

AN ABSTRACT OF THE DISSERTATION OF

Jill Pawlowski for the degree of Doctor of Philosophy in Kinesiology presented on August 12, 2016.

Title: Examining the Promotion of Out of School Physical Activity During Physical Education.

Abstract approved: _____

Joonkoo Yun

The promotion of out of school physical activity during physical education has received increasing attention as a tool for combating increasing sedentary time among youth. Qualitative work has shown that physical education teachers feel they lack the knowledge necessary to include physical activity promotion in their lessons and unprepared by their own physical education teacher education to meet this need (Alfrey, Webb, & Cale, 2012). In order to provide teacher-training programs that support the incorporation of physical activity (PA) promotion into lessons, greater understanding of teacher's beliefs about PA promotion is merited. The current study aimed to quantitatively examine (a) the use of an expanded theory of triadic influence framework to explain teachers' PA promotion behaviors and (b) differences in factors affecting PA promotion between general and adapted physical education teachers. The first manuscript utilized an expanded version of an integrated theory of reasoned action and social cognitive theory framework that included the additional construct of implementation intention and an additional direct pathway from self-efficacy to behavior. Participants consisted of a national random sample of 208 general physical education teachers who submitted

surveys anonymously. Path analysis indicated that the data provided a good fit for the expanded TRA/SCT framework and that this framework accounted for 29% of the variance in behavior. The second manuscript examined differences in PA promotion beliefs between general and adapted physical educators. Participants included 208 general and 45 adapted physical educators who submitted anonymous surveys. Results from chi-square and regression analyses indicated that there was a significant difference in education level and self-efficacy for PA promotion with adapted physical educators having higher education levels yet lower promotion efficacy. While adapted physical educators are receiving more training, they have lower efficacy and no significant difference on other factors of PA promotion compared to their general education counterparts. In an effort to help physical educators meet PA promotion goals, future programing efforts could include aspects of the expanded TRA/SCT framework to better prepare educators to fulfill this role. Future research should look further into the culture around PA promotion in physical education from all levels including educators, the school and community they work within, and the professors providing instruction within Physical Education Teacher Education programs in order to more fully describe PA promotion in Physical education and provide insight into how to alter existing Physical education culture to support educators in PA promotion.

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Examining the promotion of out of school physical activity during physical education

by
Jill Pawlowski

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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.

Jill Pawlowski, Author

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The Honey Bees

The Song Birds;

My angels on high.

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CONTRIBUTION OF AUTHORS

Jill K. Pawlowski 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 Promotion of Out of School Physical Activity During Physical Education.

Lack of youth physical activity (PA) participation is a major health concern that can be addressed cost effectively through the promotion of out of school PA during physical education (PE). Despite successful efforts to increase PA levels during PE, there is not enough class time for children to meet national PA requirements through PE alone (Palmer & Bycura, 2014). Therefore, as highlighted through national PE teaching standards, an important component of a physical educator's responsibilities is to promote student engagement in out of school PA (Society of Health and Physical Educators [SHAPE], 2013). Beyond the PE field, public health officials are also placing growing emphasis on PE as a platform for PA promotion to combat increasing rates of sedentary activity among youth (Center for Disease Control and Prevention [CDC], 2000; McKenzie & Kahan, 2004; National Institute for Health Care Management, 2003; United States Department of Health and Education [USDHE], 1979; United States Department of Health and Human Services [USDHHS], 1996).

Despite the growing emphasis on out of school PA promotion, PE teachers report feeling that they lack training in how to incorporate PA promotion into lessons (Alfrey et al., 2012; Castelli & Williams, 2007). When asked to expand on PA promotion practices, PE teachers cited traditional emphasis on sport and fitness related ideologies, a lack of understanding of PA promotion, and low confidence in their ability to teach PA promotion as explanations for not stressing PA promotion during PE (Alfrey et al., 2012). Currently reported inhibiting factors for promotion of out of school PA have coincided with the theory of planned behavior components of perceived behavioral control (lack of understanding of health related fitness), social norms (traditional emphasis on sport

models), and beliefs about the behavior (traditional emphasis on sport models; lack of training in their own education) (Ajzen, 1991). When examining PA promotion in PE class (i.e. increasing activity levels during PE time), the theory of planned behavior has been successfully used to examine teachers' beliefs, intentions, and behaviors for instructing physically active classes and on the effects of a mentorship program aimed at increasing utilization of a health-related fitness curriculum (i.e. one with a higher emphasis on PA promotion) (Hodges-Kulinna, McCaughtry, Martin, Cothran, & Faust, 2008; Martin & Kulinna, 2004). This evidence suggests that the theory of planned behavior could be a viable framework for examining teachers out of school PA promotion behaviors. However, concerns over limitations within the theory of planned behavior indicate that the inclusion of additional variables could provide a more complete understanding of behavior change (Ajzen, 2002; Bandura, 2004; Foley et al., 2008; Hagger, Chatzisarantis, & Biddle, 2002; Jin & Yun, 2013; Motl et al., 2005; Roberts, Maddison, Magnusson, & Prapavessis, 2010).

Behavior is complex in that it is influenced by many variables simultaneously and to differing degrees. This complexity has caused health promotion researchers to examine integrated theories (or meta-theories), or theories that consist of a combination of multiple narrowly focused theories into to one broader framework providing a better understanding of behavior (Flay, Snyder, & Petraitis, 2009). Within the theory of planned behavior, questions over what constitutes perceived behavioral control have arisen as evidence suggests the addition of self-efficacy (Bandura, 1977) (commonly considered to be included within perceived behavioral control) explains unique variance in behavior when added to the existing theory (Ajzen, 2002; Bandura, 2004; Foley et al., 2008;

Hagger et al., 2002; Motl et al., 2005). This evidence indicates that an integrated theory combining the theory of planned behavior and the self-efficacy theory has the potential to provide better insight into behavior than the theory of planned behavior alone. However, previous studies utilizing the theory of planned behavior in the examination of teaching behaviors among adapted physical educators has shown that perceived behavioral control has not significantly predicted variance in intention or behavior (Morgan, 2013; Thom, 2011). Therefore, the alternative model in this study consists of a base of the theory of reasoned action (Ajzen & Fishbein, 1975), which does not include perceived behavioral control and self-efficacy (Bandura, 1977).

The ever-growing body of knowledge on behavioral prediction includes evidence that an expanded framework even beyond that of the integrated theory of planned behavior-self-efficacy theory may further explain behavior. Gaps in the relationship between intention and actual behavior have been well documented and leave room for questions as to which factors contribute to the translation of intention into behavior over other factors (Armitage & Conner, 2000; Gollwitzer, 1993). Expanding intention from a more singular dimension examination of an individual's intent to carry out a behavior to a multidimensional approach that examines the outcome oriented intention as well as implementation intention (which gauges the extent to which an individual has a specific and detailed plan in place to carry out the behavior) has resulted in increased association between intention and behavior (Roberts et al., 2010). This indicates that the ability of the model to discern variance in behavior could be improved by examining intention as a multidimensional construct by adding implementation intention. Due to the evidence examined above, this study utilized the expanded integrated model depicted in figure 1.1

where intention is broken down into intention and implementation intention components and self-efficacy is included over perceived behavioral control as a direct and indirect predictor of behavior.

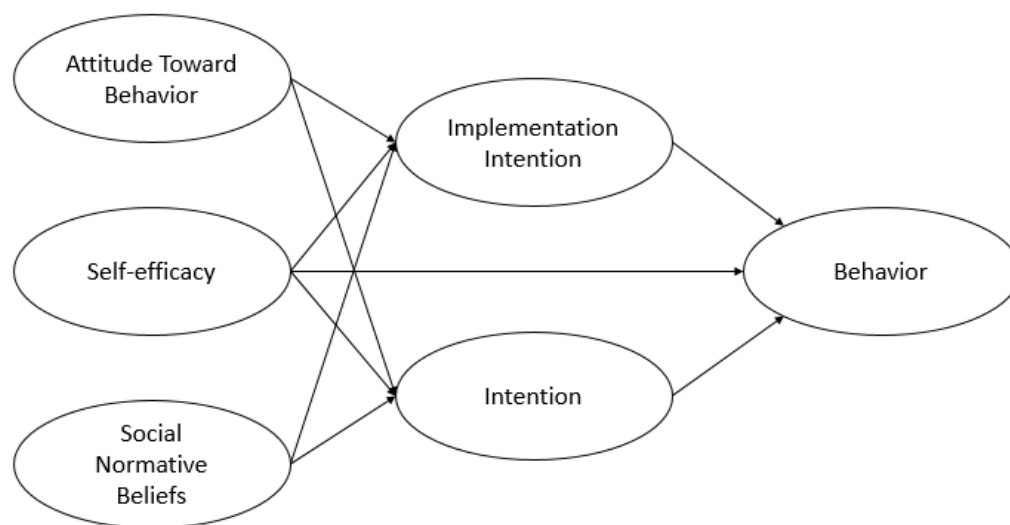


Figure 1.1: An expanded TRA/SCT framework for predicting promotion of out of school physical activity intention and behavior

To the best of the authors' knowledge, existing PA promotion research in PE has been conducted with general PE teachers and lacks examination into PA promotion among APE teachers. Expanding knowledge to include adapted physical educators as well is important for a number of reasons. First, as parents of children with disabilities tend to focus on social based programming for their children (Antle, 2008). PE may be serving as the main vehicle for these children to be active and develop the skills necessary to engage in independent PA. Additionally, encouragement from APE teachers has been shown to be a facilitating factor for independent PA engagement among children with disabilities (King et al., 2006). While APE teachers are believed to be undergoing additional education to facilitate the acquisition of additional certifications in

APE compared to their general PE counterparts, they also face unique challenges in terms of behavior management, health constraints, and addressing goals within student's individualized education program (IEP) that may not include lifetime PA goals (Block, 2007; Lieberman & Houston-Wilson, 2011). These unique aspects of APE may change the scope of adapted physical educators' beliefs and behaviors for PA promotion. Therefore, understanding their distinctive experiences and perspectives on PA promotion may be critical for improving PA engagement among youth with disabilities.

With the knowledge gained from this study's examination of an expanded TRA/SCT framework as well as differences in PA promotion factors between general and adapted physical educators, theoretically based efforts to increase teachers' promotion of out of school PA, from which the larger goal of increasing youth participation in out of school PA, can be addressed. Therefore, the purposes of this study were to (a) examine the utility of using an expanded TRA/SCT framework to understand general PE teachers' beliefs, intentions, and behavior engaging in out of school PA promotion and (b) examine differences in general and adapted PE teachers' beliefs and intentions for promoting out of school PA.

Aim 1: Use to examine an expanded TRA/SCT model of behavior as a tool for understanding and predicting behaviors around the promotion of out of school PA by PE teachers.

Specific question 1: What model, the integrated or the expanded integrated, will the data better fit?

Specific Question 2: Which model, the integrated or the expanded integrated explains a higher variance in behavior?

Aim 2: Examine differences in beliefs and intentions for promoting out of school PA by general and adapted physical educators.

Specific question 1: What are the differences in factors affecting out of school PA promotion between general and adapted physical educators?

Delimitations

Manuscript 1

- PE teachers currently practicing in the United States whose schools are included in the National Center for Education Statistics database.
- To allow survey respondents to remain completely unidentifiable, information on location was not gathered therefore, the sample might not represent all geographic locations selected in the sampling frame or of the population.

Manuscript 2

- General PE teachers currently practicing in the United States whose schools are included in the National Center for Education Statistics database.
- APE teachers who are currently practicing in the United States and are registered in the National Physical Education Standards registry and/or attended the 2016 National Adapted Physical Education conference.
- To allow survey respondents to remain completely unidentifiable, information on location was not gathered therefore, the sample might not represent all geographic locations selected in the sampling frame or of the population of.

Assumptions

Manuscript 1

- PE teachers fill out the survey completely and honestly.
- Participants self-reporting of behaviors are accurate.
- Questionnaires used in this study are capable of providing evidence of valid and reliable scores.
- Respondents from the randomly selected participant pool are a true representative sample of the population of PE teachers.

Manuscript 2

- PE teachers fill out the survey completely and honestly.
- Participants self-reporting of behaviors are accurate.
- Questionnaires used in this study are capable of providing evidence of valid and reliable scores.
- Respondents from the randomly selected participant pool are a true representative sample of the population of PE teachers.

Limitations

Manuscript 1

- Return rate of surveys (10.9%) was lower than desired.
- The National Center on Education Statistics school registry may be out of date and therefore, not include a complete list of all active schools in the states selected.
- Contact information was not available for all schools randomly selected in the sampling frame.

Manuscript 2

- Return rate of surveys was lower than desired at 10.9% for general physical educators.
- The total number of surveys distributed to adapted physical educators was unknown making it impossible to determine the return rate of surveys for these educators.
- The National Center on Education Statistics school registry may be out of date and therefore, not include a complete list of all active schools in the states selected.
- The registry of adapted physical educators may be out of date and not include all practicing certified adapted physical educators.
- Contact information was not available for all schools randomly selected in the sampling frame for general physical educators.

Definitions

The following are the operational definitions to be used in this study.

1. Attitude. Attitude towards a behavior refers to the degree to which performance of the behavior is positively or negatively valued by an individual (Ajzen, 1991).
2. Perceived Behavioral Control. A person's perception of the ease or difficulty of performing a behavior based on their reflection of external facilitators or barriers (Ajzen, 1991; Jeong & Block, 2011; Terry & O'Leary, 1995).
3. Self-efficacy. "Beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3).

4. Subjective Norm. The perceived social pressure to engage or not to engage in a behavior (Ajzen, 1991).
5. Theory of planned behavior: A theory explaining that people behave according to their intentions and perceptions of control over behavior, while intentions are influenced by attitudes, subjective norms, and perceived behavioral control (Ajzen, 2001).
6. Intention: An individual's willingness to perform behavior and focus on the outcome of the behavior (Gollwitzer, 1993).
7. Implementation intention: An individual's creation of a plan encompassing when, where, and how the goal intention is translated into behavior and focuses on the process of achieving the goal behavior (Gollwitzer, 1993).
8. Health related fitness knowledge: Knowledge of the concepts and principles about the body's ability to move effectively for disease prevention and health promotion (Corbin, Welk, & Corbin, 2011).

Chapter Two

Examining physical educators' promotion of physical activity through an expanded integrated framework of the theory of reasoned action and social cognitive theory

Abstract

The purpose of this study was to examine physical educators' beliefs for promoting out of school physical activity (PA) using an integrated model (TRA/SCT) and an expanded integrated framework that added implementation intention and a direct pathway from self-efficacy to behavior. Method: 208 physical educators (105 males and 103 female) randomly selected from 12 states representing all regions of the US completed the survey with items on behavior, attitude, self-efficacy, social normative beliefs, intention, and implementation intention of out of school PA promotion. Analysis/results: Path analysis was utilized to examine teachers' out of school PA promotion within the integrated and expanded TRA/SCT frameworks. Results indicated that the expanded TRA/SCT framework provided a better fit (TRA/SCT: CFI .85; RMSEA .23; expanded TRA/SCT: CFI .99; RMSEA .068) and explained twice the variance in out of school PA behavior (TRA/SCT: $R^2 = .14$; expanded TRA/SCT: $R^2 = .29$). Analysis revealed that self-efficacy and normative beliefs significantly influence intention. Conclusion: Intention for out of school PA promotion could be examined as a multidimensional construct that includes overall intention and the extent to which educators' have a detailed plan to carry out promotion. Additional constructs of interest include self-efficacy and normative beliefs. Therefore, physical education preparation programs should include these elements when preparing educators for out of school PA promotion.

