self-efficacy constructs measured through task and barrier efficacy. The integrated models better fit the data than the TPB but did not meet all the criteria for good model fit. However, these models explained an additional 24-26% of the variance in implementation behaviors. Therefore, the impact of the addition of implementation intention and self-efficacy suggest that helping teachers to create a detailed plan for inclusion of students with disabilities and working to address the social environment around inclusive sports might improve physical education teachers' implementation of inclusive extracurricular athletics for students with disabilities. The findings of this study are important because they highlight the need for future studies to further examine the relationships between variables in the proposed integrated framework to better understand intentions and implementation of extracurricular athletics for students with disabilities.

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Chapter 4  
General Conclusion

This study sought to understand the role of physical educators and their implementation of inclusive extracurricular athletics for students with disabilities. The purposes of this study were to a) examine physical education teachers' awareness of the policy and the factors affecting their inclusion of students with disabilities in extracurricular athletics and b) explore the effectiveness of three proposed integrated frameworks and their ability to predict teachers' implementation behavior. Overall, this study builds on previous works that have examined the utility of an integrated framework and further supports their effectiveness in explaining physical education teachers' behavior.

The purpose of the first manuscript was to evaluate physical education teachers' awareness of the policy, assess current dissemination practices, and examine the factors affecting their implementation of inclusive extracurricular physical activities for students with disabilities. Current channels of communication have effectively reached the majority of physical educators, but more can be done. Through professional development and undergraduate coursework opportunities exist to increase teachers' knowledge and skills related to inclusion. A gradual approach suggested by Jin et al (2013) might help to change teachers' behavior. Teachers' behavior was influenced by intention, implementation intention, self-efficacy and coaching. However, not all physical educators coach extracurricular athletics and future studies should examine those directly involved with after school sport programs such as athletic directors and coaches. Utilizing physical education teacher education curricula and service learning opportunities can further support the development teachers' inclusion and promotion behaviors for inclusive extracurricular athletics for students with disabilities.

In the second manuscript, I hypothesized that the integrated framework would better fit the data and explain greater variance in behavior than the Theory of Planned Behavior (TPB). The results of this study supported this hypothesis as the fit indices improved in the integrated frameworks and the addition of implementation intentions and self-efficacy more than tripled the amount of variance explained in the behavior (TPB  $R^2 = .11$ , integrated frameworks  $R^2 = .35-.37$ ). These results suggest that the addition of implementation intention and self-efficacy have a direct effect on behavior, support the need for examining intention as a multidimensional construct and demonstrated the independent effects of self-efficacy compared to perceived behavioral control. Future studies are needed to further examine the addition of implementation intention and self-efficacy to the TPB for their ability to improve predictability of models. Furthermore, the effects of integrating these elements should be utilized to help physical educators develop a plan and supports for the inclusion of students with disabilities in extracurricular athletics.

The findings of this study support current public health trends calling on physical education to serve as an avenue to increase physical activity engagement among youth (CDC, 2000; McKenzie & Kahan, 2004). Given the nature of most physical education programs and its emphasis on sport skills, it would be helpful if teachers and physical education teacher education programs could build off traditional curricula that focus on motor and sport skill development (Hellison, 2011; McKenzie & Lounsbery, 2014; Siedentop, Hastie, & van der Mars, 2011) through the incorporation of physical activity promotion and adapted physical education coursework. This might lead to more teachers promoting sport participation and inclusion in extracurricular athletics, and ultimately

increasing physical activity levels for students with disabilities. However, other key stakeholders including university professors, athletic directors, coaches, parents, and students are needed to help increase the participation of students with disabilities in extracurricular athletics.

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## APPENDICES

## Appendix A: Literature Review

The purpose of this literature review is to provide the reader with information on the areas of physical activity, promotion of physical activity, physical activity policy, the legal requirements of inclusion, the Theory of Planned Behavior (TPB), self-efficacy, and an integrative framework. This information provides background and rationale for the current study. It is important to determine and investigate the factors affecting adapted and general physical education teachers' intentions and behaviors toward implementing extracurricular physical activities for students with disabilities.

### **Physical Activity**

#### **Benefits of Physical Activity**

Physical activity has been shown to be important for overall health (CDC, 2015; Haskell et al., 2007). These benefits of physical activity are well documented (Lee et al., 2012) and promotion of physical activity early in life is important (Biddle, Gorely, & Stensel, 2004). For example, physical activity affects the causes of morbidity and might reduce risk of chronic diseases (Booth, Roberts, & Laye, 2012; Warburton, Nicol, & Bredin, 2006). Physical activity improves cardio-respiratory and muscular fitness, bone health, cardiovascular and metabolic health biomarkers, and body composition (Smith et al., 2014). Additionally, a systematic review on the effects of physical activity on health and behavior outcomes for youth found strong evidence for beneficial effects on musculoskeletal health, several components of cardiovascular health, adiposity in overweight youth, and blood pressure in mildly hypertensive adolescents, as well as moderate evidence of effects on lipid and lipoprotein levels, adiposity in normal weight children and adolescents, blood pressure in normotensive youth, and other cardiovascular variables, such as hemostasis, inflammation, and endothelial function (Strong et al.,

2005). Physical activity during youth not only provides many beneficial effects, but also establishes lifestyle patterns that can reduce health risk factors later in life (Kohl & Cook, 2013).

These benefits of physical activity are just as important for youth with disabilities. For children with physical disabilities, physical activity can increase functional independence, foster greater inclusion, promote greater quality of life and might ultimately impact their future health (Gillian King et al., 2003; Murphy & Carbone, 2008; Wilson & Clayton, 2010). Additionally, individuals with disabilities are more likely to experience poorer health and are at greater risk for developing comorbidities and secondary health conditions (CDC, 2015; Heath & Fentem, 1997). Physical activity has been shown to manage and/or prevent these conditions, improve health, increase an individual's ability to complete activities of daily living, increase independence, and improve overall quality of life (Haskell et al., 2007; Heath & Fentem, 1997).

### **Current Physical Activity Guidelines and Rates of Participation**

According to 2008 Physical Activity Guidelines for America (U.S. Department of Health and Human Services, 2008), current physical activity recommendations for children and adolescents (6-17 years old) are 60 minutes or more of physical activity each day. This time should be spent engaging in three types of physical activity including aerobic, muscle strengthening, and bone strengthening activity. The 2008 guidelines recommend that the majority of youth physical activity should be spent in aerobic activity including moderate and vigorous intensity activities, with at least 3 days per week of vigorous activity. Muscle strengthening activities such as push-ups should be included at

least 3 days per week, as should bone strengthening activities (e.g., jumping rope or running) for at least 3 days per week.

The Physical Activity Guidelines for Americans (CDC, 2008) recommend that children and adolescents participate in one hour or more of physical activity every day. This physical activity should be age appropriate, enjoyable, and diverse including aerobic activity at a moderate to vigorous level as well as muscle and bone strengthening activities. However, recommendations for youth with disabilities are more undefined with suggestions to work with health-care providers to understand the types and amount of physical activity appropriate for them (CDC, 2008). Additionally, these guidelines identified physical education as a potentially pivotal strategy to increase the level of physical activity for children and adolescents (CDC, 2008).

Despite these guidelines, children and adolescents are not regularly engaging in physical activity. Over 30% of American and Canadian children did not meet international guidelines for physical activity for optimal growth and development (Rhodes, Macdonald, & McKay, 2006). Lack of physical activity in adolescents is noteworthy as a substantial number of adolescents do not engage in moderate and vigorous physical activity (Valois, Umstattd, Zullig, & Paxton, 2008). Additionally, rates of physical activity tend to decrease with age, especially as children progress into adolescence toward the end of their school years (Wallhead & Buckworth, 2004). For example, when tracked through high school, from grade 9 to 12, vigorous physical activity decreased (Barr-Anderson et al., 2008). However, this change in physical activity might be due to differences in the amount and pattern of physical activity in elementary

and secondary, as well as a shift in priorities for physical activity from childhood to adolescence (Strong et al., 2005).

Youth with disabilities have been found to engage in physical activity at lower rates than children without disabilities, though physical activity positively and significantly benefits children and adolescents with disabilities (Kodish, Kulinna, Martin, Pangrazi, & Darst, 2006; Pan & Frey, 2006). Compared to their peers without disabilities, youth with disabilities had a 4.5 times lower physical activity rate (Rimmer & Rowland, 2008). For example, children with physical disabilities tend to be less active than their peers without disabilities (Buffart, Roebroek, Rol, Stam, & van den Berg-Emons, 2008; Maher, Williams, Olds, & Lane, 2007; Rimmer & Rowland, 2008; Schoenmakers et al., 2009). A review by Carlon, Taylor, Dodd and Shields (2013) showed that young people with cerebral palsy were 30% less likely to meet recommend guidelines than those with typical development. Additionally, during physical education classes, children ages 7-12 with mild intellectual disability were significantly less active than their peers without disabilities (Foley et al., 2008).

### **Physical Activity in Schools**

Schools are unique in that they provide one of the few opportunities to address almost all individuals in society. They offer an opportunity to assess the full range of individuals in a population as well as a providing a captive audience for interventions (Cale, 2000; Thom, 2011). Public elementary and secondary enrollment was almost 49.5 million students in 2011 (U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), 2013), with 34.8 million students in K-8 education, and 14.7 in grades 9-12 (U.S. Department of Education, National Center for

Education Statistics, Common Core of Data (CCD), 2014). In addition to education, schools provide services, opportunities to participate, and promotion of health, nutrition, and physical activity. Within schools, opportunities for physical activity are primarily the result of physical education and recess time.

Recess provides regularly occurring, new discoverable, and enjoyable physical activity opportunities, and can increase student motivation to be physically active (Stellino & Sinclair, 2008). However, recess is not enough. For elementary students, there have been substantial cuts to recess time, though some schools have recently started to reinstate recess (Council on Physical Education for Children, 2001; Council on School Health, 2013). However, during recess time, students might choose to be active or engage in sedentary behavior. While most elementary schools offer at least some recess time, this is drastically reduced in middle school, and nonexistent in high school.

Similar to recess time, physical education has seen a reduction in frequency and duration. Many reports and studies have shown that both students with and without disabilities are physically inactive and are not meeting current national physical activity guidelines and goals during physical education (McKenzie, 2007; Pate, Long, & Heath, 1994; Rhodes et al., 2006). Participation in physical education programs for adolescents is low and decreases with age (Gordon-Larsen, McMurray, & Popkin, 2000). For example, Gordon-Larsen et al. (2000) reported that 12-year-olds had physical education classes multiple times a week but this number decreased as students got older with only 8.3% of 17-year-old adolescents having a physical education class 1 or more times a week. Additionally, this study found that the students that had physical education 5 times

a week were associated with a substantial increase in the likelihood of meeting the moderate to vigorous physical activity requirement.

Past physical education interventions to increase physical activity during physical education classes have been successful (Mckenzie et al., 2004). Despite these increases there is not enough class time for students to reach physical activity recommendations (Palmer & Bycura, 2014). Even if students were to be active 100% of the time during physical education, they would still be unlikely to meet recommended levels of physical activity for health-promoting effects (Barrett et al., 2015; Hill, 2009). Given the unrealistic expectation for students to be active for the duration of their physical education class, it is clear that increasing levels of physical activity within physical education alone cannot meet current recommendations (Wallhead & Buckworth, 2004). Thus, there is a need to look to opportunities for physical activity outside of school.

### **Promotion of Physical Activity**

#### **Role of Schools and Physical Education**

The school environment has been identified as an ideal venue for implementing dietary/nutrition and physical activity intervention efforts, as the vast majority (95% of American youth aged 5-17 years) of youth are currently enrolled in school (Young et al., 2007). The typical student will spend about one third of each weekday at school. During this time students consume multiple meals and snacks and are presented with a variety of physical activity opportunities (Story, Kaphingst, & French, 2006). Therefore, physical activity policies implemented at the school level are capable of meaningfully impacting students' health (Kehm, Davey, & Nanney, 2015).

The role of physical education has shifted over the years from one of national security (i.e., preparing individuals for the physical demands of military service) to an emphasis on physical activity across the lifespan and the long-term health benefits (McKenzie & Kahan, 2004). Additionally, physical education has been recognized by national agencies to facilitate the efforts to combat sedentary lifestyles through promoting lifelong physical activity (CDC, 2000). As a result of this lifespan approach, the promotion of physical activity outside of the physical education classroom has been recommended by a national physical education organization (Society of Health and Physical Educators (SHAPE) of America, 2013).

Physical education has been defined by law as the development of a) physical and motor fitness; b) fundamental motor skill and patterns; and c) skills in aquatics, dance, and individual and group games (Individuals with Disabilities Education Improvement Act, 2004). The goal of physical education is to provide students with the necessary skills to engage in physical activities and the knowledge needed to engage in physical activity outside of the physical education setting (Kelly, 1995). As a result, physical education has the potential to increase physical activity in all children and adolescents and play a pivotal role in public health promotion (Gao, Lee, Kosma, & Solmon, 2010).

There is an inherently close relationship between physical activity and physical education and, as such, physical education can play a vital role in the promotion of physical activity. Quality physical education programs contribute to regular physical activity participation in youth (Cale, 2000; Erwin & Castelli, 2008; Wallhead & Buckworth, 2004) and should prepare students for a lifetime of physical activity (Sallis & McKenzie, 1991). Physical education is one of the most cost-effective public resources to

fight inactivity, and teachers should be one of the strongest advocates for a healthy lifestyle (McKenzie, 2007). Therefore, physical education should play a fundamental role in the promotion of lifelong physical activity in youth (Sit, McManus, McKenzie, & Lian, 2007).

### **Role of Physical Education Teachers**

Physical educators have been identified as the ideal profession to take on the role of promoting physical activity (Beighle, Castelli, Erwin, & Ernst, 2009). Physical educators are best suited for this role because they are the ones who are most qualified to work with students in physical activity environments (Beighle et al., 2009). It has even been suggested that physical education teachers move beyond their current roles as teachers and adopt the role of physical activity directors (Beighle et al., 2009; McKenzie, 2007; Wallhead & Buckworth, 2004).

One way for physical education teachers to promote physical activity in their current physical education environment is through the curricular and instructional models they use in their classes. Two common curriculum approaches are the self-responsibility model and the sport education model (McKenzie & Lounsbery, 2014). The self-responsibility model emphasizes teamwork, cooperation, self-responsibility, and problem solving within sport settings (Hellison, 2011). The sport education model teaches students how to fulfill diverse sport roles such as player, coach, referee, and is a prominent curricular model taught because sport is viewed as critical to American culture (Siedentop, Hastie, & van der Mars, 2011). In addition, parents of children with disabilities reported that providing their children with motor skills necessary for engagement in lifelong activity for health should be a major goal of physical education

(Chaapel, Columna, Lytle, & Bailey, 2013). Therefore, physical education curricula that are already focused around sport skill development can be designed to not only provide opportunities to practice sport and motor skills but also promote physical activity by promoting engagement in extracurricular physical activity opportunities. These opportunities can align with sports skills already being taught in physical education.

However, physical educators alone might not be able to shift the mindset of youth (Siedentop, 1999); instead, a multi-prong approach might be more effectual. For example, a three-prong strategy that coordinates family, school, and community effects has been recommended and physical educators can stand as the forerunner of such an approach (Stelzer, 2005). Additionally, physical educators can promote community-based physical activity by encouraging appropriate practices, connecting students with physical activity opportunities, inviting members of the community into the school, and promoting the use of school facilities for community-based activities where appropriate (Lambdin & Erwin, 2007). In this way physical education teachers might be better able to promote physical activity.

### **Role of Adapted Physical Education Teachers**

Adapted physical educators serve in a similar role as physical educators. However, adapted physical educators might face more difficulties in promoting physical activity opportunities than their general physical education counterparts due to school logistics. For example, adapted physical education specialists often find themselves on the outside of school education departments (Block, 2007; Lieberman & Houston-Wilson, 2011). Some school districts place adapted physical education within special education while others in physical education. However, in either placement there tends to be distance

between the department and adapted physical education (Block, 2007; Lieberman & Houston-Wilson, 2011). These differences within schools and by department might present additional challenges and make it difficult for adapted physical educators to gain traction in their efforts.

Despite these barriers, support from adapted physical educators has been shown to act as a facilitator for informal physical activity participation for children with disabilities (King et al., 2006). These professionals can provide support for students in seeking out and participating in physical activity opportunities outside of school, such as extracurricular physical activities, community sports, and recreations programs as well as promotion of independent physical activity participation. Recently, experts in the field have identified adapted physical educators as ideally suited to implement extracurricular physical activity opportunities for students with disabilities (Silliman-French & French, 2013). However, there might be few opportunities for adapted physical educators due to the lack of community based physical activity programs that have the capacity to accommodate the needs of children with disabilities (US Dept Health & Human Services, 2010) .

### **Role of Sports**

Traditionally, sports have provided students an opportunity to be active through school-sanctioned events. The main emphasis of sport is to help engage youth in physical activity to a healthy level as well as foster physical literacy in youth by developing ability, confidence, and desire to be physically active (ASPEN Institute, 2016; Mandic, Bengoechea, Stevens, Leon de la Barra, & Skidmore, 2012; Mansfield & Pigginn, 2016). Through sport children can build abilities and competency in basic movement

skills and overall fitness, enhance their confidence by knowing how to engage in sports and other physical activities; and increase enthusiasm for physical activity whether in organized or unstructured formats in both traditional and alternative sports (ASPEN Institute, 2016).