Examining Physical Educators' Promotion of Physical Activity Through an Expanded Integrated Framework of the Theory of Reasoned Action and Social Cognitive Theory

Lack of youth physical activity (PA) participation is a major health concern that can be addressed in part by structuring physical education (PE) to include the promotion of student engagement in out of school PA. While efforts to increase PA levels during PE have been successful, there is insufficient class time for children to meet national PA recommendations through PE alone (McKenzie et al., 2004; Palmer & Bycura, 2014). Therefore, as highlighted through national PE teaching standards, an important component of a physical educator's responsibilities is to promote out of school PA (Society of Health and Physical Educators [SHAPE], 2013). To achieve this standard, health related fitness knowledge, or knowledge of the concepts and principles about the body's ability to move effectively for disease prevention and health promotion (Corbin et al., 2011), has received increasing attention as a component to be included in PE. This attention stems from the health related fitness components ability to be intrinsically motivating for students to engage in independent PA (Chen, Chen, & Zhu, 2012; Corbin et al., 2011). Despite the emphasis on out of school PA promotion, PE teachers have consistently reported that they receive insufficient training in how to incorporate out of school PA promotion into lesson plans (Alfrey et al., 2012; Castelli & Williams, 2007).

In order to develop programs that address this lack of perceived training and to understand factors influencing PA promotion for physical educators, the adoption of an appropriate theoretical framework may be beneficial. Behavior is complex and influenced by multiple factors at once, therefore; describing promotion behaviors must account for this complexity. Some behavior change theories examine behavior variance by focusing

on one area of behavioral influences and therefore may lack the comprehensive examination of factors necessary to account for the innate complexity of behavior. In an effort to better understand the behavior of interest, multiple singular theories accounting for differing aspect of behavioral influences may be combined to form integrated models, which tend to have an expanded capacity to describe behavior variance over individual theories. One such integration of theory is in the combination of the theory of planned behavior (TPB; Ajzen, 1991) and the social cognitive theory (Bandura, 1986). The TPB includes attitude towards behavior, social normative beliefs, and perceived behavioral control as factors influencing intention which then influences behavior. However, questions over what constitutes perceived behavioral control have arisen as evidence suggests the addition of self-efficacy (commonly considered to have been included within perceived behavioral control) explains unique variance in behavior (Ajzen, 2002; Bandura, 2004; Foley et al., 2008; Hagger et al., 2002; Motl et al., 2005). This evidence suggests the integration of the Self-efficacy into the theory of planned behavior will increase the ability to predict variance in behavior.

While the integration of the TBP and SCT has been used to account for self-efficacy in behavioral prediction, previous studies examining the teaching behaviors of adapted physical educators suggests that perceived behavioral control was not a significant predictor of behavior (Morgan, 2013; Thom, 2011). As a result, the framework acting as the basis for this study combines the theory of reasoned action (Ajzen & Fishbein, 1975), an earlier theoretical framework that consisting of only attitude and subjective normative beliefs influence on intention and behavior without perceived behavioral control, and the SCT. To this theoretical basis, one addition was

proposed in the inclusion of implementation intention. Previous studies have shown a gap between intention and actual behavior, with intention alone not forming a strong association with behavior (Kodish, Kulinna, Martin, Pangrazi, & Darst, 2006; Martin & Kulinna, 2004; Motl et al., 2005). Concerns over this gap leave room for questions as to which factors contribute to the translation of intention into behavior over other factors (Armitage & Conner, 2000; Gollwitzer, 1993). Typically, intention is considered a proximal determinant of behavior and measured as a unidimensional concept however, evidence suggests evaluating intention as a multidimensional construct consisting of intention and implementation intention may 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). Due to the evidence for a multidimensional aspect, intention was measured through both overall intention and implementation intention to attempt to better understand behavior.

Based on the evidence presented above for building a theoretical framework, the purpose of this study was to examine the utility of an expanded TRA/SCT framework for describing PE teachers' intentions and behaviors to promote out of school PA. This purpose was accomplished by evaluating the null (TRA/SCT) model and the alternative model (expanded TRA/SCT with implementation intention and direct pathway from self-efficacy to behavior) with this data set by examining predictive ability and model fit to assess differences between models.

Method

Participants

A total of 208 physical education teachers in the United States participated in this study. Participants were evenly split between males (50.1%) and females (49.9%). Ninety-one percent of the participants reported being Caucasian, five percent African American/Black, two percent Asian, and two percent indicated “Other” for ethnicity. For highest degree held, 33% indicated a Bachelors, 62% Masters, and one percent PhD with 94% of participants having a primary focus on PE within their education. The average age of participants was 43.5 ± 10.3 years with an average of 16.9 ± 9.3 years of teaching experience and an average of 9.9 ± 7.8 years teaching at their current school. The average reported class size was 28 ± 10.3 students and instructional time was 127.4 ± 90.3 minutes per week.

Instrument

The questionnaire for this study was adapted from questionnaires previously utilized by Roberts et al. (2010) and Hodges-Kulinna et al. (2008). Hodges-Kulinna et al. (2008) examined the use of a mentorship program in young teachers’ implementation of health-related fitness curriculums in PE within the framework of the theory of planned behavior and demonstrated high validity evidence for their measure. Subjective norm, attitude toward behavior, and intention items were adapted from Hodges-Kulinna et al. (2008) by altering the question wording from health related fitness curriculum to promoting out of school PA. For example, the question “Providing EPEC fitness activity during my lesson is...” was altered to “Providing out of school physical activity promotion during my lesson is...”. Additional constructs of interest: self-efficacy and

implementation intention items were adapted from the survey used by Roberts et al. (2010) to examine PA participation. Items were adapted by altering question wording to reflect promoting out of school PA instead of participating in PA. For example, the original question: “I have made a detailed plan on how I will be physically active” was changed to “I have made a detailed plan on how I will promote out of school physical activity”. Please see appendix H for the full instrument.

Attitude was measured through seven items with the stem “incorporating physical activity promotion in my lesson is...” scored on a 7 point Likert type scale of bipolar pairs (e.g. favorable/unfavorable, good/bad, healthy/unhealthy). Cronbach’s alpha for this data returned a reliability of $\alpha = .92$. Subjective norm was assessed for four influential groups: parents, administrators, other teachers, and students. For each group there were two items, one assessing teachers’ perceived beliefs, and one assessing teachers’ motivation to comply with these perceived beliefs all scored on a seven point Likert-type scale of strongly agree to strongly disagree. Reliability for these items with this data was $\alpha = .90$. Self-efficacy was assessed through six items scored on a seven point Likert-type scale from not at all confident to completely confident. Reliability for this data was $\alpha = .91$. For all variables, a composite score was obtained by averaging the item scores resulting in a score between one and seven for each construct. Higher scores indicated higher/more favorable beliefs about the behavior.

Intention was assessed using five items and scored on a seven-point Likert-type scale ranging from strongly disagree to strongly agree (e.g. I intend to promote out of school physical activity). Reliability for these items with this data was $\alpha = .78$. Implementation intention was assessed using four items adapted from Roberts et al.

(2010), these items ask about the when, where, how, and how often teachers are planning to promote out of school PA, scored on a 7-point Likert-type scale ranging from strongly agree to strongly disagree. Reliability for these items was $\alpha = .98$. Four items were included to assess teachers' behavior of PA promotion during PE classes. These items were scored on a seven point Likert-type scale from one to seven. Reliability for these items for this data was $\alpha = .72$. For all variables, composite scores were obtained by averaging the item scores for an overall score of one to seven where seven indicates higher intention/more frequent promotion of out of school PA.

Procedures

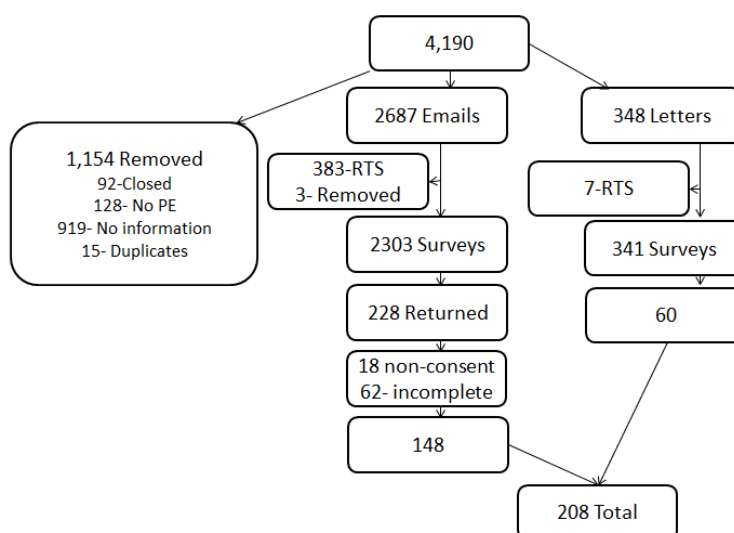
In order to obtain a nationally representative sample, a stratified random sampling method was utilized. Based on a preliminary power analysis, we targeted a sample size of 384 participants for this study. Based on a previous study (Morgan, 2013) using similar sampling methodology, a survey return rate of roughly 11% was expected. Additionally, an inability to find contact information at 20% was factored in, resulting in a sampling frame size of 4,190 general PE teachers. Though the promotion of out of school PA will likely take different forms depending on the grade level taught, the national teaching standards are the same for all k-12 teachers therefore, PE teachers at all levels were included in this study.

To account for differences in geographic location, two states were randomly selected from each of the six regions defined by SHAPE America. Selected states were: Arkansas, Oregon, North Carolina, Georgia, New Mexico, Wisconsin, Hawaii, West Virginia, Rhode Island, New York, Minnesota, and Kansas. For these states, a list of all public k-12 schools was generated for each state from The National Center on Education

Statistics. Schools for each state were randomly selected from this list using Microsoft Excel as established by a population based weighted sampling method. Sampling weights for each state were determined through population size calculations done by summing the population of all 12 sampled states and then dividing each state's individual population into the total population to determine each state's percent weight. For example, the population of Oregon (3,970,239) was divided into the total population of the 12 states included (67,253,532), which resulted in a percent weight of Oregon at 5.9%. To determine the sample size for each state, the sampling frame size (4,190) was multiplied by each state's percent weight. For example, Oregon's percent weight (5.9%) was multiplied by the sampling frame size (4190) to yield a sample size of 247 for Oregon.

Figure 2.1 shows the availability of contact information and response pattern.

Figure 2.1
Response pattern of survey information



Key: RTS= return to sender

After the schools were selected, online searches were conducted to find contact information for PE teachers from each school. When more than one physical educator

was listed for the school, random selection was used to determine the educator who would be included in the study. When emails were unavailable, school addresses were collected and hard copies of the survey were administered.

Participants were contacted four times following procedural recommendations of Dillman et al. (2009). The first contact was an introductory letter or email informing participants of the study and instructing them to look for the survey to be sent within the week. The second contact was sent approximately one week later and included a link to the survey or a paper copy. Contacts three and four occurred one and two weeks later respectively and served as a thank you for those that had completed the survey and a reminder for those who had not yet completed the survey. Of the 3035 (2687 emailed and 348 mailed) initial contacts sent out, 381 were returned to sender and three responded with a request to be removed from the survey list. Therefore, 2303 surveys were sent out during round two.

Participants emailed the survey link completed the survey confidentially online through Qualtrics. Once participants followed the link to the survey they were first presented with a cover letter that included an explanation of the study and consent information. Consent was given by responding with “yes” to the question: Do you consent to participate in this study?” and with proceeding to the second page containing the start of the survey questions. Of the 2303 surveys distributed via email, there were 228 surveys returned setting a return rate of 9.90%. Of these, 18 participants quit the survey after the first page. Previous recommendations have suggested that missing data over 10% is likely to bias statistical values (Bennett, Reichow, & Wolery, 2011). Therefore, surveys with greater than 10% missing values were excluded from the data

set, resulting in 62 survey responses being removed, leaving 148 surveys completed online included in the data set

Participants mailed the survey received a hard copy of the consent page and survey with survey return used as a marker of consent. Of the 348 individuals mailed the initial contact letter, seven were marked return to sender resulting in the distribution of 341 surveys. Of the 341 surveys administered through the mail, 60 were returned, all with sufficient response rates to be included in the data set resulting in a response rate of 17.6%. Overall, there were 2644 surveys administered and a total of 270 returned for a response rate of 10.21% and 208 surveys included in the analysis. This study was approved by the Institutional review board and consent was obtained when participants submitted the survey.

Analysis

Demographic information and descriptive statistics are presented in means and percentages. To assess whether the remaining missing data (after removing surveys with greater than 10% missing data) was missing at random, the Little MCAR test (Bennett, 2001) was utilized. With data missing at random, values can be replaced with expectation maximization, which uses information from the non-missing data to predict what the missing value would be. This is preferred over list wise deletion because with list wise deletion if a participant is missing even one data point, their entire set of responses is removed from the data set resulting in decreased sample size for analysis and reduced power (Roth, 1994). Data missing at random will have a non-significant result on Little's MCAR test, the Little's MCAR result for this data was non-significant, $X^2 = 1551.16$, $p = .98$. Missing data was replaced using Expectation-Maximization Algorithm.

Exploratory data analysis to check for violation of the normality assumption was conducted. Shapiro-Wilk test revealed that the data violated normality assumptions (Attitude, $W = .797$, $p < .001$; Self-efficacy, $W = .956$, $p < .001$; Subjective norm, $W = .981$, $p < .01$; Implementation intention, $W = .938$, $p < .001$; Intention, $W = .924$, $p < .001$) and transformation of data did not result in normal distribution. Therefore, Bootstrapping set at 1000 iterations was utilized when inferential statistics were performed. Bootstrapping confidence intervals were calculated based on a biased corrected percentile method set at 95%.

To examine the null and alternative models, path analysis using AMOS (Arbuckle, 2014) was employed. For the null model, path analysis was conducted with pathways connecting self-efficacy, attitude toward behavior, perceived behavioral control, and perceived subjective norm to intention and from intention to behavior. For the alternative model, path analysis was conducted with pathways connecting self-efficacy, attitude toward behavior, and perceived subjective norm to implementation intention and intention with pathways connecting each intention variable to behavior as well as a pathway between self-efficacy and behavior.

Model fit was assessed utilizing several indicators; Chi-square results are included along with Root Mean Square Error of Approximation (RMSEA) and the Comparative Fit Index (CFI). Appropriate values to utilize as cut off scores for each index has been debated and Sivo et al. (2006) suggested that sample size should be taken into account when determining cutoff scores. Therefore, acceptable cutoff scores for model fit have been set for RMSEA at below 0.06 and for CFI at above 0.95 (Hu & Bentler, 1988; Sivo, Fan, Witta, & Willse, 2006). Additionally, R^2 was reported to indicate the proportion of

variance in promotion behaviors explained by the model.

Results

All variables were scored on a one to seven scale with seven indicating higher/more favorable outcomes. Overall, participants reported the highest score on attitudes toward PA promotion with an average score of 6.33 and reported the lowest score on implementation intention with an average score of 3.57. Mean score for promotion behavior was 4.04, roughly equating to promoting PA once or twice a month. All variables of interest were significantly correlated with each other, which is expected within the theoretical framework. Descriptive statistics and correlation for the major outcome variables are listed in table 2.1 below.