In an annual report by the Aspen Institute Sports and Society Program (2016) described how well stakeholders are serving children and communities through sports. Overall the percentage of youth participating in sport is decreasing, though the amount of participation among 6 to 12 years old increased. Additionally, federal support for recreation infrastructure grew but gaps in access became more apparent. In an effort to increase participation most sport organizations are promoting multi-sport play and encouraging sampling different sport opportunities as the average child plays fewer than two sports. Lastly, efforts are being made to work locally revitalizing in-town leagues and increasing the prevalence of shared use agreements to encourage use of recreation space in the nation's schools.

The Council on Children with Disabilities Executive Committee of the American Academy of Pediatrics (AAP) has recommended that youth with disabilities increase their levels of physical activity participation by engaging in competitive and recreational sports and physical activities throughout childhood and adolescence (Murphy & Carbone, 2008). This recommendation was made in part to address the low levels of physical activity and fitness often reported among youth with disabilities. The 2001 Youth Risk Behavior Survey (YRBS) found that the number of youth with physical disabilities who participated on sports teams was significantly less than those without disabilities (Grunbaum et al., 2002).

## **Inclusion**

One idea that has far reaching implications is the notion of inclusion. The philosophy of inclusion, often viewed as a process (Sherill, 2004), is the merging of special education and general education (Block, 2007). Within the field of physical education, inclusion typically refers to the education of students with and without disabilities in the general physical education environment (Block, 2007). Within adapted physical education, a primary emphasis of inclusion is focused on the acceptance of all people regardless of differences (Sherill, 2004; Winnick, 2011) and more broadly the equality of education outcomes.

### **Legal Requirement**

Regardless of the approach, previous legislation has demonstrated a legal requirement of inclusion for students with disabilities. For example, the Individuals with Disabilities Education Act (IDEA), formerly the Education of the Handicapped Act, necessitated the free and appropriate public education of students with disability (Individuals with Disabilities Education Improvement Act, 2004). This law serves to protect the rights of students with disabilities and their parents by requiring states and local municipalities provide effective education of all children with disabilities. As well, Section 504 of the Rehabilitation Act of 1973 (Section 504; PL 93-112) and its amendments (PL 105-220), prohibited discrimination on the basis of disability by institutions receiving Federal funds. This law required that reasonable steps to accommodate individuals with disabilities be made unless it would cause undue hardship. The Americans with Disabilities Act of 1990 (ADA) Title II furthered this initiative by extending the prohibition of discrimination on the basis of disability to State and local

governments, regardless of Federal financial support. In this way ADA reinforced the requirements in Section 504 with more specific regulations and sought to eliminate barriers to access in buildings, transportation, and communication. Thus, these laws stand as the vanguard to federal civil rights protections for individuals with disabilities in the United States.

As the first civil rights legislation for individuals with disabilities Section 504 is of great importance. Section 504 states,

No otherwise qualified individual with a disability in the United States, as defined in section 705(20) of this title, shall, solely by reason of his or her disability, be excluded from the participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving Federal financial assistance or under any program or activity conducted by any Executive agency or by the United States Postal Service.

This legislation defined an individual with a disability as “any person who (A) has a physical or mental impairment which substantially limits one or more of such person’s major life activities, (B) has a record of such an impairment, or (C) is regarded as having such an impairment (Section 504 of the Rehabilitation Act, 1973).” With regard to education, this law guarantees all students, regardless of ability, an equal opportunity to education and related school services. Specifically, schools are required to provide students with disabilities with reasonable accommodations comparable to those provided to peers without disabilities including specialized instruction, related services, and modifications. If schools are found to not be in compliance with this law they are at risk of losing all of their federal financial assistance; and as such is a prodigious motivator to encourage compliance. It has been interpreted that this law should apply equally to school sponsored athletics and in turn, lead to the creation of a policy regarding the inclusion of students with disabilities in extracurricular physical activities.

### **Extracurricular Physical Activity Policy for Individuals with Disability**

In January 2013, the Office for Civil Rights released a document that clarified the application of Section 504 to school athletics in the form of a “Dear Colleague letter” format (US Department of Education Office for Civil Rights, 2013). The policy clarified the guarantee of accessibility for extracurricular physical activity opportunities to children with disabilities based on Section 504 by the US Department of Education. This was done in part to encourage schools to comply with the policy and ensure all students an equal opportunity to participate in extracurricular athletics (Arnhold, Young, & Lakowski, 2013).

This extracurricular physical activity policy dictates that schools that receive federal funds are required to provide equal opportunities for students with disabilities to participate in extracurricular physical activities (US Department of Education Office for Civil Rights, 2013). This might include providing adaptations, modifications, and support personnel to existing sport programs or creating disability specific sports such as wheelchair soccer or basketball. This policy provides clear guidelines on what schools are required to do; however, who is responsible for implementing the policy is not clear.

Despite this professionals in the field have suggested that adapted and general physical education teachers are uniquely positioned and highly qualified to take up the mantle to implement this policy (Silliman-French & French, 2013). In fact some of the earliest adopters of this policy have been adapted physical education specialists who have taken a keen interest in adapted athletics (Poulin et al., 2013). Though there have been a few states, such as Maryland and Minnesota, that addressed extracurricular athletics for

students with disabilities long before the 2013 Dear Colleague letter (Poulin et al., 2013). Apart from early adopters, some statewide programs, as well as support systems such as the American Association of Adapted Sports Program (AAASP), adapted athletics are not currently available to all students.

### **Inclusion in Physical Education**

This extracurricular physical activity policy extends the philosophy of inclusion to athletics. Therefore, physical educator beliefs regarding the inclusion of students with disabilities in physical education is a natural starting point for examining their feelings toward this relatively new policy. Within physical education the inclusion of students with disabilities has become more commonplace. One reason for this is the use of certified, trained, and/or experienced adapted physical educators (Volger, Koranda, & Romance, 2000). These individuals are a vital resource in the inclusion process. However, it might not always be feasible to rely on adapted physical educators (Volger et al., 2000). Thus, it is necessary to understand inclusion from the perspective of physical educators, as this viewpoint might be similar for the inclusion of students with disabilities in extracurricular physical activities.

General physical education teachers might not hold favorable feelings toward the inclusion of all students with disabilities in their classroom (Block & Obrusnikova, 2007). For example, general physical educators' attitudes are more favorable toward teaching students with learning disabilities (Short & Winnick, 2005), especially when compared to students with mild cognitive impairments and emotional and behavior disorders (Obrusnikova, 2008; Rizzo & Vispoel, 1991). Additionally, physical educators tend to have more positive attitudes toward teaching students with mild disabilities than those

with severe disabilities (Casebolt & Hodge, 2010; Conaster, Block, & Gansneder, 2002; Hodge, Ammah, Casebolt, Lamaster, & O'Sullivan, 2004). Physical educators might view students with more involved disabilities as being outside their area of expertise and as having too many limitations for traditional motor and skill development (Beamer & Yun, 2014). Therefore, the beliefs and attitudes teachers' hold toward the inclusion of students with disabilities might affect their inclusion and participation in extracurricular physical activities for students with disabilities.

These attitudes might also be affected by other variables. Experienced physical education teachers reported both favorable and unfavorable attitudes toward inclusion (Ammah & Hodge, 2005). Though no significant relationship has been found between the number of years teaching and attitudes toward inclusion (Obrusnikova, 2008), as experience might not accurately reflect newer changes in policies and teaching methods. However, those with experience working with students with disabilities have been found to hold more favorable beliefs toward inclusion (Casebolt & Hodge, 2010; Obrusnikova, 2008). While, negative experiences have been shown to result from a feeling of lack of training and experience (Lieberman, Houston-Wilson, & Kozub, 2002). In addition, coursework and teaching experiences with students with disabilities are vital in the preparation of physical education teachers (Hardin, 2005). Adapted physical education coursework has been shown to be a significant predictor of general physical education teachers' positive beliefs about teaching students with disabilities and is positively correlated with their perceived competence (Obrusnikova, 2008). As are pre-service teachers' experiences working with students with disabilities, which were associated with high self-efficacy scores (Romi & Leyser, 2006). Therefore, training, coursework and

teaching experiences with students with disabilities might be beneficial for physical educators and might create more favorable attitudes toward including students with disabilities in their classes as well as other physical activities.

### **Policy**

Policy is broadly defined, made up of many components, and can include various players to solve problems facing society. It has been defined as the intentions of the government to solve a problem (Dubnick & Bardes, 1983). Specifically seen as the rules, regulations, ordinances, and laws. Policy is made and influenced by those who hold or affect government positions of authority (Bryson & Crosby, 1992). It can include directives expressed as official enactments and informal practices (Cibulka, 1995), as well as consistent patterns of activity and inactivity (Fowler, 2009). Thus, policy is often seen as the value-laden process a political system uses to handle a public problem (Ball, 1990).

Policy implementation is the stage when a formally adopted policy is put into practice (Fowler, 2009). This process involves many people including those that put the policy into effect and those that engage with the policy at the point at which it impacts the target population (Fowler, 2009). Many agents are involved in this process and their interpretation of policy, such as through the judiciary system, greatly affects the general course of implementation. The overall process of policy implementation can result in substantial variation at all levels, resulting in considerable differences in how policies relate to their intended goal, in this case physical activity promotion (Lounsbery, Mckenzie, Morrow Jr, Monnat, & Holt, 2013).

### **Physical Activity Policy Implementation**

As stated before, schools provide an important environment for promoting physical activity because it reaches nearly all children and adolescents who spend almost half of their waking day in school (Lounsbery et al., 2013). Successful implementation of physical activity policies has the potential to influence the well-being of students (Woods & Mutrie, 2012). Thus, the targeting of the school environment with policy-based approaches might have a great impact (Eyler et al., 2002; Story, Nannery, & Schwartz, 2009).

Many agencies have made recommendations about physical activity in schools. For example, SHAPE America recommended that elementary and secondary schools provide 150 minutes and 225 minutes, respectively, of weekly physical education. However, no federal law currently mandates the number of days and minutes of physical education required each week (McKenzie & Lounsbery, 2009; Story et al., 2009).

Despite these recommendations not all students have equal access to appropriate facilities, opportunities for physical activity, and quality physical education. However, strides are being made. For example, the reauthorization of the “Every Student Success Act” (ESSA), in December 2015, replaces the “core subjects,” language used in “No Child Left Behind” to a “well-rounded education.” More importantly, physical education was included as part of a well-rounded education.

It is important to recognize how physical activity policies and different organizations can influence behaviors at multiple levels. For example, Lounsbery et al. (2013) conceptualized an ecological model illustrating how comprehensive state policies

can impact district policies, which can then affect school policies and the school environments. Additionally, a key to policy adoption and maintenance are guidelines provided by national and professional organizations. The National Physical Activity Plan (NPAP) provides recommendations to improve opportunities to be physical activity. These guidelines focus on multiple areas including community, recreation, fitness, parks, sport, education, land use, and community design. Adopting policies at any of these levels or focus areas is believed to have an impact on children's physical activity.

Even with the best intentions, gaps exist between what policies were originally intended to do, how they are implemented, and how they are enforced. Feedback is needed between policy creators and those implementing the policy, including its upstream and downstream effects. For example, physical educators, school administrators, and other health professionals need to educate the decision makers and policy makers about the importance of physical education and physical activity promotion to influence future policies.

### **Effects of Physical Activity Policies**

A common strategy used to increase physical activity is through the use of various government policies, both local and national. For example, some states implemented policies that require a specified number of minutes of physical education in schools (Amis, Wright, Dyson, Vardaman, & Ferry, 2012; Lounsbery et al., 2013). District physical education policies shown to be correlated with school physical education environment include those that require schools to follow specific physical education standards or guidelines, require a specific number of minutes or days per week of physical education instruction, and requirements for schools to test students' fitness

levels (Lounsbery et al., 2013). The best policy predictor of time spent in physical education, were those that evaluated the effects, such as an annual evaluation of the physical education program (Lounsbery et al., 2013).

However, schools indicating (a) that 100% of their physical education was taught by a certified teacher and (b) that their physical education class sizes were smaller or similar to those of other classes had significantly less physical education time than schools without these characteristics (Lounsbery et al., 2013). Many physical education content, curriculum, and delivery characteristics, often associated with quality physical education, were negatively associated with physical education time, including teachers being required to use a specific curricula and the amount of time physical educators spent addressing physical and motor skill development, active participation in physical activity, and personal and social behavior development (Lounsbery et al., 2013). This might indicate that physical education policies, without additional support or funding, or greater importance/emphasis placed on this subject area/physical activity, cannot be successfully implemented as originally intended.

Past efforts to increase student physical activity include physical education requirements for all students (Fernandes & Sturm, 2011; Ford et al., 2009), limiting physical education exemptions (Lee, Burgeson, Fulton, & Spain, 2007), providing students with opportunities to participate in intramural sports (Katzmarzyk & Malina, 1998; Lee et al., 2007; Vilhjalmsson & Kristjansdottir, 2003), and hiring highly-qualified/credentialed physical education teachers equipped with adequate support and resources (Bulger, Housner, & Lee, 2008; Lee et al., 2007; Woods & Lynn, 2001). These policies have been shown to positively influence students physical activity level, however

these recommended policies and practices have not been uniformly adopted across the United States (Johnston, O Mally, Terry-McElrath, & Colabianchi, 2013; Metos & Nanney, 2007; Nanney & Davey, 2008; Taber, Chriqui, & Chaloupka, 2011).

Grassroots involvement, so often critical in policy implementation, has proven to be true among other school policies, such as drug and alcohol use prevention and safer sex practices promotion (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999; Henderson & Mapp, 2002). This involvement can include family and communities, health councils, advisory boards, and other decision-making groups engaged in school policies. The effects of family and community involvement on school physical activity policy and practices in secondary schools were evaluated by Kehm et al. (2015). The study found that only 25% of schools had both family and community involvement in physical activity policy, compared to 38% involvement in nutrition policy. Additionally, it was found that schools with family and community involvement were significantly more likely to offer intramural sport opportunities than those without (Kehm et al., 2015). This study might help to demonstrate the impactful nature of family and community involvement in school health policy, despite a vast majority of schools, 60%, reporting no involvement in physical activity policy. While, school's geographic location, percent minority enrollment, and percent free and reduced-price lunch enrollment have been identified as predictors of school health policy (Metos & Nanney, 2007; Taber et al., 2011).

### **Barriers to Physical Activity Policy Implementation**

Despite best efforts even the most well intention policies might face barriers to implementation. Often there is little to no funding tied to these physical activity policies,

and even when there is funding it is not equivalent to meet the accountability requirements (Howie & Stevick, 2014). There are few incentives that exist for schools to incorporate meaningful physical activity policies because physical education has faced a lack of federal support (McMurrer, 2008). This lack of federal support is largely due to an unintended consequence of the “No Child Left Behind Elementary and Secondary Act,” which focused on student achievement and accountability in core subjects (McKenzie & Lounsbery, 2009). For example, physical activity policies might be competing with other priorities in education; such as academic instruction time and improving standardized test scores.

Other barriers to effective policy implementation include lack of clear policy objectives, support, and uniform implementation. The linkage between research, practice, and policy might not be clearly communicated (Cooper et al., 2016). Additionally, physical activity practitioners might be unfamiliar with specific objectives of intended policies (Cooper et al., 2016). For example, when attempting to incorporate health related fitness knowledge, physical educators have reported feeling unprepared to incorporate this content into their curriculum due to a lack of instruction on how to accomplish this within their own physical education teacher education program (Alfrey, Cale, & Webb, 2012; Castelli & Williams, 2007). Physical educators might also have little experience with policy development or ability to address conflict with existing policies (Cooper et al., 2016). As well, any new policy implementation will likely require collaboration from different individuals, departments, and agencies involved in delivery of physical activity related school-based programs (Cooper et al., 2016). Lastly, many schools might not fully implement policies, only including part of a policy. Schools

might do this for a variety of reasons; however, partial implementation can still result in positive effects (Lounsbery, McKenzie, Morrow Jr, Holt, & Budnar, 2013), which suggests that partial implementation might be better than no implementation at all. Regardless of the difficulties involved in the creation, adoption, and evaluation of new policies, it is important and can be accomplished. It is essential for practitioners to focus on the key points of policies as well as the specific targeted strategies designed to create more physical activity opportunities.

### **Theory**

Currently research in physical activity behavior in children and adolescents tends to lack a sufficient theoretical foundation for examining variables that influence this behavior (Motl et al., 2005). A theoretical framework provides a foundation to build evidence-based interventions and plays a critical role in the development and implementation of best practices (Keats & Culos-Reed, 2009). These theoretical models provide a systematic way to understand and explain how health behaviors, like physical activity, can be influenced (Keats & Culos-Reed, 2009). To address the lack of extracurricular physical activity opportunities for students with disabilities, a theoretical framework is needed to examine the variables that influence inclusive behavior of adapted and general physical education teachers.