Table 2.1

Summary of correlations and descriptive statistics for major variables of interest

Variable	Behavior (1)	Attitude (2)	Self- efficacy (3)	Social Normative Beliefs (4)	Implementation Intention (5)	Intention (6)
1	-					
2	.23**	-				
3	.44**	.51**	-			
4	.41**	.33**	.40**	-		
5	.42**	.28**	.39**	.46**	-	
6	.38**	.28**	.39**	.41**	.28**	-
Mean	4.04	6.33	5.54	4.68	3.57	4.99
Standard Deviation	.078	.825	1.10	1.16	1.60	1.53
Standard Error	1.11	.057	.076	.080	.106	.111

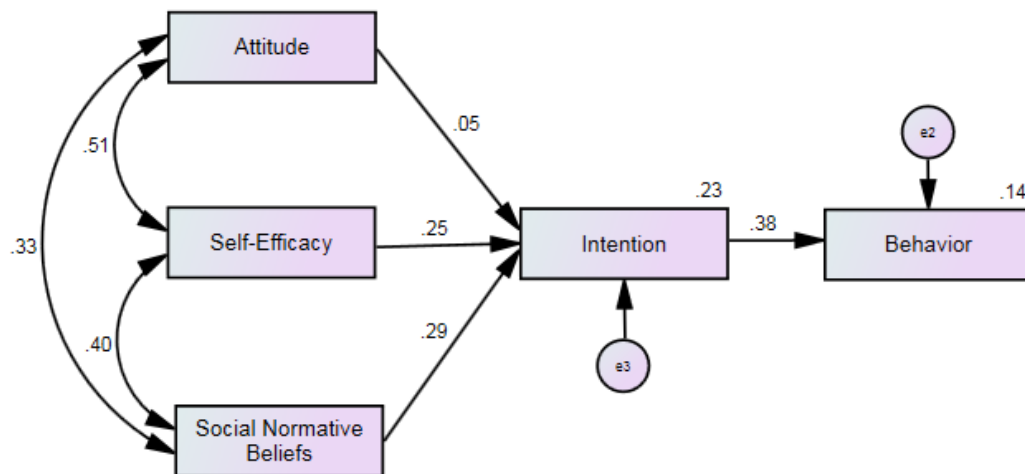
Key: **= $p < .001$

Path analysis for the null model, which includes the most proximal variables in the TTI: attitude, subjective norm, and self-efficacy, intention, and behavior, is depicted in figure 2.2 below. Goodness of fit indices revealed that data from this study did not meet cutoff scores with the null model; CFI was .85, and RMSEA was .23 with a

significant Chi square of $X^2(3, N = 208) = 36.84, p < .001$. For all variables, estimates were calculated with bootstrapping confidence intervals presented. Self-efficacy and Social Normative Beliefs each explained significant variance in intention, with standardized path coefficients, $\beta = .25$ (CI= .15, .55) and $\beta = .29$ (CI= .16, .61) respectively. Intention explained a significant amount of the variance in behavior with a standardized path coefficient, $\beta = .38$ (CI= .16, .38). However, even with this significance, only 14% ($R^2=0.14$) of behavior was explained through the null model. Attitude was found to be not significant in relation to intention with the bias-corrected bootstrapping 95% confidence interval crossing zero and the asymptotic beta coefficient was not significant ($\beta = .05$; CI= -.12, .37). Attitude, self-efficacy, and Social Normative Beliefs all had significant covariance with each other ($p < .001$).

Figure 2.2

Path analysis null model



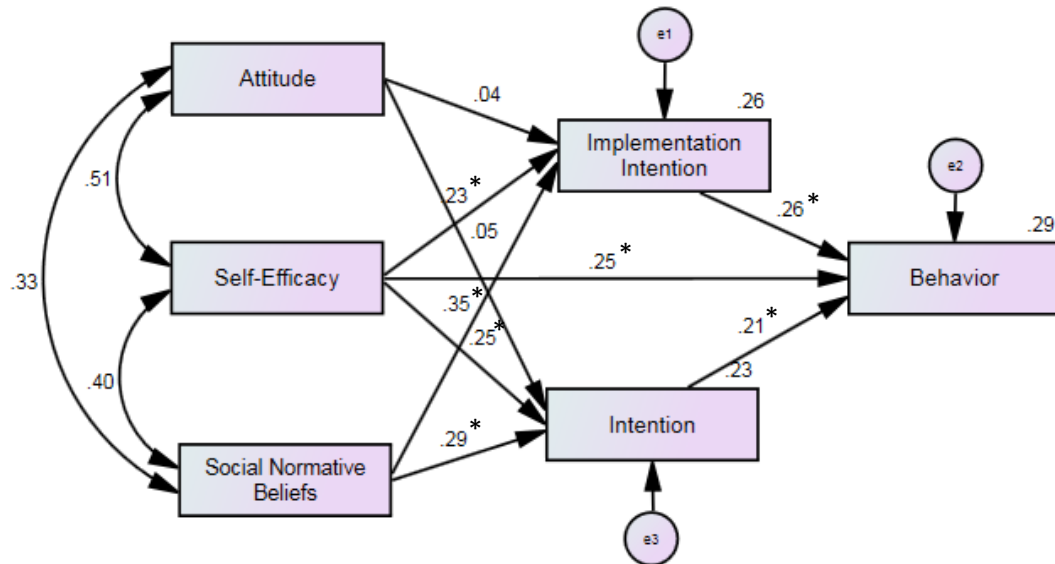
Key: * = significant at .05

Results for the path analysis of the alternative model which included the proximal components of the TTI as well as implementation intention and a direct

pathway from self-efficacy to behavior are depicted in figure 2.3 below. Goodness of model fit indices indicated that the data had a good fit with the alternative model with a CFI of .99, RMSEA of .068, and chi square of $X^2 (3, N= 208) = 5.88, p= .117$. For all variables, estimates were calculated with bootstrapping confidence intervals presented. Self-efficacy explained a significant variance in both intention and implementation intention with standardized path coefficients, $\beta = .25$ (CI= .104, .393) and $\beta = .23$ (CI= .097, .357) respectively. Social Normative Beliefs explained significant variance in both implementation intention and intention, with standardized path coefficients of $\beta = .35$ (CI= .209, .485) and $\beta = .29$ (CI= .147, .450) respectively. Both Implementation intention and intention significantly predicted variance in behavior with path coefficients of $\beta = .26$ (CI= .119, .394) and $\beta = .21$ (CI= .055, .344) respectively. Moreover, the direct pathway between self-efficacy and behavior indicated that self-efficacy predicted a unique variance in behavior with a path coefficient of $\beta = .25$ (CI= .113, .389). Altogether, the alternative model explained almost 30 percent of the variance in PA promotion behaviors ($R^2 = .29$). Attitude was found to be not significant in relation to implementation intention ($\beta = .04$; CI= -.090, .543) and intention ($\beta = .06$; CI= -.064, .203). Attitude, self-efficacy, and social normative beliefs all had significant covariance with each other ($p < .001$).

Figure 2.3

Path Analysis alternative model



Key: * = significant at .05

Discussion

The purpose of this study was to examine physical educators' beliefs and behaviors for promoting out of school PA through the use of an expanded theory of reasoned action/social cognitive theory framework. In the alternative or expanded TRA/SCT model, the goodness of fit indices all met the stringent guidelines for acceptable scores. This was an improvement over the fit indices for the null model, which suggests that the alternative model may be more appropriate for examining this data set. The inclusion of implementation intention provided additional explanation of the variance in behavior which aligns with the findings in previous studies and supports the proposal to consider intention as a multidimensional construct (Armitage & Conner, 2000; Roberts et al., 2010). Implementation intention provides insight into the planning

process behind a behavior rather than the general feelings of intent on performing a behavior (Armitage & Conner, 2000; Roberts et al., 2010). This detailed plan suggests forethought into performing the behavior and more preparedness to complete the behavior which could help close the gap between intention and behavior (Kodish et al., 2006; Martin & Kulinna, 2004; Motl et al., 2005). Results of this analysis also provided evidence consistent with prior studies showing support for a direct link between self-efficacy and behavior to improve predictability of behavior variance (Foley et al., 2008; Hagger et al., 2002; Jin & Yun, 2013; Motl et al., 2005; Rhodes, Macdonald, & McKay, 2006).

Possibly the most interesting finding of this study is the increased proportion of the variance in behavior explained with the alternative model. The proportion of explainable behavior variability doubles from 14% with the null model to 29% with the alternative model. Therefore, not only does the data provide a better fit with the alternative model but the model also provides improved insight into the variance of PA promotion behavior. The intent of theory is to understand and predict behavioral patterns. As behavior is a complex and influenced by varying factors (Petraitis, Flay, & Miller, 1995), it is important to understand as much of these behavioral influences as possible to create programs that better support physical educators in their efforts to promote out of school PA. Implementation intention encompasses the creation of a detailed plan for a behavior (Armitage & Conner, 2000; Roberts et al., 2010). PE teachers already have a detailed plan for each day in the form of lesson plans so increasing their implementation intention may be a natural extension of their current practice. Emphasizing the need to promote out of school PA and having a portion of lesson plan construction dedicated to

this promotion during their PETE could help produce the skills and knowledge educators need to make these detailed plans which may in turn increase promotional behaviors.

In both the null and alternative models, attitude was not found to be a significant predictor of intention. This finding contrasts previous evidence that shows a significant relationship between attitude and physical educator behaviors in the classroom (Thom, 2011). This result could indicate that when examining attitude and self-efficacy together when self-efficacy essentially replaces items measuring perceived behavioral control, additional alterations to the survey items on attitude (adopted from a survey based on the theory of planned behavior) may need to be made to distinguish these constructs. Another possible explanation is a ceiling effect in regards to attitude scores. The mean score for attitude was the highest reported for all variables at 6.33 out of 7 with very little variance. This could indicate that while teachers do have favorable attitudes toward promoting out of school PA, other physical and social environmental factors present act to prevent these favorable attitudes from translating into promotion behaviors.

When looking at self-efficacy, the results of this study indicated that self-efficacy was significantly predictive of both intention and behavior supporting the inclusion of the direct pathway. When examining PA promotion in PE, physical educators have reported low knowledge and efficacy for teaching this topic as key factors preventing promotion (Alfrey et al., 2012; Castelli & Williams, 2007). Adjusting PETE programs to provide educators with direct practice in promoting out of school PA could be an avenue to increase their efficacy, which could directly and indirectly increase PA promotion.

Subjective normative beliefs was found to be a significant predictor of intention which aligns with the findings of previous studies examining PE teachers behavior of

promoting activity time through assigning homework (Thom, 2011). This finding suggests that constructing an environment of expectation and support for out of school PA promotion could have a positive impact on teachers' promotion behaviors. The current tide of public health is calling on PE with increasing urgency to serve as an avenue to improve youth PA engagement (Centers for Disease Control and Prevention [CDC], 2000; McKenzie & Kahan, 2004; National Institute for Health Care Management, 2003; United States Department of Health and Education [USDHE], 1979). This emphasis may be a divergence from many traditional PE curricula which focus on motor skill and sports development (Hellison, 2011; McKenzie & Lounsbery, 2014; Siedentop, Hastie, & van der Mars, 2011). In order to see positive changes in social normative beliefs, administrators, parents, and PETE programs will need to buy into this PA promotion philosophy so that promotion becomes a norm in PE and educators feel the support and encouragement needed to increase positive normative beliefs around including PA promotion in PE classes.

One limitation of this study was the low return rate. This study had a return rate of 10.21%, which is similar to that seen in a previous study utilizing similar national random sampling methodology (Morgan, 2013) yet below typical return rates for both electronic and paper based surveys (Nulty, 2008). This study was also limited to practicing physical educators that are teaching at schools included in the national registry. An assumption of the study was that the registry would provide an accurate and complete list of schools; however, many of the schools on the list are now closed. This indicated that the registry does not appear to be up to date so there could also be schools open and providing

services that were not on the list. Therefore, the registry may have provided an inaccurate representation of schools.

Conclusion

The results of this study support the use of a multidimensional approach to intention along with a base of an integrated TRA/SCT model to explain physical education teachers PA promotion behaviors. The expanded TRA/SCT model met all criteria for appropriate model fit and explained 29% of the variance in PA promotion behavior. The significant impact of self-efficacy and social normative beliefs suggest that a change in the social environment around PE to increase emphasis on PA promotion could improve current physical educators' beliefs, intentions, and behaviors for out of school PA promotion.

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Chapter Three

Examining differences in physical activity promotion between general and adapted
physical educators

Abstract

The purpose of this study was to examine differences in general and adapted physical educators' attitudes and intentions for promoting out of school physical activity (PA). Method: 208 general physical education (GPE) teachers (105 male and 103 female) randomly selected from 12 states representing all regions of the US and 45 adapted physical education (APE) teachers (11 male and 34 female) contacted through national adapted certification and APE conference avenues completed the survey with items on behavior, attitude, self-efficacy, social normative beliefs, intention, and implementation intention of out of school PA promotion. Analysis/results: Chi-square revealed a significant difference in education level with APE teachers having higher exit degrees. Regression analysis revealed significantly lower self-efficacy for out of school PA promotion among APE teachers. Conclusion: Despite having higher education levels, APE teachers have lower self-efficacy for out of school PA promotion and comparable results for all other variables of interest. This finding could be due in part to a lack of training on out of school PA promotion in teacher preparation programs and institutional limitations on APE teachers suggesting a shift in PE culture to more highly emphasize out of school PA promotion could be key in meeting PA promotion demands.

Examining Differences in Physical Activity Promotion between General and Adapted Physical Educators

It has been widely noted that not only do children with disabilities have a low rate of meeting national physical activity (PA) guidelines, but they are also less physically active than their typically developing peers (Bandini, Curtin, Hamad, Tybor, & Must, 2005; McDonald, 2002; Rimmer, Rowland, & Yamaki, 2007; Rimmer, Yamaki, Lowry, Wang, & Vogel, 2010). This disparity in PA engagement is concerning because PA participation has additional health benefits for children with disabilities (Rimmer & Rowland, 2008). Regular participation in PA acts as a protective factor against associated and secondary conditions linked directly to disability as well as for those chronic health conditions (e.g. cardiovascular disease, diabetes) related to lifestyle factors independent of disability status (Rimmer & Rowland, 2008). As a result, public health officials have included increasing PA participation and accessibility of PA opportunities for individuals with disabilities as a major health concerns in Healthy People 2020 and avenues for facilitating this increase are being progressively explored (United States Department of Health and Human Services [USDHHS], 2010).

While interventions that focus on increasing time spent in PA during physical education (PE) class have experienced success (McKenzie et al., 2004), PE classes do not meet with sufficient frequency or duration for children to meet the 60 minutes of recommended PA a day (Palmer & Bycura, 2014; USDHHS, 2008). Compounding this issue, children tend to be more active during days that they have PE than days they do not have PE and thus are not making up for the lack of structured activity time independently (Alderman et al., 2012; Meyer et al., 2013). As a result, the incorporation of out of school

PA promotion during PE has received increasing attention as an organic mechanism to provide children with the knowledge and skills necessary to engage in PA independently (Center for Disease Control and Prevention [CDC], 2000; McKenzie & Kahan, 2004; National Institute for Health Care Management [NIHCM], 2003; USDHHS, 1996, USDHHS, 2000).

The need to empower students to engage in PA independently has long been recognized by PE professionals, as highlighted in national teaching standards, which include the goal of creating physically literate individuals (Society of Health and Physical Educators [SHAPE], 2013). Physically literate individuals are students who have the knowledge and skills to be independent exercisers (SHAPE, 2013). Previous studies have noted the importance of physical educators' behavior as a facilitating factor in students engagement in PA during PE (Jin & Yun, 2013;). The positive influence of educators along with the established teaching standard around building physically literate individuals, make PE a logical avenue for meeting PA promotion needs.

Instilling skills for lifelong PA engagement may be even more critical for adapted physical education (APE) teachers than their general education counterparts. Parents of children with disabilities tend to enroll their children in more social skills and interaction facilitating health promotion programs (Antle, 2008). Moreover, children with disabilities have less access to community based PA programs than their typically developing peers as there are few community programs that provide the necessary accommodations to facilitate meaningful PA participation (USDHHS, 2010). As a result, the school setting may be the most reliable source of PA behavior development for children with disabilities. When examining facilitating factors for PA engagement among children with

physical disabilities, King et al. (2006) found that support from PE teachers acted as a facilitator for informal PA participation. Considering the lack of emphasis on and availability of community based adapted PA programing and the potential for educators to positively influence PA behaviors, incorporating PA promotion concepts may be critical elements in fostering lifetime PA habits and good health for individuals in APE.

The outcome goals of PE are numerous and include the development of motor and cognitive skills and fostering social and emotional wellbeing along with developing physically literate individuals. Traditional PE curricular models tend to emphasize improving motor and sport skills over PA promotion (McKenzie & Lounsbery, 2013, McKenzie & Lounsbery 2014). However, for the goal of promoting out of school PA, this emphasis may limit success as sport skills have been shown to be insufficient for facilitating individual PA participation (McKenzie & Lounsbery, 2014; Raudsepp & Pall, 2006). As a result, it has been suggested that on top of sport skills, PE should incorporate psychological and psychosocial components that have been shown to facilitate the translation of movement skills learned in PE to out of school settings (Beale, 2015; Kirk, 2005; McKenzie & Lounsbery, 2014; Thorburn, Jess, & Atencio, 2011). Critical reviews of physical education teacher education (PETE) programs have indicated that programs are not adequately preparing teachers to take on a PA promotion role (Connolly, 2012; Metzler & Tjeerdsma, 2000). Physical educators themselves, have reported feeling unprepared to and uncomfortable with incorporating PA promotion into their own curricula upon completion of PETE programs (Alfrey et al., 2012; Castelli & Williams, 2007).

Examination of PA promotion readiness has largely sampled general PE teachers

and may be missing valuable information on the experience of APE teachers.

Adapted physical educators tend to have additional certifications that require additional instruction within APE to sit. Furthermore, APE teachers likely have unique experiences within the classroom as they tend to incorporate more individualized instruction and modifications based on their students' needs and individualized education programs (IEP). This additional knowledge base as well as unique job requirements may play a role in teacher preparedness to meet PA promotion teaching standards but this, as of yet, has gone unexamined. Therefore, the purpose of this study was to examine differences in general and adapted physical educators' beliefs, intentions, and behaviors for promoting out of school PA for their students.

Method

Participants

A total of 253 people participated in this study, 208 general PE teachers and 45 APE teachers in the United States. Demographic information for all participants is depicted in table 3.1. Whereas general PE teachers had an even split of males to females, APE teachers had 3:1 female to male ratio. APE teachers tended to hold higher degrees than their general PE counterparts with 14% having a PhD and 85% having a graduate degree compared to 1% and 63% respectively. APE teachers reported fewer minutes per week of PE class time (93.7 minutes/week) and smaller class sizes (15.8 students) compared to general PE teachers (127.8 min/week; 28 students). These differences were expected based on knowledge of the populations before beginning the study.

*Table 3.1**Demographic Characteristics of Participants*

	General Physical Educators % (n)	Adapted Physical Educators % (n)
Sex		
Male	50.1% (105)	25% (11)
Female	49.9% (103)	75% (34)
Race		
Caucasian	91% (190)	95% (43)
African American/Black	5% (10)	0%
Asian	1% (2)	0%
American Indian/Alaskan Native	0%	2% (1)
Other Race	3% (6)	2% (1)
Education		
Bachelors	33% (69)	9% (4)
Masters	62% (129)	71% (32)
PhD	1% (3)	14% (6)
Primary focus on PE in degree	94% (195)	96% (43)
Primarily teach GEP	100% (208)	18.5% (8)
Age (years)	43.5 ± 10.3	45.6 ± 11.6
Years Teaching	16.9 ± 9.3	18.2 ± 10.8
Years at same school	9.9 ± 7.8	12.5 ± 9.9
PE (min/week)	127.4 ± 90.3	111.6 ± 92.1
Class size	28 ± 10.3	15.8 ± 13.3

Instrument

The questionnaire for this study was adapted from questionnaires previously utilized by Roberts et al. (2010) and Hodges-Kulinna et al. (2008). Hodges-Kulinna et al. (2008) examined the use of a mentorship program in young teachers' implementation of health-related fitness curriculums in PE within the framework of the theory of planned behavior and demonstrated high validity evidence for their measure. Subjective norm, attitude toward behavior, and intention items were adapted from Hodges-Kulinna et al. (2008) by replacing the curriculum with out of school PA promotion in the questions. Additional constructs of interest: self-efficacy and implementation intention items were

adapted from the survey used by Roberts et al. (2010) by replacing engaging in PA with out of school PA promotion as the question focus. Please see appendix H for the instrument.

Attitude was measured through seven items with the stem “incorporating health-related fitness in my lesson is...” scored on a 7 point Likert-type scale of bipolar pairs (e.g. favorable/unfavorable, good/bad, healthy/unhealthy). Cronbach’s alpha for this data returned a reliability of $\alpha = .92$. Subjective norm was assessed for four influential groups: parents, administrators, other teachers, and students. For each group there were two items, one assessing teachers’ perceived beliefs, and one assessing teachers’ motivation to comply with these perceived beliefs all scored on a seven point Likert-type scale of strongly agree to strongly disagree. Reliability for these items with this data was $\alpha = .90$. Self-efficacy was assessed through six items scored on a seven point Likert-type scale from not at all confident to completely confident. Reliability for these items with this data was $\alpha = .91$. For all variables, a composite score was obtained by averaging the item scores resulting in an overall score between one and seven for each construct. Higher scores indicated higher/more favorable beliefs about the behavior.

Intention was assessed using five items scored on a seven-point Likert-type scale ranging from strongly disagree to strongly agree (e.g. I intend to promote out of school physical activity). Reliability for these items with this data was $\alpha = .78$. Implementation intention was assessed using four items, these items ask about the when, where, how, and how often teachers are planning to promote out of school PA and are scored on a 7-point Likert-type scale ranging from strongly agree to strongly disagree. Reliability for these items with this data was $\alpha = .98$. Four items were included to assess teachers’ PA

promotion behavior during PE class time. These items were scored on a seven point Likert-type scale measuring frequency promotion from not at all to very often. Reliability for these items with this data was $\alpha = .72$. For all constructs, composite scores were obtained by averaging the item scores for an overall score between one and seven where seven indicates higher intention/more frequent promotion of out of school activity.

Procedures

The institutional review board approved this study and consent was obtained when participants submitted the survey. Since there are only 14 states with standalone APE endorsements, identifying adapted physical educators based on state was not feasible to gain a representative sample so general and adapted physical educators were recruited separately. Adapted physical educators were recruited through a list of the educators who obtained a National Adapted Physical Education Certification (CAPE) furnished by the National Consortium of Physical Education and Recreation of Individuals with Disabilities. The targeted list consists of educators who passed the Adapted Physical Education National Standards (APENS) national certification exam between 2010-2015. In addition, adapted physical educators were recruited from the National Adapted Physical Education Conference (CAHPERD) 2016.

APE teachers registered on the list serve were emailed the survey by the APENS organization and survey distribution followed procedural recommendations of Dillman et al. (2009) that include four points of contact. The first contact was an introductory letter informing participants of the study and instructing them to look for the survey to be sent within the week. The second contact was sent approximately one week later and included a link to the survey. Contacts three and four occurred one and two weeks later

respectively and served as a thank you for those that had completed the survey and a reminder for those who had not yet completed the survey. For each point of contact, the email was sent to APENS who then forwarded the email to the educators on the list serve. These participants completed the survey confidentially through Qualtrics. Once participants followed the emailed link to the survey they were first presented with a cover letter that included an explanation of the study and consent information. Consent was given by responding with “yes” to the question: “Do you consent to participate in this study?” after which the participant could proceed to the second page containing survey questions. Educators recruited through the CAHPERD conference were provided with a hard copy of the survey and return envelope at the conference and were instructed to fill out the survey and return it when completed. Return of the surveys was taken as a measure of consent. The total number of surveys administered is unknown for this population, however, 65 total surveys were returned.

A stratified random sampling method was utilized to obtain a sampling frame of general physical educators. To account for differences in geographic location, two states were selected from each of the six regions defined by the Society of Health and Physical Educators (SHAPE) America. For each state, a list of all K-12 public schools was generated from The National Center on Education Statistics. Schools for each state were randomly selected using Microsoft Excel from that state’s list based on a population determined weighted sampling method.

After the schools were selected, online searches were conducted to find email contact information for PE teachers for each school. When more than one physical educator was listed for the school, random selection was used to furnish the educator who

would be included in the study. When emails were unavailable, school addresses were collected and hard copies of the survey were administered. Both emailed and mailed surveys were distributed following the same four points of contact procedures utilized with the APE teachers. A total of 3035 potential participants were identified. Of the 3035 (2687 emailed and 348 mailed) initial contacts sent out, 381 were returned to sender and three responded with a request to be removed from the survey list. Therefore, 2303 surveys were sent out during contact two.

General physical educators emailed the survey link completed the survey confidentially online through Qualtrics (Qualtrics, Provo, UT). Once participants followed the emailed link to the survey they were first presented with a cover letter that included an explanation of the study and consent information. Consent was given by responding with “yes” to the question: “Do you consent to participate in this study?” after which the participant could proceed to the second page containing survey questions. Of the 2303 surveys distributed via email, there were 228 surveys returned for a return rate of 9.90%. Of these, 18 participants did not fill out any questions past the consent leaving 210 surveys with question responses. General physical educators mailed the survey received a hard copy of the consent page and survey with the physical return of the survey considered as consent. Of the 348 individuals mailed the initial contact letter, seven were marked return to sender resulting in the distribution of 341 surveys. Of the 341 surveys administered through the mail, 60 were returned resulting in a return rate of 17.6%. With emailed and mail distributed surveys combined, there were 2644 surveys administered and a total of 270 returned for a response rate of 10.21% among general physical educators.

Analysis

Descriptive statistics on the variables of interest include means, standard deviations, and standard errors. For inferential analysis, both the proportion of missing values and the method for replacing missing values have implications on the results (Tabachnick & Fidell, 2012). Bennett (2001) argued that analysis is likely to be biased with greater than 10% of values missing. Therefore, the 83 (20 APE and 62 general PE) surveys with greater than 10% of responses missing were removed from the data set resulting in a total of 253 (45 APE and 208 general PE) surveys in the final data set. Prior to utilizing a methodology to replace any missing values from the remaining 253 surveys, the pattern of this missing data was examined in order to assess if this data was missing at random or missing systematically. The Little MCAR test (Little, 1988) indicated that missing data was random, $X^2 = 1874.59$, $p = 1.00$. Since data was considered missing at random, missing data was replaced using the Expectation-Maximization Algorithm. Exploratory data analysis with a Shapiro-Wilk test revealed that the data violated the normality assumption and transformation of data did not correct this violation. Therefore, Bootstrapping was utilized for inferential statistics and set at 1,000 iterations with confidence intervals calculated based on a bias correction set at 95%.

To examine differences in education level by group, a chi-square test was run with post hoc analysis with Bonferroni correction to distinguish between group differences on the three education levels. To answer the research question on differences in PA promotion factors between groups, six separate multiple regressions were run on self-efficacy, social normative beliefs, attitude toward behavior, intention, implementation intention, and behavior, with education level (BS, MS, PhD) and type of

educator (GPE or APE) as the independent variables. All independent variables were dummy coded to distinguish between types of educator (APE as reference group) and education level (MS as reference group). All analyses were conducted using SPSS 23 (IBM Corp, 2015) with an alpha level set at .05.

Results

The results of Pearson's Chi Squared test revealed that there was significant association between education level and group, $\chi^2 (3, n = 253) = 23.28, p < .001$. Post hoc analysis with a Bonferroni corrected p-value of .00625, indicated that the adjusted residual for Bachelor's (3.2, $p < .001$) and PhD (3.9, $p < .0001$) education levels were significantly different between general and adapted physical educators with adapted educators more likely to possess a doctoral degree and general educators more likely to possess a bachelors degree.

To answer the research question on examining differences in PA promotion beliefs, intentions, and behaviors, regression analyses were run. Descriptive properties of the outcome variables are depicted in table 3.2. For both groups, the variable with the highest average score was attitude toward PA promotion (6.39 for APE and 6.34 general PE) and the variable with the lowest average score was implementation intention (3.59 for APE and 3.57 for general PE).

Table 3.2

Descriptive properties of major outcome variables

Variable	APE			GPE		
	M	SD	SE	M	SD	SE
Behavior	3.69	1.24	.18	4.04	1.11	.08
Attitude	6.36	1.00	.15	6.34	.825	.06
Self-efficacy	4.98	1.52	.23	5.54	1.10	.08
Social normative beliefs	4.55	1.08	.16	4.68	1.16	.08
Implementation intention	3.59	1.72	.26	3.57	1.60	.11
Intention	4.74	1.76	.26	4.99	1.53	.10

Note: all scores were on a scale of 1 to 7 with 1 indicating lower/less favorable scores.

Regression results on examining differences in major variables are depicted in table 3.3 below. Regression analysis revealed that the percentage of each dependent variable explained by education level and group were: behavior = 1.8%; attitude = 1.8%; self-efficacy = 4.3%; subjective norm = 0.3%/; implementation intention = 0.4%/; intention = 2.5%. The results of multiple regressions using 1,000 iterations of bootstrapping indicate that teachers with BS degrees, have lower levels of intention for promoting out of school PA during PE (-.483; bias-corrected bootstrapping CI= -.914, -.007) regardless of whether they teach general or adapted PE. Between groups differences in outcomes of interest were present in self-efficacy with adapted physical educators (M=4.98) having lower efficacy than general physical educators (M=5.54) with a β of .660 and bootstrapping CI of .178 to 1.132. All other variables of interest had no difference between groups when accounting for education level or between education levels when accounting for group.

Table 3.3

Regression results for major outcome variables by education level and group with bias corrected Bootstrapping confidence intervals.