#### **Theory of Planned Behavior**

The Theory of Planned Behavior (TPB) is an important influential conceptual framework (Ajzen, 2002) and has guided a great deal of physical activity research for youth and adults (Downs & Hausenblas, 2005; Foley et al., 2008; Rhodes et al., 2006). The TPB works at the individual level to predict behavior using behavioral beliefs or

beliefs about likely consequences, normative beliefs or beliefs about the expectations of others, and control beliefs or beliefs about factors that might hinder performance (Ajzen, 1991). In the TPB, behavioral beliefs, normative beliefs, and control beliefs influence attitudes, subjective norms, and perceived control toward the behavior, respectively; together these constructs influence intentions (Ajzen, 1991). The intended behavior is influenced by intentions and perceived behavioral control, with intentions acting as the most important direct determinant of behavior (Ajzen, 1991). To predict whether a person will engage in a particular behavior it must first be determined whether they are in favor of doing it, how much social pressure or support they experience, if they feel they are in control of the action in question, and their intentions to perform the behavior (Courneya, Bobick, & Schinke, 1999; Francis, 2004).

Attitudes are comprised of favorable and unfavorable beliefs about the intended behavior. They include an affective component that takes into account the emotional response caused by the prospect of performing the behavior (French et al., 2005). Additionally, there is an instrumental component of attitudes that reflects a cognitive evaluation of the advantages of performing the behavior (French et al., 2005).

Subjective norms represent the perceived social pressures or support that individuals might feel to engage or not engage in a particular behavior (Courneya et al., 1999). It is made up of both normative beliefs and motivation to comply (or desire to please). Normative beliefs address the likelihood of whether or not significant others would approve of performing the behavior (Ajzen, 1991). Motivation to comply is an individual's motivation to adhere to those significant others opinions (or desire to please them) (Noar, 2005). Thus, subjective norms are determined by the perceived expectations

of significant others and the motivation to comply with the expectations of those significant others (Godin, 1994).

Perceived behavioral control is defined as an individual's expectation over the degree to which they are capable of performing a given behavior (Ajzen, 2002). This includes the extent of the resources they have as well as the belief that they can overcome whatever obstacles they might encounter (Ajzen, 2002). It is an assessment of the skills, opportunities, and resources needed to perform the behavior when the motivation to engage in the behavior is constant (Rhodes et al., 2006). Due to the relationship with motivation, perceived behavior control can indirectly affect behavior via intentions and also be a direct predictor of behavior. Perceived behavioral control captures internal and external controllability of the behavior. Internal controllability is the skills and will power necessary to engage in the behavior (i.e., self-efficacy); while external controllability are the demands of the task and the actions of other individuals. Therefore, the perceived factors that facilitate or impede the behavior (i.e., control beliefs) and impact of each of those factors (i.e., perceived power) affect perceived behavioral control (Noar, 2005).

Intentions are the result of a decision to execute a given behavior and represents a person's willingness to engage in that behavior (Gollwitzer, 1993). Not only do intentions represent motivation factors that affect behavior, but they also indicate how much effort an individual is willing to put forth to engage in that behavior (Armitage & Conner, 2001). The TPB assumes that intentions are a proximal determinant of behavior. However, there are two types of intentions that need to be addressed (Armitage & Conner, 2000). Goal intentions deal with the intentions to perform the behavior and focus on the outcome (Gollwitzer, 1993). Implementation intentions deal with the plans as to when,

where, and how goal intentions will be translated into behavior and focus on the process (Gollwitzer, 1993).

Based upon TPB, it can be assumed that adapted and general physical education teachers will implement extracurricular physical activities when they intend to do so, and they will intend to implement extracurricular physical activities for students with disabilities when they evaluate them positively, believe that significant others think that they should implement them, and perceive that implementing extracurricular physical activities for students with disabilities to be under their own control. Therefore, adapted and general physical educators need strong intentions, positive attitudes, a supportive social environment, and a strong sense of control toward extracurricular physical activity opportunities for students with disabilities.

**Research using the Theory of Planned Behavior.** The TPB has been used to explain and predict human behavior in a variety of health and physical activity contexts including physical education (Armitage & Conner, 2001; Hausenblas, Carron, & Mack, 1997; Kozub & Lienert, 2003). In physical education, the TPB has been applied to explain behavior in a variety of situations. For example, teachers with favorable attitudes toward teaching highly active classes were more likely to report strong behavioral intentions than teachers with less favorable attitudes (Martin & Kulinna, 2004).

The TPB has also been used to evaluate inclusion of students with disabilities in physical activity settings. For example, the TPB has been used to analyze factors associated with aquatic instructors' intentions of including youth with both mild and severe disabilities in aquatics classes (Conaster et al., 2002). Additionally, the TPB was used to analyze factors associated with afterschool staff including youth with disabilities

in physical activity (Taylor & Yun, 2012). Another study examined general physical education teachers' intentions toward teaching students with disabilities, and that both direct and indirect measures of the TPB predicted intentions (Jeong & Block, 2011). Therefore, the TPB should be considered a suitable model for understanding the intentions and behaviors of adapted and general physical educators in implementing extracurricular physical activities for students with disabilities.

**Issues with the Theory of Planned Behavior.** One issue with the TPB is that intentions (as measured in most studies) do not predict behavior very well. This gap between intentions and behavior suggests that additional variables might help to better predict behavior. An important assumption of the TPB is that attitudes, subjective norms, and perceived behavioral control are enough to explain intentions and behavior; however, many researchers challenge this and advocate for the inclusion of additional variables (Ajzen, 1991, 2001). One such variable is self-efficacy. Perceived behavioral control and self-efficacy both focus on an individual's perception of their ability to perform a behavior (Ajzen, 2002; Bandura, 2004; Foley et al., 2008; Godin, 1994). As previously defined, perceived behavioral control concerns the belief that they are able to engage in the behavior including the belief that engaging in the behavior is up to the individual and that they are able to do so because of factors outside their control (e.g., availability of equipment, support staff, etc.); whereas self-efficacy, discussed in detail below, examines beliefs about the ease or difficulty of engaging in the behavior and is more internal to the individual (Ajzen, 2002). Additionally, perceived behavioral control items are general in nature, while self-efficacy items are more specific and precise (Roberts, Maddison, Magnusson, & Prapavessis, 2010). In addition to the TPB variables, self-efficacy

sometimes explains additional unique variance of behavior (Armitage & Conner, 2001; Foley et al., 2008; Hagger, Chatzisarantis, & Biddle, 2002; Motl et al., 2005) and is also directly associated with both intentions and behavior (Hagger et al., 2002; Jin, 2012; Rhodes et al., 2006). Therefore, self-efficacy should be included as a separate construct along with the TPB constructs to explain behavior (Foley et al., 2008; Hagger et al., 2002; Motl et al., 2005).

### **Self-Efficacy**

Self-efficacy refers to the beliefs one holds in regard to their ability to accomplish a task. More specifically, self-efficacy is defined as an individual's belief in their own capabilities (or skills) to organize and carry out the necessary actions to engage in a certain behavior (Bandura, 1997). It is best measured through measures tailored to a particular domain and not a more global approach (Bandura, 1986b). Self-efficacy is influenced by multiple factors, including past knowledge and experience. Throughout an individual's life they develop their self-efficacy beliefs through the continual integration of information from four primary sources: past performances, vicarious experience of observing the performance of others, verbal feedback, and the physiological state from which people judge their capabilities (Bandura, 1986a). Therefore, the four main processes to develop self-efficacy beliefs are mastery experiences, vicarious experiences, verbal persuasion, and physiological states (Bandura, 1997).

Past experiences are an indicator of an individual's ability to accomplish a given task. Additionally, prior experiences are the most effective and influential process in the development of self-efficacy because they are based on authentic mastery experiences. For example, successful engagement in a behavior raises self-efficacy if it is attributed to

one's own skills and ability rather than by chance or temporary factors (Strecher, DeVellis, Becker, & Rosenstock, 1986). Just as repeated failures lower self-efficacy, especially if those failures occur early on in the adoption of the behavior (Bandura, 1998).

When people evaluate their own abilities in relation to the successes of others they are developing their self-efficacy through vicarious experiences. Vicarious experiences influence self-efficacy through the observation and comparison of other similar individual's behavior and the consequences of the behavior (Bandura, 1986a). For example, watching relevant others successfully perform a behavior can increase an individual's self-efficacy, while seeing others perform unsuccessfully can decrease self-efficacy (Feltz, 1988). This is especially true when individuals are similar to the model (Feltz, 1988).

Additionally, self-efficacy can be increased if significant others provide positive feedback. This feedback can be strong verbal comments or persuasive techniques that include expressing beliefs that one is capable of engaging in the behavior. Significant others might be parents, peers, colleagues or administrators. This persuasion can be influenced factors such as the expertness, trustworthiness, and attractiveness of the significant other.