	β	Bias	SE	95% CI		R^2
				Lower	Upper	
Behavior						
BS	.094	.005	.213	-.045	.790	.018
PhD	.350	.000	.160	-.210	.419	
Group	.373	-.008	.394	-.523	1.034	
Attitude						
BS	-.010	.001	.122	-.243	.255	.018
PhD	-.635	-.009	.476	-1.690	.182	
Group	-.044	-.005	.148	-.360	.255	
Self- Efficacy						.043
BS	-.125	.002	.163	-.445	.202	
PhD	-.074	.013	.572	-1.222	1.010	
Group	.660*	-.006	.246	.178	1.132	
Subjective Norm						.003
BS	.047	.004	.164	-.261	.336	
PhD	-.090	-.011	.454	-1.137	.733	
Group	.127	-.004	.180	-.225	.467	
Implementation Intention						.004
BS	.192	.008	.240	-.271	.656	
PhD	.151	.023	.515	-.960	1.114	
Group	.092	.004	.284	-.454	.670	
Intention						.025
BS	-.483*	.006	.231	-.914	-.007	
PhD	-.288	-.035	.803	-1.950	1.224	
Group	.398	-.009	.273	-.164	.932	

Note: MS is the reference level for education and adapted physical education is the reference level for group.

Discussion

The purpose of this study was to examine differences in general and adapted physical educators' beliefs, intentions, and behaviors for promoting out of school PA during PE classes. Results from this study suggest that while adapted physical educators possess higher levels of education, this additional education may not be translating to increased PA promotion factors and in fact, APE teachers have significantly lower efficacy for promotion of PA. This decreased PA promotion efficacy could be

attributable to a lack of emphasis on PA promotion in PETE programs as well as the day to day challenges adapted physical educators face while performing their jobs. It is possible that instead of polishing all skills coveted of physical educators, the main focus of the additional education APE teachers receive may be directly related to disability. This training could be geared more toward building skills for assessing necessary modifications to facilitate student participation within the classroom and increasing knowledge on possible primary, secondary, and associated health conditions that these students may face. While this form of training is valuable for APE teachers, incorporating methods for meeting other PE goals, including PA promotion, within APE settings could help APE teachers to meet these goals.

Despite the inclusion of developing physically literate individuals as a teaching standard, physical educators report feeling unprepared by their own PETE program to incorporate PA promotion into PE curriculum (Alfrey et al., 2012; Castelli & Williams, 2007). They have also indicated feeling as though they lack the knowledge necessary to facilitate out of school PA among their students (Thom, 2011). The lack of PA promotion training in PETE programs is reflected in commentaries about the shifting nature of PE into a more public health focused role (Beale, 2015; McKenzie & Lounsbery, 2014; Thorburn et al., 2011). This evolving role is calling for the development of “ideal” PETE programs, or those that emphasize the skills that educators need to promote PA outside of class as well as to restructure the school environment to better facilitate PA promotion (McKenzie & Lounsbery, 2014; Thorburn et al., 2011). The definition of physical education, as stated in PL 94-142 and IDEA, includes “the development of physical and motor fitness, fundamental motor skills and patterns, and skills in aquatics, dance, and

individual and group games and sports” (United States Department of Education [USDE], 2010). This definition has helped inform the creation of both general and adapted PE programs provided to school children. While this definition provides for the inclusion of diverse skills and activities within PE, it may fall short of current needs by not explicitly including PA promotion as an objective. Updating the current definition of PE could be key in increasing the value placed on and in turn execution of PA promotion within the PE field thus paving the way for its incorporation as a focus point within PETE programs.

Under the umbrella of the overall definition of physical education, PE encompasses multiple outcome goals including improving motor and cognitive skills as well as fostering social and emotional wellbeing. Traditional sports based PE models tend to prioritize motor skill acquisition as PE has been seen as a unique opportunity for this goal whereas improving cognitive skills and fostering social and emotional wellbeing could be addressed through other curricular content areas (McKenzie & Lounsbery, 2013, McKenzie & Lounsbery 2014). However, this approach devalues the need to teach physiological skills and provide diverse learning opportunities (Dudley, Okely, Pearson, & Cotton, 2011; Kirk, 2004; McKenzie & Lounsbery, 2014; Thorburn et al., 2011). Psychological skills such as self-management have been shown to be important factors contributing to engagement in independent PA and leaving out these elements could negatively affect PA promotion efforts (Dudley et al., 2011; McKenzie & Lounsbery, 2014). Including diverse learning opportunities is an important element in student’s ability to transfer PA skills and knowledge to other environments, curricular subjects, and grade levels; i.e. the ability to apply skills in independent PA opportunities (Kirk, 2004; Thorburn et al., 2011).

In order to more fully incorporate PA promoting components like psychological factors and diverse learning environments in PE, the curricula taught in both general and adapted PETE programs could be expanded or altered to include more PA focused curriculum such as the “health optimizing physical education” or HOPE curriculum and school wide PA promotion stratagem. The HOPE curriculum has a central focus on developing lifelong PA habits and maintains that while the diverse goals of PE should all be met, meeting these goals should be accomplished in a way that is geared towards the central outcome of developing physically literate individuals (Sallis et al., 2012). In a complementary strategy to the HOPE curriculum, school PA models, where school-wide environments are altered to support increased PA and PA promotion becomes a priority of the entire school and not just PE, are gaining momentum internationally as a successful means to counter the limited resources available for PA promotion within PE (Dudley et al., 2011; McKenzie & Lounsbery, 2014; Thorburn et al., 2011).

School-wide PA promotion and the development of physically literate individuals through individual support, while promising in potential, are not skills widely emphasized in current PETE programs (McKenzie & Lounsbery, 2014). At the individual level, development of physically literate individuals can be facilitated through the incorporation of health related fitness (HRF) knowledge, or knowledge about the body’s ability to move for health benefits, into the PE curriculum (Chen et al., 2012). HRF knowledge has been shown to be naturally motivating in the internalization of fitness concepts and the translation of these concepts into PA participation among youth (Chen et al., 2012). As such, the incorporation of HRF knowledge has been hailed as a critical element in the development of physically literate individuals and should be incorporated

into PE curriculum to reach students' full learning potential and maximize health outcomes (Corbin et al., 2011). With the documented success of HRF concepts and school-wide approaches to PA promotion, highlighting these concepts within PETE programs could improve physical educators' PA promotion behaviors.

Considering the current lack of training on PA promotion received during PETE, continuing education becomes the primary avenue through which currently practicing physical educators can gain the knowledge and skills necessary to begin incorporating PA promotion into their lesson plans. However, the trend seen in PETE programs appears to carry over into the continuing education realm. Alfrey et al. (2012) surveyed current PE teachers and found that 80% had not engaged in continuing education on PA promotion in the 12 months prior to the study. Moreover, that number only decreases to 70% when expanding the time of inquiry to the three years preceding the study (Alfrey et al., 2012). Follow-up interviews revealed themes including traditional emphasis on sport and fitness models in PE, educators limited understanding of PA promotion and how to teach this topic, and lack of confidence in their ability to incorporate PA promotion as explanations for the lack of engagement in continuing education focused on PA promotion (Alfrey et al., 2012). As continuing education has been shown to be an effective means for instilling the knowledge and confidence physical educators need to incorporate new elements into their PE curricula, developing and implementing readily available continuing education materials on promoting out of school PA and making this continuing education a priority among physical educators could be an avenue through which PA promotion can be improved.

In addition to lack of PA promotion training, the challenge of facilitating out of

school PA could be compounded for adapted physical educators as there are fewer established community based adapted PA programs available that they could recommend for their students to engage in outside of school (USDHHS, 2010). The deficiency of adapted programming has been recognized as a significant PA concern by the US Department of Education. They recently released a position statement about extracurricular activities including sporting and athletic events for children with disabilities through a Dear Colleague letter written in December 2013 (USDE, 2013). The letter highlighted federal legislations (IDEA and 504) that contain wording clearly indicating the inclusion of extracurricular sport and PA programs within the free services that must be provided so that children with disabilities have opportunities for meaningful participation in physical based activities. Even with federal mandate, these services can be misused, misrepresented, or parents and teachers may simply be unaware of programs and the laws that mandate their existence (Tymeson, 2013). Providing educators with knowledge of these programming requirements as well as tools to facilitate program development (e.g. pooling resources across smaller schools/districts, meeting with parents about service needs, and acting as the child's advocate during IEP meetings) may help bolster teachers' efficacy and PA promotion behaviors (Tymeson, 2013).

In addition to community wide factors, job related factors might also be preventing adapted physical educators from reaching the self-efficacy level seen in general physical educators. Overall, PE resources are continuously in danger as PE funding is among the first to be decreased when budgets are cut and restructured (SHAPE, 2016). This strain on resources is common to general and adapted physical educators alike. However, APE teachers tend to be marginalized within both special

education and PE specialties and thus have to fight for recognition even within their own colleagues and school systems (Block, 2007; Lieberman & Houston-Wilson, 2011). APE is commonly seen as an instructional area slightly outside the sphere of either PE or special education causing APE teachers to be devalued by both of these programs (Lieberman & Houston-Wilson, 2011). As a result, APE teachers could be lacking the support necessary to increase promotion efficacy and make PA promotion a behavioral reality.

One potential method to elevate the standing of APE teachers within their school systems is by increasing the value placed on their participation in developing IEP goals by all other members of the IEP team (Lieberman & Houston-Wilson, 2011). Parents of children with disabilities have reported that they feel providing their children with the motor skills necessary to engage in lifelong PA for health should be a major goal of PE (Chaapel, Columna, Lytle, & Bailey, 2012). However, many parents are unaware of APE services that are available for their students and the rate of inclusion of APE teachers in IEP meetings can be low (Chaapel et al., 2012). By increasing the emphasis placed on including APE teachers in IEP meetings, social norms could shift more toward the promotion of PA for children with disabilities and these goals could then become priority within IEP's. This social shift could be a driving force for providing adapted physical educators with the resources and support they need to effectively promote out of school PA.

Conclusion

Despite additional education obtained by APE teachers, they reported lower efficacy for promoting out of school PA than general educators. In order for PA

promotion to become a more prominent aspect of PE, a change in the culture surrounding PE may be key. This change can be executed through two avenues, in altering PETE programs to more fully encompass PA promotion as a major component of physical educators' jobs as well as increasing the standing and value placed on APE teachers and APE services to increase resources and support for meeting PA promotion needs.

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Chapter four: General Conclusions

The current study makes a unique contribution to the growing body of literature examining physical educators' physical activity (PA) promotion behaviors because it is the first to utilize a national random sample, include a large-scale quantitative examination, and to look specifically at the experience of adapted physical educators. The purposes of this study were to a) examine the utility of using the expanded theory of triadic influence (TTI) framework to understand general physical education teachers' beliefs, intentions, and behaviors for engaging in out of school physical activity promotion and (b) examine differences in general and adapted physical education (APE) teachers' current practices in engaging in promotion of out of school physical activity behaviors.

In the first manuscript, it was hypothesized that the expanded TTI model would explain greater variance in behavior than the TTI model alone. The results from this study supported this hypothesis as the addition of implementation intention and a direct pathway between self-efficacy provided two-fold increase in prediction of behavior variance (TTI $R^2 = .14$; expanded model $R^2 = .29$). Additionally, the expanded model provided a better fit with the study data. This result suggests self-efficacy has a direct influence on behavior as well as support for examining intention as a multidimensional construct in behavior models. Future studies should examine the inclusion of implementation intentions ability to improve predictability of models and the effects of incorporating implementation intention elements during physical education teacher training on physical educators PA promotion behaviors.

In the second manuscript, adapted physical educators' beliefs, intentions, and behaviors for PA promotion were compared to those of general physical educators. As

expected, the adapted physical educators had a significantly higher level of education however; they reported a lower self-efficacy for PA promotion than general educators and no significant difference on any of the other variables of interest. These results suggest that despite the additional teacher education and adapted certification, adapted physical educators are no more prepared to meet PA promotion needs in the classroom than their general physical education counterparts. Therefore, educators may be better served in meeting PA promotion goals by altering physical education teacher education programs to increase the emphasis on PA promotion providing educators with the knowledge and tools necessary to successfully promote PA. Additionally, a change in the culture of education to place a higher value on APE and the work APE teachers do could help them feel supported in meeting all APE goals including PA promotion. Future work should examine attitudes and social norms around PA promotion in PE at all levels from university professors in the field to teachers to the administrators and parents these educators work with.

With increased public health emphasis on promoting out of school PA during PE classes, supporting physical educators in this endeavor is becoming increasingly important. Findings from this study suggest that this support could come from altering physical education teacher education programs so that they include a greater content focus on PA promotion. Even with additional education, adapted physical educators do not report higher PA promotion attitudes, intentions, or behaviors indicating a clear opportunity to improve teacher preparation. This improvement can come in part from incorporating elements of implantation intention, providing opportunities for educators to increase their self-efficacy for promotion during their teacher training. Additionally,

cultivating a social culture, not only within teacher preparation programs but also within the school setting that places a value on PA promotion could further improve PA promotion in PE. Future steps to improve educators' preparedness and value of PA promotion may be the key to fulfilling the public health demand to improve youth PA participation through PE classes.

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APPENDICIES

Appendix A: Review of Literature

The purpose of this literature review is to provide the reader with information on the areas of: the role physical education in health related fitness promotion, the changing paradigm of physical education, and physical education teacher training on promoting out of school physical activity. This information provides rationale for the current study.

Role of physical education

Historically, physical fitness has always been a cornerstone of physical education whether in the preparation of individuals for military service, or in the desire to establish the country as a contender in international sporting and fitness competitions (McKenzie & Kahan, 2004). While individual fitness is still a priority within physical education, recent trends in public health have highlighted the need to emphasize physical activity (here considered the process of engaging in physical activity across the lifespan) as a cornerstone of physical education as well (McKenzie & Kahan, 2004). With technological advancements, the American population is no longer accumulating enough physical activity through activities of daily living alone to see associated health benefits, a situation that has only developed over the last half century (McGinnis, 1992; United States Department of Health and Human Services [USDHHS], 1996). As communicable and infectious diseases have come under control, public health has been able to turn to behavioral health components, such as sedentary activity, as the next necessary target areas for establishing a healthy population (McKenzie & Kahan, 2004).

National standards for qualified physical education teachers state that they should actively promote physical activity outside of the physical education classroom (SHAPE, 2013). This standard is in place to facilitate the development of students into physically

literate individuals, defined in part by regular participation in physical activity outside of the physical education classroom (Kelly, 1995). This criterion is included in standards to discern highly qualified candidates for both general and adapted physical education (Lytle, Lavay, & Rizzo, 2010; Napper-Owen, Marston, Van Volkinburg, Afeman, & Brewer, 2008). The need to create physically literate individuals is essential in the improvement of child health as regular physical activity has been shown to improve both physical and mental health indicators such as decreased obesity, improved mood, and decreased depression in children with and without disabilities (Blundell, Shepherd, Dean, & Adams, 2003; Darrah, Wessel, Nearingburg, & O'Connor, 1999; Fragala-Pinkham, Haley, Rabin, & Kharasch, 2005; Fragala-Pinkham, Haley, & Goodgold, 2006; Fragala-Pinkham, Haley, & O'Neill, 2008; Annesi, 2005; Goldfield et al., 2007).

To obtain health benefits, children need to accumulate sixty minutes of physical activity each day (USDHHS, 2008). Though physical education focused interventions have resulted in increased physical activity during class time (McKenzie et al., 2004), there is simply not enough meeting time for students to reach the national recommendation through physical education alone (Palmer & Bycura, 2014). Furthermore, recent studies have shown that children's physical activity levels are higher on days which they attend physical education than on days they do not attend physical education (Meyer et al., 2013). These findings emphasize the importance of creating physically literate individuals capable of maintaining independent physical activity and suggest that physical education teachers have the potential to improve upon current practices aimed at developing physically literate individuals through the promotion of out of school physical activity.