Physiological and affective states are the type of somatic information used in a person's judgment of their own capabilities. This represents the cognitive appraisal of the feeling of a situation (Chase, 1999). For example, when an individual perceives an experience as unpleasant based on various levels of physiological arousal, self-efficacy decreases. Conversely, when an individual perceives an experience as positive based on their physiological state, self-efficacy increase.

**Research in self-efficacy.** Past research has utilized these constructs to address efficacy beliefs in a positive way. For example, interventions have been successful at increasing physical education teachers' self-efficacy toward teaching physically active classes (Martin, McCaughtry, & Shen, 2009). However, in one study, changes in teacher self-efficacy were more likely to occur early on as efficacy increased during teacher preparation and student teaching, but decreased with actual experience as a teacher (Hoy & Spero, 2005). Additionally, physical education teachers' self-efficacy toward the inclusion of students with autism was a significant predictor of self-reported behavior (Taliaferro, 2010). However, the ability to estimate teachers' inclusion behavior based on self-efficacy has been limited (Beamer & Yun, 2014).

### **Integrated Framework**

In order to improve the understanding and variance explained in a given behavior researchers have proposed integrating different theories. Rather than pit one model against another, a greater understanding can be gained from using an integrated framework comprised of multiple models (Brawley, 1993; Foley et al., 2008; Roberts et al., 2010). Individually, these models typically have a narrower focus but when combined can better address the complexities of behavior and thereby create a broader depiction of the factors that influence behavior.

Previous studies examining physical activity behavior have evaluated the benefit of adding to the TPB by incorporating other models including self-efficacy theory, self-determination theory, theory of reasoned action and the transtheoretical model, to name a few (Courneya & Bobick, 2000; Hagger & Armitage, 2004; Hagger et al., 2002; Norman, Conner, & Bell, 2000). While others have combined existing models to create a new

conceptual model addressing the relationship between physical activity behaviors, it's determinants, and the functioning of individuals with disabilities (van der Ploeg, van der Beek, van der Woude, & van Mechelen, 2004). Within the field of physical education studies examined the integration of self-determination theory and the TPB and found that the combination better explained students' physical activity behavior and motivation to engage in physical activity (Shen, McCaughtry, & Martin, 2007, 2008; Soini, Liukkonen, Watt, Yli-Piipari, & Jaakkola, 2014). Overall, the additions to the TPB were beneficial and helped to provide more insights about the constructs examined.

An integrated framework proposed by Roberts et al. (2010) built off the TPB and incorporated self-efficacy and implementation intention. This study found that the addition of social cognitive variables helped to explain adolescent physical activity behavior. Studies examining physical activity behavior in physical education classes and promotion of out of school physical activity have also utilized similar frameworks (Jin, 2012; Pawlowski, 2016).

The addition of self-efficacy to the TPB might seem redundant. However, while there might be conceptual similarities between perceived behavioral control and self-efficacy, they are nevertheless different and measure different aspects of control (Ajzen, 2002; Bandura, 2004; Hagger, Chatzisarantis, & Biddle, 2001; Hagger et al., 2002; Jin, 2012; Roberts et al., 2010). Perceived behavioral control, as discussed above, represents an individual's ability to exert control over the given behavior (i.e., internal control) but also address barriers to engaging in the given behavior that exist in the individual's environment (i.e., external control; Hagger et al., 2001). In this way perceived behavior control measures both internal and external control aspects. Similarly, self-efficacy

addresses an individual's belief in their ability to not only engage in the behavior (i.e., internal) but also an individual's belief in their ability to overcome barriers that prevent the behavior (i.e., external; Bandura, 1986a; Roberts et al., 2010). However, measures of perceived behavior control tend to be more general, while measures of self-efficacy are more precise. Previous studies have demonstrated that the additional of self-efficacy resulted in an increase in variance in behavior explained and provided further justification for the inclusion of both self-efficacy and perceived behavioral control as separate constructs (Jin, 2012; Roberts et al., 2010).

Despite additions to the TPB a gap still exists between general intentions and the desired behavior (Gollwitzer, 1999). Such that strong intentions have not been shown to translate into behavior. Intention has traditionally been considered a proximal determinant of behavior and measured as a one-dimensional concept, however evidence suggests evaluation of intention as a multidimensional construct consisting of intention and implementation intention might provide more insight into behavior variance (Armitage & Conner, 2000). Compared to general intentions, implementation intentions are concerned with the plan in place to engage in the behavior and address the where, when and how the behavior will be acted upon (Gollwitzer, 1993). Implementation intention, though a relatively recent development in intention behavior relations, has been shown to address this gap (Gollwitzer, 1999; Jin, 2012; Pawlowski, 2016; Roberts et al., 2010; Sheeran, Webb, & Gollwitzer, 2005).

Proposed integrated models might produce important theoretical insights into how and why people change their behavior (Courneya & Bobick, 2000). As such, the combination of theories is justified in order to be able to better explain and predict

behavior. Therefore, an integrated theory might provide the strongest basis for understanding adapted and general physical educators' intention and implementation of extracurricular physical activities for students with disabilities.

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## Appendix B. IRB Exemption



**Human Research Protection Program**  
*Institutional Review Board*  
 Office of Research Integrity  
 B308 Kerr Administration Building, Corvallis, Oregon 97331-2140  
 (541) 737-8008  
[IRB@oregonstate.edu](mailto:IRB@oregonstate.edu) | <http://research.oregonstate.edu/irb>

**EXEMPT  
 DETERMINATION**

Date of Notification	03/22/2017	Date Acknowledged	03/22/2017
Principal Investigator	Joonkoo Yun	Study ID	7971
Study Title	Examining extracurricular physical activity policy implementation for students with disabilities		
Study Team Members	Erin Siebert		
Review Level	Exempt	Category(ies)	2
Submission Type	Initial Application		
Funding Source	None	PI on Funding	N/A
Proposal #	N/A	Cayuse #	N/A

The above referenced study was reviewed by the OSU Human Research Protection Program (HRPP) office and determined to be exempt from full board review.

**EXPIRATION DATE:** 03/21/2022

The exemption is valid for **5 years** from the date of approval.

Annual renewals are not required. If the research extends beyond the expiration date, the investigator must request a new exemption. Investigators should submit a final report to the HRPP office if the project is completed prior to the 5 year term.

**Comments:**

Please note when applicable, if the PI has not already done so, the HRPP staff will update the version date on the protocol and consent document(s).

**Principal Investigator responsibilities:**

- Certain amendments to this study must be submitted to the HRPP office for review prior to initiating the change. These amendments may include, but are not limited to, changes in funding, study population, study instruments, consent documents, recruitment material, sites of research, etc. For more information about the types of changes that require submission of a project revision to the HRPP office, please see: [http://oregonstate.edu/research/irb/sites/default/files/website\\_guidancedocuments.pdf](http://oregonstate.edu/research/irb/sites/default/files/website_guidancedocuments.pdf)
- All study team members should be kept informed of the status of the research. The Principal Investigator is responsible for ensuring that all study team members have completed the online ethics training requirement, even if they do not need to be added to the study team via project revision.
- Reports of unanticipated problems involving risks to participants or others must be submitted to the HRPP office within three calendar days.
- The Principal Investigator is required to securely store all study related documents on the OSU campus for a minimum of three years post study termination.

## Appendix C. Initial Email

Subject: Promoting physical activity

Content:

Hello [insert recipient name],

As you are well aware lack of physical activity participation is a major health concern and serious problem in the United States. However, many students with disabilities are not participating in physical activity. Recently, the US Department of Education released a policy detailing schools' responsibility to include students with disabilities in school sponsored extracurricular physical activities. However, the policy does not clearly specify who is the responsible for implementing the inclusive extracurricular physical activities.

We are conducting a research study to better understand how to successfully include students with disabilities. Therefore, the purpose of this study is to examine the potential factors affecting physical education teachers' inclusion of students with disabilities in extracurricular physical activities.

We would like to invite you to participate in our study. As a physical educator, you have extensive knowledge and expertise in the areas of physical education and physical activity promotion that will contribute significantly to this work. This survey should take about 15 minutes to complete. Your participation will be greatly appreciated.

If you are willing to participate in this survey, please click the following link [[insert link – Click Here to Begin Survey](#)] or copy and paste the web address into your preferred browser [[insert web address](#)].

As a thank-you for your participation we will provide a coupon code for free shipping on any purchase from Gopher at the end of the survey. Gopher is a physical education, fitness and sport equipment company that has been serving the need of physical educators and fitness instructors for 70 years.

Thank you, in advance, for your assistance.

Sincerely,

Erin A. Siebert, MS

Joonkoo Yun, PhD

*Study title: Examining extracurricular physical activity policy implementation for students with disabilities*

PI: Joonkoo Yun,

If you have question contact Erin Siebert at [erin.siebert@oregonstate.edu](mailto:erin.siebert@oregonstate.edu).