Current physical education curriculum

With the public health spotlight on sedentary activity and obesity prevention, physical educators, were called upon by national agencies to facilitate the efforts to combat sedentary lifestyles through promoting lifelong physical activity (Center for Disease Control and Prevention [CDC], 2000; National Institute for Health Care Management [NIHCM], 2003; USDHHS, 1996, USDHHS, 2000). This is highlighted through the reports from the United States Department of Health, Education, and Welfare (USDHEW) which called for the a shift from physical education curriculums that emphasize team sports as major recreational sources for children to “properly conducted physical education programs that could help promote lifetime habits of vigorous exercise” (USDHEW 1979, pg. 134). This shifting public health focus has challenged physical educators as traditional curricular models may no longer be sufficient to meet the public health needs placed on physical education.

Customarily, curricular and instructional models in physical education have been directed at the improvement of sports related skills. For example, McKenzie and Lounsbery (2014) suggested that two commonly taught and used curricula are the self-responsibility model and sport education model. The self-responsibility model emphasizes teamwork, cooperation, self-responsibility, and problem solving within sports settings (Hellison, 2011). Sports education model is focused on teaching students how to fulfill diverse sport roles (e.g. player, manager, referee) as sport is viewed as critical to American culture (Siedentop et al., 2011). Both models, while theoretically different ideologies, center around the development of sports skills. While sports are a popular mechanism of physical activity for children, sport skills alone are likely not sufficient to

meet the growing demand for physical education to produce lifelong exercisers (McKenzie & Lounsbery, 2014). Instead, it is argued that physical education should provide not only the opportunity to practice sport and motor skills and be active, but also incorporate learning of psychological and psychosocial factors that contribute to lifelong physical activity engagement (Kirk, 2005; McKenzie & Lounsbery, 2014; Morgan, Sproule, & Kingston, 2005).

International trends in physical education have shifted to advocate for models of health and wellbeing over sport skill development through school wide programs and the broadening and reprioritizing of physical education goals (Dudley, Okely, Pearson, & Cotton, 2011; McKenzie & Lounsbery, 2014; Thorburn et al., 2011). Physical education has multiple outcome goals including motor and cognitive skills, and social and emotional wellbeing, with traditional sports based physical education models prioritizing motor skill acquisition as physical education was seen as a unique opportunity for this goal whereas the other goals could also be addressed through other content areas (McKenzie & Lounsbery, 2013, McKenzie & Lounsbery 2014). However, this approach devalues the need to teach physiological skills such as self-management (Dudley et al., 2011; McKenzie & Lounsbery, 2014) and the need for diverse learning opportunities that facilitate the transfer of skill and knowledge acquisition to other environments, curricular subjects, and grade levels (Kirk, 2004; Thorburn et al., 2011).

To meet the need for expanded skill sets, new curriculum such as the “health optimizing physical education” or HOPE and school wide stratagem are gaining momentum. HOPE curriculum has a central focus of developing lifelong physical activity habits and maintains that while the diverse goals of physical education should all be met,

they should be tailored to fit under the HOPE umbrella and geared towards the outcome of developing physically literate individuals (Metzler, McKenzie, van der Mars, Berrett-Williams, & Ellis, 2013; Sallis et al., 2012). Additionally, school physical activity models, where school environments are altered to support increased physical activity and physical activity promotion becomes a priority of the school and not just physical education are gaining momentum as a means to counter the limited resources available within physical education (Dudley et al., 2011; McKenzie & Lounsbery, 2014; Thorburn et al., 2011).

Physical Education Teacher Education and Preparation to Meet Public Health Goals

School-wide physical activity promotion and the development of physically literate individuals through environmental as well as individual support, while promising in potential, are not skills currently emphasized in physical education teacher education programs leaving new physical educators without the means to accomplish these goals (McKenzie & Lounsbery, 2014). At the individual level, development of physically literate individuals can be facilitated through the incorporation of health related fitness knowledge into the physical education curriculum (Chen et al., 2012). Health related fitness knowledge has been shown to be naturally motivating in the construction of fitness knowledge concepts and translation of these concepts into physical activity participation (Chen et al., 2012). As such, the incorporation of health related fitness knowledge has been hailed as a critical element in the development of physically literate individuals and should be incorporated into physical education curriculum to reach students' full learning potential and health outcomes (Corbin et al., 2011).

Despite this teaching standard and emphasis on health related fitness knowledge, physical educators report feeling unprepared to incorporate health related fitness into their curriculum due to a lack of instruction on how to accomplish this within their own physical education teacher education program (Alfrey et al., 2012; Castelli & Williams, 2007). This lack of education is reflected in commentaries about the shifting nature of physical education into a more public health focused roll calling for increased emphasis on skills needed to promote physical activity outside of class, as well as skills geared toward restructuring the environment to support that aim to create “ideal” physical education teacher education programs (Beale, 2015; T. L. McKenzie & Lounsbery, 2014; Thorburn et al., 2011).

Physical Activity Promotion and Adapted Physical Education

Increasing the amount of out of school physical activity students engage in is important for both general and adapted physical education teachers. Parents of children with disabilities tend to concentrate on socially focused health promotion efforts at the expense of physical activity and nutrition efforts leaving the school setting as the most likely source of physical activity behavior development for children with disabilities (Antle, Mills, Steel, Kalnins, & Rossen, 2008). Furthermore, King et al. (2006) found that support from physical education teachers acted as a facilitator for informal physical activity participation for children with physical disabilities. Therefore, supporting the development of physically literate individuals may be increasingly important for the lifetime health of individuals in adapted physical education.

Physical activity opportunities for children outside of school include community sports and recreation programs. Supporting students in seeking out and participating in

these programs can be an avenue for physical educators to promote independent engagement in physical activity. This promotion avenue is more limited for adapted physical educators however as there is a lack of community based physical activity focused programs that have the capacity to accommodate the needs of children with disabilities (USDHHS, 2010). The disparity in accessible health promotion programs is so large that increasing the number of available programs nationwide is included among the goals of Healthy People 2020 (USDHHS, 2010). Extracurricular activities including sporting and athletic activities are included within federal legislation (IDEA and 504) as free services that must be provided so that children with disabilities have opportunities for meaningful participation in physical activities. Even with this federal mandate, these services are often misused, misrepresented, or parents are simply unaware of programs and the laws that mandate their existence (Tymeson, 2013).

In addition to community environmental factors, adapted physical education teachers may have a more difficult time in promoting out of school physical activity due to school based challenges. Adapted physical education specialists often find themselves on the outside looking in when it comes to school education departments (Block, 2007; Lieberman & Houston-Wilson, 2011). While some districts place adapted physical education under special education, some group it with physical education and within each placement, the larger department tends to separate themselves from the adapted physical education component (Block, 2007; Lieberman & Houston-Wilson, 2011). This separation can cause adapted physical educators to be devalued within the school system and their contributions overlooked leaving the educators without support or acknowledgement for their skills (Lieberman & Houston-Wilson, 2011). As a result of

this devaluation, it has been suggested that one way to increase the value placed on adapted physical educators is to increase their involvement within the development of individualized education plan goals (Lieberman & Houston-Wilson, 2011). Parents of children with disabilities have reported that they feel providing their children with the motor skills necessary to engage in lifelong activity for health should be a major goal of physical education (Chaapel et al., 2012). However, many parents are unaware of the adapted physical education services available for their students and the rate of inclusion of adapted physical educators in individualized education program meetings can be low (Chaapel et al., 2012). This low rate of inclusion in individualized education program meetings can have a negative impact on both the value placed on adapted physical education services provided as well as perceived support for promoting out of school physical activity within those services. With decreased values on adapted physical education, adapted physical educators likely face increasing challenges to meeting the goal of physical activity promotion and developing physically literate individuals.

Continuing Education on Promotion of Out of School Physical Activity

Considering the current lack of training on health related fitness knowledge received by practicing physical educators, continuing education becomes the primary avenue through which practicing physical educators can gain the knowledge and skills necessary to incorporate out of school physical activity promotion in their lesson plans. However, the trend seen in physical education teacher education programs appears to carry over into the continuing education realm. Alfrey et al. (2012) surveyed current physical education teachers and found that 80% had not engaged in continuing education on health related fitness knowledge in the 12 months prior to the study. Moreover, that

number only decreases to 70% when expanding the time of inquiry to the three years preceding the study (Alfrey et al., 2012). Through follow up interviews conducted with some of the participants in this study, several themes were highlighted when determining factors contributing to the low priority placed on health related fitness knowledge by these physical educators. Themes included traditional emphasis on sport and fitness models in physical education, educators limited understanding of health related fitness and how to teach this topic, lack of confidence in their ability to teach health related fitness topics, and lack of engagement with continuing education materials to update their knowledge about health related fitness (Alfrey et al., 2012). These results agree with those of McKenzie and Lounsbery (2013) and Thom (2011) who found that a factor contributing to the lack of out of school physical activity promotion is teachers' lack of knowledge about how to facilitate physical activity outside of their classroom.

The critical role continuing education plays in the development of successful teachers and programs has been widely emphasized. Fullan (1993) states that an essential component of success as a physical educator is mastery which includes both experience and the ability to implement new ideas and be persuaded by these ideas merits. This ability that can best be improved and maintained through quality, long term continuing education (Thorburn et al., 2011). Continuing education has been hailed as a key element of effective curriculum design (Armour & Yelling, 2007; McKenzie et al., 2004; McKenzie et al., 2003; Sallis et al., 1997) as well as an avenue to allay teacher fears about achieving learning and mastery within a new and innovative curriculum (Fullan, 1993). Hattie (2009) found professional continuing education has a direct effect on student achievement as this continuing education creates expert teachers. Expert teachers

are those that can not only implement a new curriculum and/or ideology but do so in a way that presents material in appropriately challenging and engaging ways facilitating greater depth of material processing by students (Hattie, 2003). The importance of quality continuing education can be seen through the results of the School Health Policies and Program Study which outlined a goal to increase the number of states, districts, and schools that provided professional development programs relative to cutting edge topics to keep educators on the forefront of educational practices and provide better services to students (Burgeson, Wechsler, Brener, Young, & Spain, 2001).

Theory

As there is currently little evidence on how to address the lack of out of school physical activity promotion in physical education classes, the validation of a framework for understanding physical education teachers out of school physical activity promotion behaviors is an important first step in the effort to remedy the lack of teacher preparedness in this topic. Current evidence links inhibiting factors for the incorporation of health related fitness into curriculums to constructs in the theory of planned behavior (Ajzen, 1991). The theory of planned behavior states that behavioral beliefs, normative beliefs, and control beliefs will influence attitude toward the behavior, subjective norm, and perceived behavioral control respectively (Ajzen, 1991). These constructs then feed into intention and when attitude towards the behavior, subjective norm, and perceived behavioral control are strong, intention to perform a behavior will be strong as well (Ajzen, 1991). The last piece of the puzzle is behavior itself, which is directly influenced by and has a direct relationship with intention (Ajzen, 1991).

Traditional emphasis on sport models may be creating a social norm around

physical education that excludes the teaching of health related fitness knowledge. Furthermore, lack of incorporation of health related fitness knowledge in physical education teacher education as well as a lack of engagement in continuing education on health related fitness suggests behavioral beliefs around the promotion of out of school physical activity may be low. Finally, physical education teachers reported lack of knowledge and confidence in incorporating health related fitness into lessons may be indicative of lack of perceived behavioral control. Taken together, the current evidence would suggest that the theory of planned behavior could be an appropriate model for understanding intentions and behaviors in the promotion of out of school physical activity. Should this assumption hold true, then the creation of material and efforts to address the constructs within the theory of planned behavior may be an organic way to address the most prominent inhibiting factors in the promotion of out of school physical activity.

While the theory of planned behavior appears to fit with the existing knowledge on inhibiting factors for out of school physical activity promotion reported by teachers, constructs within the theory of planned behavior may not be enough in and of themselves to account for a majority of the factors influencing behavior. Previous studies have shown a gap between intention and actual behavior, with intention alone not forming a strong association with behavior (Kodish et al., 2006; Martin et al., 2005; Motl et al., 2002). Concerns over the gap between intentions and actual behavior leave room for questions as to which mediating factors contribute to the translation of intention into behavior over other factors (Armitage & Conner, 2000; Gollwitzer, 1993). Within the theory of planned behavior, goal intention is considered a proximal determinant of behavior but

implementation intention is not (Armitage and Connor, 2000). However, implementation intention, which is concerned with the plan for completing a behavior (i.e. when, where, how) rather than behavior outcomes (goal intention) has been shown to have stronger associations with behavior than goal intention (Roberts et al., 2010).

Additionally, questions over what constitutes perceived behavioral control have also arisen (Ajzen, 2002; Bandura, 2004). Self-efficacy, a common and generally strong predictor of behavior has normally been incorporated as part of perceived behavioral control as both are considered to be an individual's perception of their ability to perform a behavior (Ajzen, 2002; Bandura, 2004; Foley et al., 2008; Godin, 1994). Despite the focus on perceptions, there are differences between the two constructs; perceived behavioral control measures belief that performing an action is up to the individual whereas self-efficacy measures ease of performing a task (Ajzen, 2002). When self-efficacy, as measured through both task efficacy and barrier efficacy, was added to the constructs of the theory of planned behavior, it explained an additional unique variance of behavior (Foley et al., 2008; Hagger, et al., 2002; Motl et al., 2005) and is directly associated with both intention and behavior (Jin & Yun, 2013; Rhodes et al., 2006). Therefore, self-efficacy as an independent construct may be an important factor to describing behavior (Foley et al., 2008; Hagger et al., 2002; Motl et al., 2005).

Suggestions and evidence for the expansion of the theory of planned behavior coincide with the notion that behavior is complex and influenced by multiple factors at once therefore; describing behavior must encompass this complexity. This need has lead health promotion professionals to shift farther away from reliance on a single model to the formation of integrated models. Integrated models consist of multiple models with

narrower scopes depicting behavior from one viewpoint and/or level that, when combined to create a more global picture of behavior. Because of this more global depiction of behavior factors, these integrated models should have an expanded capacity to describe influencing factors of behavior over individual theories. One such integration includes the combination of the theory of planned behavior and the social cognitive theory. This integration would allow for the inclusion of self-efficacy to the theory of planned behavior to alleviate the concerns over this lack and improve the predication power of the model. However, when examining teacher behavior among adapted physical educators, perceived behavioral control has been shown to be consistently non-significant in the prediction of behavior variance (Morgan, 2013; Thom, 2011). As a result, a better model within this population may be reverting back to the roots of the theory of planned behavior, the theory of reasoned action, which includes only perceived subjective norms and attitude in relation to intention and behavior with the absence of perceived behavioral control in integration with self-efficacy. This integrated theory of reasoned action and social cognitive theory integration may provide the strongest bases for understanding physical educator behaviors for out of school physical activity promotion.

Appendix B. Initial Email

Email address:

Subject: Research study from Oregon State University.

Hello,

I am writing this letter to invite you to participate in a research project entitled, *examining general and adapted physical education teachers' intentions and behaviors for promoting out of school physical activity*. As you may be well aware, lack of physical activity is a serious problem among youth in the United States. Lack of youth physical activity participation is a major health concern that can be addressed cost effectively through out of school physical activity promotion. The purpose of this study is to examine the factors affecting physical education teachers' intentions and behaviors for including promotion of out of school physical activity in their physical education lesson plans.