## Appendix D. Follow Up Email

Subject: Physical activity promotion

Content:

Hello [insert recipient name],

You may have received our email about 7days ago about a research project examining the potential factors affecting physical education teachers' inclusion of students with disabilities in extracurricular physical activities. **If you have already completed the survey, thank you so much for your help and assistance and please disregard the rest of this email.** To maintain anonymity and confidentiality, we are not able to track your response and I apologize for multiple emails. If you have not yet participated in our survey, I ask you to take another look and encourage you to help us out.

As a physical educator, your knowledge and expertise in the areas of physical education and physical activity promotion will greatly contribute to this work. If you are willing to participate in this survey, please click the following link [[insert link – Click Here to Begin Survey](#)] or copy and paste the web address into your preferred browser [[insert web address](#)].

As a thank-you for your participation we will provide a coupon code for free shipping on any purchase from Gopher at the end of the survey. Gopher is a physical education, fitness and sport equipment company that has been serving the need of physical educators and fitness instructors for 70 years.

We recognize your time is valuable and appreciate your attention. Thank you, in advance, for your assistance.

Sincerely,

Erin A. Siebert, MS

Joonkoo Yun, PhD

*Study title: Examining extracurricular physical activity policy implementation for students with disabilities*

PI: Joonkoo Yun,

If you have questions contact Erin Siebert at [erin.siebert@oregonstate.edu](mailto:erin.siebert@oregonstate.edu).

## Appendix E. Final Email

Subject: Physical activity promotion

Content:

Hello [insert recipient name],

I am writing to follow up on a previous email sent about a week ago. **If you have already completed the survey, thank you so much for your help and assistance and please disregard the rest of this email.** To maintain anonymity and confidentiality, we are not able to track your response and I apologize for multiple emails. If you have not yet participated in our survey, I ask you to take another look and encourage you to help us out.

As physical educator you are well aware of the importance of physical activity. Many students with disabilities do not engage in regular physical activity. I would like to invite you to participate in a research project entitled, *examining extracurricular physical activity policy implementation for students with disabilities*. The purpose of this study is to examine the potential factors affecting physical education teachers' implementation of extracurricular physical activities for students with disabilities. As a physical educator, your knowledge and expertise in the areas of physical education and physical activity promotion will greatly contribute to this work.

Your assistance is needed with this study. If you are willing to participate in this survey, please click the following link [[insert link – Click Here to Begin Survey](#)] or copy and paste the web address into your preferred browser [[insert web address](#)].

As a thank-you for your participation we will provide a coupon code for free shipping on any purchase from Gopher at the end of the survey. Gopher is a physical education, fitness and sport equipment company that has been serving the need of physical educators and fitness instructors for 70 years.

We recognize your time is valuable and appreciate your attention. Thank you, in advance, for your assistance.

Sincerely,

Erin Siebert, MS

Joonkoo Yun, PhD

PI: Joonkoo Yun,

If you have questions contact Erin Siebert at [erin.siebert@oregonstate.edu](mailto:erin.siebert@oregonstate.edu).

## Appendix F. Social Media Posts

### Facebook

The US Dept of Education has released a policy for student's with disabilities to have an equal opportunity to participate in extracurricular physical activities. We are conducting a research project to help understand how to implement this policy. As a physical educator, your extensive knowledge and expertise in the areas of physical education and physical activity promotion make you a vital resource in helping with our research project. If you are interested in participating please click the following link [[insert link – Click Here to Begin Survey](#)].

As a thank-you for your participation we will provide a coupon code for free shipping on any purchase from Gopher at the end of the survey. Gopher is a physical education, fitness and sport equipment company that has been serving the need of physical educators and fitness instructors for 70 years.

*Study title: Examining extracurricular physical activity policy implementation for students with disabilities*

PI: Joonkoo Yun,

If you have question contact Erin Siebert at [erin.siebert@oregonstate.edu](mailto:erin.siebert@oregonstate.edu).

### Twitter

PE teachers' needed for research study about US Dept of Ed policy for students with disabilities to be included in sports [[insert link – Click Here to Begin Survey](#)].

PE teachers' input needed on research about US Dept of Ed policy for students with disabilities in inclusive sports [[insert link – Click Here to Begin Survey](#)].

PE teachers' input needed for research about extracurricular physical activities for students with disabilities [[insert link – Click Here to Begin Survey](#)].

## Appendix G. Online Survey



Thank you for your interest in participating in our survey. As a **physical educator**, you are being invited to participate in this research study. If you agree to participate, you will be asked to complete this web-based survey.

Your participation is needed to help gain a better understanding of extracurricular physical activity opportunities for students with a disability. Your knowledge and expertise in the areas of physical activity and education will greatly contribute to this work. Please read the following information carefully to help you decide whether to participate in this study.

The purpose of this research study is to examine the potential factors affecting physical education teachers' inclusion of students with disabilities in extracurricular physical activities. This research is being conducted as part of a dissertation and is intended for use in publications and professional presentations.

This survey will take about 15 minutes to complete. The information given in the survey will be collected anonymously. Any identifying information will not be used in any report. However, the security and confidentiality of information collected online cannot be guaranteed, as it can be intercepted, corrupted, lost, destroyed, arrive late or incomplete, or contain viruses.

Your participation in this study is completely voluntary and you are free to withdraw at any time. You may skip any questions that you do not want to answer. If you want to withdraw from the study, do not complete and/or submit the survey. This study may help provide guidance for future inclusion of students with disabilities in extracurricular physical activities. There are no anticipated risks or benefits for participating in this study.

Completion and submission of this survey constitutes consent to participate in the research study described above.

If you have any questions about this research project, please contact Erin Siebert at [sieberte@oregonstate.edu](mailto:sieberte@oregonstate.edu) or the principal investigator (Joonkoo Yun) at [jk.yun@oregonstate.edu](mailto:jk.yun@oregonstate.edu). If you have questions about your rights or welfare as a participant, please contact the Oregon State University Institutional Review Board (IRB) Office, at (541) 737-8008 or by email at [IRB@oregonstate.edu](mailto:IRB@oregonstate.edu). You may print a copy of this form for your records.

I have read and understand the informed consent as it has been described to me above. If you wish to participate in this study, please select **YES** to proceed to the survey.

- YES, I agree to participate in this study
- NO, I do not wish to participate in this study

0%  100%



I am currently teaching at least one unit of physical education or adapted physical education in grades K-12.

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Yes

No

0%  100%

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On January 25th, 2013, the Department of Education released a policy statement promoting physical activity for students with disabilities. According to the policy, schools that receive federal funds are required to provide equal opportunities for students with disabilities to participate in school sponsored extracurricular physical activities (e.g. track and field, swimming, soccer, etc.).

This may include providing reasonable accommodations (e.g., using a light along with a starter pistol so that a deaf runner can compete in a track race). These accommodations may include adaptations, modifications, and support personnel for existing sport programs.

The requirement of equal opportunity does not mean changing essential elements that could affect the fundamental nature of the game, giving a student with a disability an unfair advantage, changing the nature of selective teams, or comprising student safety.

Last, the guidance urges, but does not require, that school districts create additional opportunities for students with disabilities to participate in separate or different extracurricular athletic activities.

Prior to reading the above information, I was aware of this policy regarding extracurricular physical activity opportunities for students with disabilities.

- Yes, I was aware
- No, I was not aware

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How were you informed of this extracurricular physical activity policy for students with disabilities? Check all the apply.

- School principle
- Special education director
- Professional conference
- Adapted physical educator
- Athletic director
- Coach
- Continuing education opportunity
- In service training
- Professional journal
- Special education teacher
- Another physical education teacher
- Newspaper
- University class
- Other (please specify)

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Please read the following statement and select the response that best describes how you feel for each action.

I \_\_\_\_\_ to include students with disabilities in extracurricular physical activities.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Intend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Will try	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Am determined	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decided	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



<< >>



Please read the following statement and select the response that best describes how you feel for each question.

**I have made a detailed plan regarding \_\_\_\_\_ to include students with disabilities in extracurricular physical activities.**

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
When	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Where	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How often	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Please indicate how frequently you engage in the specified behavior listed below over the last year regarding extracurricular physical activities for students with disabilities.

	Never	Less than once a month	Once a month	2-3 times a month	Once a week	2-3 times a week	Daily
Implementing extracurricular physical activity for students with disabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Promoted already existing opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Creating equally effective separate or different extracurricular physical activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provided accommodations, adaptations, and modifications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coaching/leading/overseeing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provided transportation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduling support staff and services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduling events/games/practices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maintain and modify equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finding ways to cover the cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Including students with disabilities in extracurricular physical activities is...