Your assistance is needed with this study and we would like to invite you to participate in our survey. Within the next 3-7 days, you will receive an email including (a) an explain of research and (b) a link to the survey. This survey should take approximately 15 minutes to complete. Your participation will be greatly appreciated.

Participation in this study is voluntary, and you may skip any questions that you do not want to answer. If you decide to participate, you are free to withdraw at any time. The completed surveys are confidential. This study report will include only aggregate data for the group, not individual data or identifying information. If you have any questions or concerns you can directly contact Jill Pawlowski at (541) 737-6919 or jill.pawlowski@oregonstate.edu or Joonkoo Yun, Principal Investigator, at (541) 737-8584, j.k.yun@oregonstate.edu. Once again, we appreciate your time and thank you for your assistance in advance.

Sincerely,

Jill Pawlowski, M.S.

Joonkoo Yun, Ph.D.

Appendix C. Initial Letter



College of Public Health and Human Sciences
Oregon State University, 123 Women's Building, Corvallis, Oregon 97331-8577
T 541-737-3220 |

Hello,

I am writing this letter to invite you to participate in a research project entitled, *examining general and adapted physical education teachers' intentions and behaviors for promoting out of school physical activity*. As you may be well aware, lack of physical activity is a serious problem among youth in the United States. Lack of youth physical activity participation is a major health concern that can be addressed cost effectively through out of school physical activity promotion. The purpose of this study is to examine the factors affecting physical education teachers' intentions and behaviors for including promotion of out of school physical activity in their physical education lesson plans.

Your assistance is needed with this study and we would like to invite you to participate in our survey. Within the next 3-7 days, you will receive a letter including (a) an explain of research, (b) a paper survey, and (c) a postage paid return envelope. This survey should take approximately 15 minutes to complete. Your participation will be greatly appreciated.

Participation in this study is voluntary, and you may skip any questions that you do not want to answer. If you decide to participate, you are free to withdraw at any time. The completed surveys are confidential. This study report will include only aggregate data for the group, not individual data or identifying information. If you have any questions or concerns you can directly contact Jill Pawlowski at (541) 737-6919 or jill.pawlowski@oregonstate.edu or Joonkoo Yun, Principal Investigator, at (541) 737-8584, jk.yun@oregonstate.edu. Once again, we appreciate your time and thank you for your assistance in advance.

Sincerely,

Jill Pawlowski, M.S.

Joonkoo Yun, Ph.D.

Appendix D. Survey Email

Email address:

Subject: Research study from Oregon State University.

Hello,

We would like to invite you to participate in a research project entitled, *examining general and adapted physical education teachers' intentions and behaviors for promoting out of school physical activity*. As you may be well aware a lack of physical activity is a serious problem among youth in the United States. Lack of youth physical activity participation is a major health concern that can be addressed cost effectively through out of school physical activity promotion. The purpose of this study is to examine the factors affecting physical education teachers' intentions and behaviors for including promotion of out of school physical activity in their physical education lesson plans.

Your assistance is needed with this study. If you are willing to participate in this survey, you can click the link: [Out of School Physical Activity Promotion \[Click Here to Begin the Survey\]](#). The link includes an explain of research and the survey.

*note: if this link fails, please copy and paste:

http://oregonstate.qualtrics.com/SE/?SID=SV_29tZuOKLaXeenB3 into a web browser.

Participation in this study is **voluntary**, and you may skip any questions that you do not want to answer. If you decide to participate, you are free to withdraw at any time. The completed surveys are confidential. This study report will include only aggregate data for the group, not individual data or identifying information. If you have any questions or concerns you can directly contact Jill Pawlowski at (541) 737-6919 or jill.pawlowski@oregonstate.edu or Joonkoo Yun, Principal Investigator, at (541) 737-8584, j.k.yun@oregonstate.edu. Once again, we appreciate your time and thank you for your assistance in advance.

Sincerely,

Jill Pawlowski, M.S.

Joonkoo Yun, Ph.D.

Appendix E. Survey Letter



College of Public Health and Human Sciences
Oregon State University, 123 Women's Building, Corvallis, Oregon 97331-8577
T 541-737-3220 |

Hello,

We would like to invite you to participate in a research project entitled, *examining general and adapted physical education teachers' intentions and behaviors for promoting out of school physical activity*. As you may be well aware a lack of physical activity is a serious problem among youth in the United States. Lack of youth physical activity participation is a major health concern that can be addressed cost effectively through out of school physical activity promotion. The purpose of this study is to examine the factors affecting physical education teachers' intentions and behaviors for including promotion of out of school physical activity in their physical education lesson plans.

Your assistance is needed with this study. If you are willing to participate in this survey, please fill out the enclosed survey. When you have completed the survey, please return it to us using the addressed and postage paid envelope provided.

Participation in this study is **voluntary**, and you may skip any questions that you do not want to answer. If you decide to participate, you are free to withdraw at any time. The completed surveys are confidential. This study report will include only aggregate data for the group, not individual data or identifying information. If you have any questions or concerns you can directly contact Jill Pawlowski at (541) 737-6919 or jill.pawlowski@oregonstate.edu or Joonkoo Yun, Principal Investigator, at (541) 737-8584, jk.yun@oregonstate.edu. Once again, we appreciate your time and thank you for your assistance in advance.

Sincerely,

Jill Pawlowski, M.S.

Joonkoo Yun, Ph.D.

Appendix F. Follow-up email

Email address:

Subject: Research study from Oregon State University.

Hello,

We are writing this email to follow up the previous email we sent a week ago. **If you have already participated in our survey, we would like to thank you for your help and assistance and you can disregard this email. If you have not participated in our survey yet, we would like to encourage you to consider helping us. This is the last time we will be contacting you, thank you for your patience and participation.**

We would like to invite you to participate in a research project entitled, *examining general and adapted physical education teachers' intentions and behaviors for promoting out of school physical activity*. As you may be well aware a lack of physical activity is a serious problem among youth in the United States. Lack of youth physical activity participation is a major health concern that can be addressed cost effectively through out of school physical activity promotion. The purpose of this study is to examine the factors affecting physical education teachers' intentions and behaviors for including promotion of out of school physical activity in their physical education lesson plans.

Your assistance is needed with this study. If you are willing to participate in this survey, please click the link to access it: [Out of School Physical Activity Promotion \[Click Here to Begin the Survey\]](http://oregonstate.qualtrics.com/SE/?SID=SV_0vqIK3exnHkDTuZ). The link includes an explain of research and the survey.

*note: if this link fails, please copy and paste:

http://oregonstate.qualtrics.com/SE/?SID=SV_0vqIK3exnHkDTuZ into a web browser.

Participation in this study is **voluntary**, and you may skip any questions that you do not want to answer. If you decide to participate, you are free to withdraw at any time. The completed surveys are confidential. This study report will include only aggregate data for the group, not individual data or identifying information. If you have any questions or concerns you can directly contact Jill Pawlowski at (541) 737-6919 or jill.pawlowski@oregonstate.edu or Joonkoo Yun, Principal Investigator, at (541) 737-8584, j.k.yun@oregonstate.edu. Once again, we appreciate your time and thank you for your assistance in advance.

Sincerely,

Jill Pawlowski, M.S.

Joonkoo Yun, Ph.D.

Appendix G. Follow-up Letter



College of Public Health and Human Sciences
Oregon State University, 123 Women's Building, Corvallis, Oregon 97331-8577
T 541-737-3220 |

Hello,

We are writing this letter to follow up the previous email we sent a week ago. **If you have already participated in our survey, we would like to thank you for your help and assistance and you can disregard this email. If you have not participated in our survey yet, we would like to encourage you to consider helping us. This is the last time we will be contacting you, thank you for your patience and participation.**

We would like to invite you to participate in a research project entitled, *examining general and adapted physical education teachers' intentions and behaviors for promoting out of school physical activity*. As you may be well aware a lack of physical activity is a serious problem among youth in the United States. Lack of youth physical activity participation is a major health concern that can be addressed cost effectively through out of school physical activity promotion. The purpose of this study is to examine the factors affecting physical education teachers' intentions and behaviors for including promotion of out of school physical activity in their physical education lesson plans.

Your assistance is needed with this study. If you are willing to participate in this survey, please complete the enclosed survey. Once you have completed the survey, please return it to us using the addressed and postage paid envelope provided.

Participation in this study is **voluntary**, and you may skip any questions that you do not want to answer. If you decide to participate, you are free to withdraw at any time. The completed surveys are confidential. This study report will include only aggregate data for the group, not individual data or identifying information. If you have any questions or concerns you can directly contact Jill Pawlowski at (541) 737-6919 or jill.pawlowski@oregonstate.edu or Joonkoo Yun, Principal Investigator, at (541) 737-8584, jy.yun@oregonstate.edu. Once again, we appreciate your time and thank you for your assistance in advance.

Sincerely,

Jill Pawlowski, M.S.

Joonkoo Yun, Ph.D.

Appendix H. Online Survey



You are being invited to participate in a research study. If you agree to participate in this study, you will be asked to complete this web-based survey and submit it to the researcher.

The purpose of this study is to examine the factors affecting physical education teachers' intentions and behaviors for including promotion of out of school physical activity in their physical education lesson plans.

The survey will take approximately 15 minutes to complete. The information that you give in the study will be handled confidentially. Your name and identifiable information will not be used in any report. The security and confidentiality of the information collected from you on-line cannot be guaranteed. Information collected on-line can be intercepted, corrupted, lost, destroyed, arrive late or incomplete, or contain viruses.

Your participation in the study is completely voluntary and you have the right to withdraw from the study at any time. Some of the questions in this survey may make you uncomfortable. You can skip any questions you would prefer not 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 in-service and teacher education programming. While there are no direct benefits for participating in this study, the results may help physical education researchers and educators understand factors influencing teachers' beliefs and practices for including out of school physical activity promotion in physical education lessons.

This study is being conducted as part of the requirements of a doctoral degree, requiring the study write-up to be submitted to the Universities online scholars archive. This study report will include only aggregate data for the group not individual data or identifying information.

If you have any questions about the study, contact:

Researchers:

Jill Pawlowski
Movement Studies in Disability Program
College of Public Health and Human Sciences
Oregon State University
123 Women's Building
Corvallis, OR 97331
jill.pawlowski@oregonstate.edu

or
Joonkoo Yun, PhD
Principal Investigator:
Movement Studies in Disability Program
College of Public Health and Human Sciences
Oregon State University
123 Women's Building
Corvallis, OR 97331
jk.yun@oregonstate.edu

If you have questions about your rights or welfare as a participant contact:
The Oregon State University Institutional Review Board (IRB) Office
Telephone: (541) 737-8008
email: IRB@oregonstate.edu

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

You may print a copy of this form for your records.

If you agree to participate, click NEXT to proceed to the survey.

Do you agree to participate in this survey?

yes



No



If yes, please click the next button to move into the survey

0% 100%

Survey Powered By [Qualtrics](#)

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Section One: Promotion of out of school physical activity behavior

Please read every question in this section and select the answer that best describes how you feel about the question.

In the last year, how often have you read about research being done on encouraging students to be active outside of school?

Never	Less than Once a Month	Once a Month	2-3 Times a Month	Once a Week	2-3 Times a Week	Daily
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Over the last year, how often have you encouraged students to be active in a community based physical activity program (e.g. YMCA, Boys and Girls Club, special Olympics)?

Never	Less than Once a Month	Once a Month	2-3 Times a Month	Once a Week	2-3 Times a Week	Daily
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In my community, there are physical activity programs for my students (e.g. Boys and Girls Club, YMCA, Special Olympics, Sports Programs)

Not at all	Some	A few	Many	Vary many
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Over the last year, how often have you announced community activities (e.g. 5K, recreational sports, park events) to your students?

Never	Less than Once a Month	Once a Month	2-3 Times a Month	Once a Week	2-3 Times a Week	Daily
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Over the last year, how often have you encouraged your students to be active outside of school?

Never	Less than Once a Month	Once a Month	2-3 Times a Month	Once a Week	2-3 Times a Week	Daily
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Over the last year, how often have you assigned physical activity homework to your students?

Never	Less than Once a Month	Once a Month	2-3 Times a Month	Once a Week	2-3 Times a Week	Daily
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

0% 100%



Providing out of school physical activity promotion during my lesson is

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

For each of the following frequencies, indicate the number that represents how confident you are that you can promote out of school physical activity during your physical education class:

	Completely not confident	Highly not confident	Somewhat not confident	Neither or not confident	Somewhat confident	Highly confident	Completely confident
One time a month	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Two times a month	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Three times a month	<input type="radio"/>	<input type="radio"/>	<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"/>	<input type="radio"/>	<input type="radio"/>
Every other class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Every class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

0%  100%

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Below are a number of situations that can make it difficult to include out of school physical activity promotion in your lesson. Mark the category that best represents your confidence in your ability to promote out of school physical activity when:

	Completely not confident	Highly not confident	Somewhat not confident	Neither or not confident	Somewhat confident	Highly confident	Completely confident
My lesson is running long	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My students are having behavioral issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I change my lesson plans mid class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My class time is shortened for another school function (e.g. assembly)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The lesson focus is not centered around a common and/or individual activity easily translatable to out of school activity (e.g. gymnastics unit)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

0%  100%

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Please read each question in this section and select the answer that best describes how you feel about the question

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
The administrators (e.g. principal, supervisor) at my school believe that it is important that I include out of school physical activity promotion in my lessons.	<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 belief of my school's administrators (e.g. principal, supervisor) that I should include out of school physical activity promotion in my lessons.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The parents of students at my school believe that it is important that I include out of school physical activity promotion in my lessons.	<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 belief of my students' parents that I should include out of school physical activity promotion in my lessons.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

0%  100%

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Please read each question in this section and select the answer that best describes how you feel about the question

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
The students in my class believe that it is important that I include out of school physical activity promotion in my lessons.	<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 belief of my students that I should include out of school physical activity promotion in my lessons.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The other teachers at my school believe that it is important that I include out of school physical activity promotion in my lessons.	<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 belief of my fellow teachers that I should include out of school physical activity promotion in my lessons.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have control over whether I include out of school physical activity promotion in my lessons.	<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 I include out of school physical activity promotion in my lessons.	<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, I can include out of school physical activity promotion in my lessons.	<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 read each question in this section and select the answer that best describes how you feel about the question

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I have made a detailed plan regarding when to include out of school physical activity promotion in my lessons	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have made a detailed plan regarding where to include out of school physical activity promotion in my lessons	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have made a detailed plan regarding how to include out of school physical activity promotion in my lessons	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have made a detailed plan regarding how often to include out of school physical activity promotion in my lessons	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I intend to teach lessons that promote out of school physical activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will try to teach lessons that promote out of school physical activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am determined to teach lessons that promote out of school physical activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I plan to teach lessons that promote out of school physical activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have decided to teach lessons that incorporate out of school physical activity promotion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Engaging in continuing education materials that focus on promotion of out of school physical activity is important	<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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Section 3: Future engagement with out of school physical activity promotion

If all resources were free and available, what format would you be most likely to use in the future to learn about current research and best practices for promoting out of school physical activity if they were available?