Bad	<input type="radio"/>	Good
Unpleasant	<input type="radio"/>	Pleasant
Harmful	<input type="radio"/>	Beneficial
Useless	<input type="radio"/>	Useful
Un-enjoyable	<input type="radio"/>	Enjoyable
Unhealthy	<input type="radio"/>	Healthy
Not important	<input type="radio"/>	Important

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The following individuals in my school district believes that it is important that I include students with disabilities in extracurricular physical activities

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Administrators (i.e., principal, athletic director)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parents of student athletes without disabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parents of students with disabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Special education teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I am motivated to comply with the beliefs of the following individuals that I include students with disabilities in extracurricular physical activities

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Administrators (i.e., principal, athletic director)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parents of student athletes without disabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parents of students with disabilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Special education teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





Please read the following statement and select the response that best describes how you feel for each option.

\_\_\_\_\_ **I can include students with disabilities in extracurricular physical activities.**

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I have control over whether or not	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is mostly up to me if	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I want to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



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For the following questions, please indicate how confident you are about including students with disabilities in extracurricular physical activities during the following situations.

For part or some of the duration of the activity (10-30 mins, or about half of the activity).

	Not at all confident	Somewhat not confident	Neither confident nor not confident	Somewhat confident	Very confident
Once a month	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2-3 times a month	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Once a week	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2-3 times a week	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Every day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For the entire duration of the activity (60 mins, or all of the activity).

	Not at all confident	Somewhat not confident	Neither confident nor not confident	Somewhat confident	Very confident
Once a month	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2-3 times a month	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Once a week	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2-3 times a week	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Every day	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Below are a number of situations that can make it difficult to include students with disabilities in extracurricular physical activities. Please indicate how confident you are in your ability to include students with disabilities in extracurricular physical activities when:

	Not at all confident	Somewhat not confident	Neither confident nor not confident	Somewhat confident	Very confident
My student athletes are having behavioral issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are no additional support personnel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The activity focus is not centered around a common or individual activity that is easily modified or adapted to differing abilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of additional adapted equipment is unavailable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



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Please read the following statement and select the answer that best describes how you feel about that statement for each occupation.

**I believe it is the responsibility of \_\_\_\_\_ to include students with disabilities in extracurricular physical activities.**

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Athletic directors (AD)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coaches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adapted PE teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
PE teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Special education teachers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Another group/person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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To the best of your knowledge, please indicate which physical activity programs your school district offers. Note: **Intramurals** refer to organized sport competitions that are offered only to student who are enrolled in your school. **Interscholastic sports** refer to organized sport competitions in which your school competes against another school.

	Selected students only (restricted by number, skill level or grade level)	All students (including students with disabilities without restriction)
Interscholastic sports	<input type="radio"/>	<input type="radio"/>
Intramurals	<input type="radio"/>	<input type="radio"/>
Physical Activity Clubs	<input type="radio"/>	<input type="radio"/>
Special Activity Organizations (e.g., Special Olympics)	<input type="radio"/>	<input type="radio"/>

0%  100%

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Please answer the following questions to the best of your ability.

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What is your current age?

What is your self-identified gender?

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- Male
- Female
- Transgender
- Prefer not to answer

What best describes your ethnicity?

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- Hispanic or Latino
- Not Hispanic or Latino

What is your self-identified race? (Please select all that apply)

---

- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Pacific Islander
- Other

What is your zip code?

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What is the highest level of education you have completed?

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- Bachelors
- Masters
- Doctorate
- Other

What is your zip code?

---

What is the highest level of education you have completed?

---

- Bachelors
- Masters
- Doctorate
- Other

How many years have you been a teacher?

---

- Less than 1 year
- 1-5 years
- 5-10 years
- 10-15 years
- 15-20 years
- 20-25 years
- 25-30 years
- More than 30 years

How many years have you been teaching **at your current school**?

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How would you classify your school?

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- Rural
- Urban
- Not sure

Do you currently hold a teaching certificate or license in physical education in your state?

---

- Yes
- No
- Not sure

Do you currently hold a teaching certificate, licensure or endorsement in adapted physical education in your state?

---

- Yes, please specify
- Not in my state, but I have a national APENS certification
- I have both an endorsement from my state and a national APENS certification
- No, I do not
- I don't know

Have you taken any specific adapted coursework at the undergraduate level?

---

- No, I have taken no adapted specific coursework
- Yes, I have taken courses at a college or university

Have you taken any specific adapted coursework at the graduate level?

---

- No, I have taken no adapted specific coursework
- Yes, I have taken courses at a college or university

If you have taken adapted specific coursework, about how many classes have you taken?

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- I have not taken any adapted specific course work
- 1 - 3 credit course
- A couple 2-3 courses
- More than 5 courses

Do you primarily teach adapted physical education or general physical education?

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- Adapted PE
- General PE

What grades do you currently teach? Please select all that apply.

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- Pre-school (Pre-k)
- Elementary school (K-5)
- Middle school (6-8)
- High school (9-12)
- K-12
- Other (please write in grades you teach)

On average, how many minutes per week do your students have physical education?

---

- |  |  |
|--|--|
| <input type="radio"/> Less than 30 minutes | <input type="radio"/> 2 hours a week           |
| <input type="radio"/> 30 minutes a week    | <input type="radio"/> 3 hours a week           |
| <input type="radio"/> 45 minutes a week    | <input type="radio"/> 4 hours a week           |
| <input type="radio"/> 60 minutes a week    | <input type="radio"/> 5 hours a week           |
| <input type="radio"/> 90 minutes a week    | <input type="radio"/> More than 5 hours a week |

How large is your typical class size?

---

- |   |   |
|---|---|
| <input type="radio"/> Less than 20 students | <input type="radio"/> 31-40 students        |
| <input type="radio"/> 20-25 students        | <input type="radio"/> 41-50 students        |
| <input type="radio"/> 26-30 students        | <input type="radio"/> More than 50 students |

Is your school designated as a Title 1 school?

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- Yes
- No
- Not sure
- Itinerant (multiple schools)

Are you currently teaching students with disabilities?

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- No, I do not teach students with disabilities
- Yes, I am teaching students with disabilities
- Not sure, I am unaware of any students with disabilities in my classes

Do you serve on an IEP team for any students with disabilities?

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- Yes
- No

How many students with disabilities are on your current caseload?

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- None, I do not currently have a caseload for students with disabilities.
- 1-5
- 6-10
- 11-15
- 16-20
- More than 20

Do you currently coach any extracurricular physical activities or sports?

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- Yes
- No
- Not sure

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What sports do you coach (intramural, JV, varsity, recreational, etc)?

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Archery                                       | <input type="checkbox"/> Football                | <input type="checkbox"/> Rock climbing / Bouldering |
| <input type="checkbox"/> Badminton                                     | <input type="checkbox"/> Golf                    | <input type="checkbox"/> Skiing & Snowboarding      |
| <input type="checkbox"/> Baseball                                      | <input type="checkbox"/> Gymnastics              | <input type="checkbox"/> Soccer                     |
| <input type="checkbox"/> Basketball                                    | <input type="checkbox"/> Ice Hockey              | <input type="checkbox"/> Softball                   |
| <input type="checkbox"/> Bowling                                       | <input type="checkbox"/> Indoor Track & Field    | <input type="checkbox"/> Surfing                    |
| <input type="checkbox"/> BMX   | <input type="checkbox"/> Jujitsu / Judo          | <input type="checkbox"/> Swimming & Diving          |
| <input type="checkbox"/> Cheer-leading /<br>Competitive Spirit Squads  | <input type="checkbox"/> Karate                  | <input type="checkbox"/> Tennis                     |
| <input type="checkbox"/> Competitive weight lifting /<br>body building | <input type="checkbox"/> Kickball                | <input type="checkbox"/> Track & Field              |
| <input type="checkbox"/> Cross Country                                 | <input type="checkbox"/> Kickboxing              | <input type="checkbox"/> Ultimate Frisbee           |
| <input type="checkbox"/> Cycling                                       | <input type="checkbox"/> Lacrosse                | <input type="checkbox"/> Volleyball                 |
| <input type="checkbox"/> Dance Team                                    | <input type="checkbox"/> Mixed Martial Arts      | <input type="checkbox"/> Water Polo                 |
| <input type="checkbox"/> Equine sports (barrel /<br>dressage / rodeo)  | <input type="checkbox"/> Netball                 | <input type="checkbox"/> Wrestling                  |
| <input type="checkbox"/> Field Hockey                                  | <input type="checkbox"/> Paddleball / Pickelball | <input type="checkbox"/> Other (please indicate)    |
| <input type="checkbox"/> Flag Football                                 |  |   |

Do you hold any coaching certifications? If so, please list.

0%  100%

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You have reached the end of the survey. To complete and submit the survey select the next ">>" button. To go back and review your responses select the back "<<" button. The survey will not be submitted until you choose to do so.

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