- ☐ Newsletters mailed to you
- ☐ Newsletter emailed to you
- ☐ Social Media (Facebook and/or Twitter)
- ☐ Podcast (informational audio clip)

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A horizontal progress bar with a dark orange fill, indicating 0% completion. The bar is flanked by "0%" on the left and "100%" on the right.

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Section Three: Demographics

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

What is your current age?

What is your Gender?

Male

☐

Female

☐

Other

☐

What best describes your ethnicity?

☐ Hispanic or Latino

☐ Not Hispanic or Latino

What best describes your race? (please check all that apply)

☐ White

☐ Pacific Islander

☐ Black, African American

☐ Other

☐ American Indian or Alaskan Native

☐ Multiracial

☐ Asian

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What is your education level?

Bachelors

☐

Masters

☐

Doctoral

☐

Other

☐

How many years have you been teaching?

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

Did you have a physical education emphasis when obtaining your degree?

yes

☐

No

☐

Do you primarily teach adapted PE or general PE?

Adapted PE

☐

General PE

☐

What grades are you currently primarily teaching? (check all that apply)

K-5

☐

6-8

☐

9-12

☐

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

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How large is your typical class size?

For what reason do you engage in continuing education? (check all that apply)

- ☐ Expand knowledge on topics I am familiar with
 ☐ It is required by my job
- ☐ Gain knowledge on topics I am not familiar with
 ☐ To gain practical skills
- ☐ To connect with other PE teachers

Is your school designated as a Title 1 school?

- | yes | No | Not sure | Itinerant (multiple schools) |
|-----------------------|-----------------------|-----------------------|------------------------------|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Do you participate in regular cardiovascular physical activity outside of your job (e.g. exercise most days of the week)?

- | yes | No |
|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> |

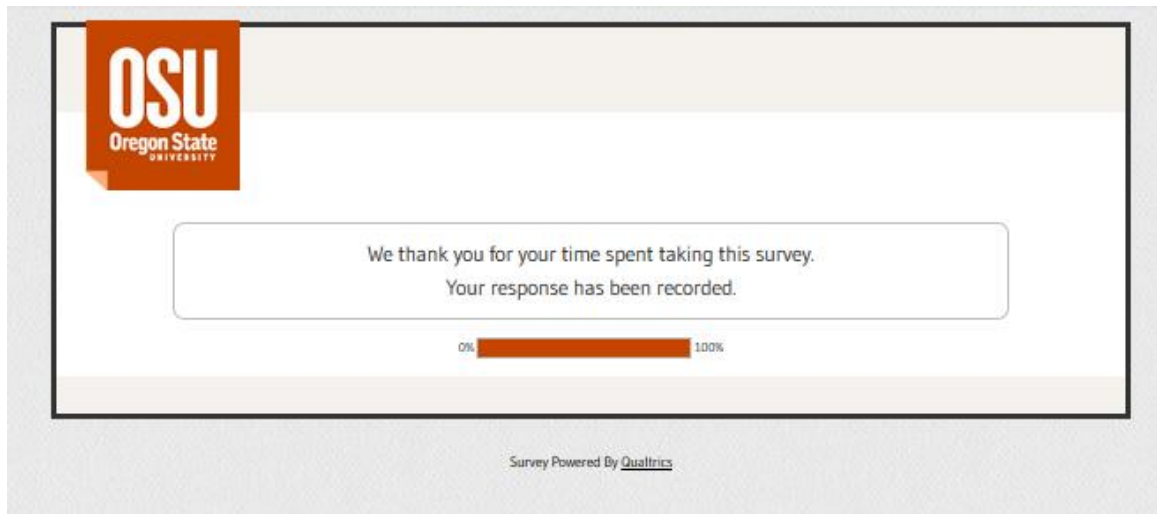
Do you participate in regular strength physical activity outside of your job (e.g. 2-3 strength training sessions each week)?

- | yes | No |
|-----------------------|-----------------------|
| <input type="radio"/> | <input type="radio"/> |

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Appendix I. Paper and Pencil Survey

Out of School Physical Activity Promotion Survey

Thank you for participating in this study. The purpose of this survey is to gather information on physical education teachers' intentions and behaviors for promoting out of school physical activity during physical education classes. This information is intended to be used in the future to help develop tools and resources to support physical education teachers in promoting out of school physical activity.

The following is a definition of terminology used in this survey:

Health related fitness concepts: knowledge concepts around how physical activity can lead to long term health benefits.

SECTION ONE: Out of school physical activity promotion intentions and behaviors

Please read each question in this section and select the answer that best describes how you feel about the question.

1. In the last year, how often have you read about research or engaged in continuing education programs focusing on health related fitness concepts and/or the promotion of out of school physical activity?

- | | |
|-------------------------------------------------|-------------------------------------------|
| <input type="checkbox"/> Never | <input type="checkbox"/> Once a week |
| <input type="checkbox"/> Less than once a month | <input type="checkbox"/> 2-3 times a week |
| <input type="checkbox"/> Once a month | <input type="checkbox"/> Daily |
| <input type="checkbox"/> 1-2 times a month | |

2. Over the last year, how often have you encouraged students to be active in a community based physical activity program (e.g. YMCA, Boys and Girls Club, special Olympics)?

- | | |
|-------------------------------------------------|-------------------------------------------|
| <input type="checkbox"/> Never | <input type="checkbox"/> Once a week |
| <input type="checkbox"/> Less than once a month | <input type="checkbox"/> 2-3 times a week |
| <input type="checkbox"/> Once a month | <input type="checkbox"/> Daily |
| <input type="checkbox"/> 1-2 times a month | |

3. In my community, there are physical activity programs for my students (e.g. Boys and Girls Club, YMCA, Special Olympics, Sports Programs)

- | | |
|-------------------------------------|------------------------------------|
| <input type="checkbox"/> Not at all | <input type="checkbox"/> Many |
| <input type="checkbox"/> Some | <input type="checkbox"/> Very Many |
| <input type="checkbox"/> A few | |

4. Over the last year, how often have you announced community activities (e.g. 5K, recreational sports, park events) to your students?

- | | |
|-------------------------------------------------|-------------------------------------------|
| <input type="checkbox"/> Never | <input type="checkbox"/> Once a week |
| <input type="checkbox"/> Less than once a month | <input type="checkbox"/> 2-3 times a week |
| <input type="checkbox"/> Once a month | <input type="checkbox"/> Daily |
| <input type="checkbox"/> 1-2 times a month | |

5. Over the last year, how often have you encouraged your students to be active outside of school?

- | | |
|-------------------------------------------------|-------------------------------------------|
| <input type="checkbox"/> Never | <input type="checkbox"/> Once a week |
| <input type="checkbox"/> Less than once a month | <input type="checkbox"/> 2-3 times a week |
| <input type="checkbox"/> Once a month | <input type="checkbox"/> Daily |
| <input type="checkbox"/> 1-2 times a month | |

6. Over the last year, how often have you assigned physical activity homework to your students?

- | | |
|-------------------------------------------------|-------------------------------------------|
| <input type="checkbox"/> Never | <input type="checkbox"/> Once a week |
| <input type="checkbox"/> Less than once a month | <input type="checkbox"/> 2-3 times a week |
| <input type="checkbox"/> Once a month | <input type="checkbox"/> Daily |
| <input type="checkbox"/> 1-2 times a month | |

Please continue on to the next page

7. Providing out of school physical activity promotion during my lessons is: (please circle an answer for each letter in the left-hand column)

a.	Bad	1	2	3	4	5	6	7	Good
b.	Unpleasant	1	2	3	4	5	6	7	Pleasant
c.	Harmful	1	2	3	4	5	6	7	Beneficial
d.	Useless	1	2	3	4	5	6	7	Useful
e.	Un-enjoyable	1	2	3	4	5	6	7	Enjoyable
f.	Unhealthy	1	2	3	4	5	6	7	Healthy
g.	Not important	1	2	3	4	5	6	7	Important

For each of the following frequencies, indicate the number that represents how confident you are that you can promote out of school physical activity during your physical education class:

	Not at all confident	Highly not confident	Somewhat not confident	Neither confident nor not confident	Somewhat confident	Highly confident	Completely confident
8. Once a month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Two times a month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Three times a month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Once a week	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Every other class meeting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Every class meeting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Below are a number of situations that can make it difficult to include out of school physical activity promotion in your lesson. Mark the category that best represents your confidence in your ability to promote out of school physical activity when:

	Not at all confident	Highly not confident	Somewhat not confident	Neither confident nor not confident	Somewhat confident	Highly confident	Completely confident
14. My lesson is running long	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. My students are having behavioral issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I change my lesson plans mid class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. My class time is shortened for another school function (e.g. assembly)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. The lesson focus is not centered around a common and/or individual activity easily translatable to out of school activity (e.g. gymnastics unit)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please continue on to the next page

Please read each question in this section and select the answer that best describes how you feel about the question.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly Agree
19. The administrators (e.g. principal, supervisor) at my school believe that it is important that I include out of school physical activity promotion in my lessons.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. I am motivated to comply with the belief of my school's administrators (e.g. principal, supervisor) that I should include out of school physical activity promotion in my lessons.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. The parents of students at my school believe that it is important that I include out of school physical activity promotion in my lessons.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. I am motivated to comply with the belief of my students' parents that I should include out of school physical activity promotion in my lessons.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. The other teachers at my school believe that it is important that I include out of school physical activity promotion in my lessons.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. I am motivated to comply with the belief of my fellow teachers that I should include out of school physical activity promotion in my lessons.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. The students in my class believe that it is important that I include out of school physical activity promotion in my lessons.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. I am motivated to comply with the belief of my students that I should include out of school physical activity promotion in my lessons.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. I have control over whether I include out of school physical activity promotion in my lessons.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. It is mostly up to me if I include out of school physical activity promotion in my lessons.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. If I want to, I can include out of school physical activity promotion in my lessons.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please continue on to the next page

Please read each question in this section and select the answer that best describes how you feel about the question.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly Agree
30. I have made a detailed plan regarding when to include out of school physical activity promotion in my lessons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. I have made a detailed plan regarding where to include out of school physical activity promotion in my lessons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. I have made a detailed plan regarding how to include out of school physical activity promotion in my lessons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. I have made a detailed plan regarding how often to include out of school physical activity promotion in my lessons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. I intend to teach lessons that promote out of school physical activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. I will try to teach lessons that promote out of school physical activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. I am determined to teach lessons that promote out of school physical activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. I plan to teach lessons that promote out of school physical activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. I have decided to teach lessons that incorporate out of school physical activity promotion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. Engaging in continuing education materials that focus on promotion of out of school physical activity is important.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECTION TWO: Future engagement with out of school physical activity promotion continuing education materials

1. If all resources were free and available, what format would you be most likely to use in the future to learn about current research and best practices for promoting out of school physical activity?

- ☐ Newsletter mailed to you
☐ Newsletter emailed to you
☐ Social media (e.g. Facebook and/or twitter)
☐ podcasts (informational audio clips)

Please continue on to the next page

SECTION Three: Demographics

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

1. What is your current age?

2. What best describes your gender?
☐ Male ☐ Female
☐ Other
3. What best describes your ethnicity?
☐ Hispanic or Latino ☐ Not Hispanic or Latino
4. How would you best describe your race? (check all that apply)
☐ White ☐ Asian
☐ Black, African American ☐ Native Hawaiian or Pacific Islander
☐ American Indian or Alaskan Native ☐ Multiracial
☐ Other
5. Which best describes your level of education?
☐ Bachelors Degree ☐ Doctoral Degree
☐ Masters Degree ☐ Other
6. How many years have you been teaching? _____
7. How many years have you been teaching at your current school? _____
8. Did you have a physical education emphasis when obtaining your teaching degree?
☐ Yes ☐ No
9. What do you primarily teach?
☐ General PE ☐ Adapted PE
☐ Other
10. What grades are you currently teaching? (check all that apply)
☐ K-5 ☐ 6-8 ☐ 9-12
11. On average, how many minutes per week do your students have physical education?

12. How large is your typical class size?

13. For what reason do you engage in continuing education? (check all that apply)
☐ Expand knowledge on topics I am familiar with ☐ It is required by my job
☐ To gain knowledge on topics I am not familiar with ☐ To gain practical skills
☐ To connect with other PE teachers
14. Do you have National Adapted Physical Education Certification?
☐ Yes ☐ No ☐ Not sure
15. Is your School designated as a title 1 school?
☐ Yes ☐ No ☐ Not sure ☐ Itinerant (multiple schools)
16. Do you participate in regular cardiovascular physical activity outside of your job (e.g. exercise most days of the week)?
☐ Yes ☐ No
17. Do you participate in regular strength physical activity outside of your job (e.g. 2-3 strength training sessions each week)?
☐ Yes ☐ No

Thank you for completing this survey; your participation is greatly appreciated!

Appendix J. Letter of Support

Cortland

State University College at Cortland

*Adapted Physical Education – E224 Park Center
Department of Physical Education*

May 12, 2015

Jill Pawlowski and Joonkoo Yun
Movement Studies in Disability
203D Women's Building
Oregon State University
Corvallis, OR 97331

Dear Ms. Pawlowski and Dr. Yun

I am writing this letter of support for your research project entitled Examining general and adapted physical education teachers' intentions and behaviors for promoting out of school physical activity. I am happy to be involved in your efforts to send your survey to the National Adapted Physical Education Certified teachers. Considering lack of physical activity among youth with disabilities, this study has a potential to make a significant contributions to better service children with disabilities.

I am excited to collaborate with you on this research and I hope that we are able to contribute toward the completion of your research study.

Sincerely,

Timothy D. Davis

Timothy D. Davis, Ph.D., CAPE
NCPERID APENS Chair
E224 Park Center
Department of Physical Education
SUNY Cortland
Cortland, NY 13045

Appendix K. IRB Approval



**EXEMPT
DETERMINATION**

Date of Notification	05/20/2015		
Study ID	6878		
Study Title	Examining general and adapted physical education teachers' intentions and behaviors for promoting out of school physical activity		
Principal Investigator	Joonkoo Yun		
Study Team Members	Jill Pawloski, Momoko Narimatsu		
Submission Type	Initial Application	Date Acknowledged	05/20/2015
Level	Exempt	Category(ies)	2
Funding Source	Internal	Proposal #	N/A
PI on Grant or Contract	N/A	Cayuse #	N/A

The above referenced study was reviewed by the OSU Institutional Review Board (IRB) and determined to be exempt from full board review.

EXPIRATION DATE: 05/19/2020

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 IRB if the project is completed prior to the 5 year term.

Documents included in this review:

- | | | |
|---------------------------------------------------|------------------------------------------------------|--------------------------------------------------------|
| <input checked="" type="checkbox"/> Protocol | <input checked="" type="checkbox"/> Recruiting tools | <input type="checkbox"/> External IRB approvals |
| <input checked="" type="checkbox"/> Consent forms | <input checked="" type="checkbox"/> Test instruments | <input type="checkbox"/> Translated documents |
| <input type="checkbox"/> Assent forms | <input type="checkbox"/> Attachment A: Radiation | <input type="checkbox"/> Attachment B: Human materials |
| <input type="checkbox"/> Alternative consent | <input type="checkbox"/> Alternative assent | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Letters of support | <input type="checkbox"/> Grant/contract | |

Comments:

Principal Investigator responsibilities:

- Certain amendments to this study must be submitted to the IRB 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 IRB, please see: 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 IRB within three calendar days.