



# Adapted Physical Educators' Beliefs and Intentions for Promoting Out-of-School Physical Activity

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**Abstract:** The purpose of this study was to examine beliefs, intentions, and behaviors of promoting out-of-school physical activity among adapted physical education teachers and comparing these beliefs, intentions, and behaviors with those of general physical education teachers. A total 253 physical educators including 208 general physical education and 45 adapted physical education teachers completed the survey measuring their behavior, attitude, self-efficacy, social normative beliefs, intention, and implementation intention of out-of-school physical activity promotion. Multiple linear regression analysis revealed significantly lower out-of-school physical activity promotion self-efficacy among adapted physical education teachers ( $\beta = .66$ ; BCI = .18, 1.13) than general physical education teachers with no difference in other outcome variables between groups. This finding could be due to a lack of training on out-of-school physical activity promotion in teacher preparation programs and institutional limitations on adapted physical education.

**Keywords:** Children; Disabilities; Sedentary behavior

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## Introduction

Physical activity participation among children with disabilities has been reported to be less than their peers without disabilities (Downs, Fairclough, Knowles, & Boddy, 2016; Sit et al., 2017). Sit and colleagues (2017) found that children with disabilities spend about 70% of their time in sedentary behavior. This lack of physical activity time is concerning as physical activity is a protective factor against secondary and associated conditions related to the primary disability (Rimmer & Rowland, 2008). Additionally, researchers have indicated that cardio-metabolic risk factors, body composition, psychological health, and social engagement are associated with regular physical activity among youth (Jenkins, Evenson, Herring, Hales, & Stevens, 2017; Rimmer & Rowland, 2008). The need to facilitate physical activity engagement of individuals with disabilities has been highlighted as a major public health goal in Healthy People 2020 (United States Department of Health and Human Services [USDHHS], 2010). For youth physical activity participation, school-based promotion efforts are a way to reach a large, captive audience of children. Whereas international efforts have expanded to whole school physical activity promotion, physical education remains the main avenue for physical activity participation in the United States (Dudley, Okely, Pearson, & Cotton, 2011; McKenzie & Lounsbery, 2014; Thorburn, Jess, & Atencio, 2011).

Currently, physical activity promotion literature is available on general physical education (GPE) classes and GPE teachers but little emphasis has been placed on adapted physical education (APE) (Yun & Beamer, 2018). Within GPE, researchers have shown success in programs aimed at increasing physical activity time during class time (McKenzie, McConkey, & Adams, 2014). However, this success is only a small part of improving overall physical activity engagement as physical education classes do not meet with sufficient frequency or duration for children to accumulate the 60 minutes of recommended physical activity a day (Palmer & Bycura, 2014; USDHHS, 2008). Moreover, children tend to be more active during days that they have physical education than days they do not have physical education and thus are not making up for the lack of structured activity time independently (Alderman et al., 2012; Meyer et al., 2011). As children and youth with disabilities participate in very low levels of school-based physical activity, and fewer active after-school

programs, and more sedentary amusements than typically developing peers (Rimmer & Rowland, 2008), these trends likely hold true for children with disabilities as well.

From a training perspective, GPE teachers have reported feeling unprepared to promote out-of-school physical activity engagement despite it being one of the many goals of physical education (Alfrey, Webb, & Cale, 2012; Castelli & Williams, 2007). Health professionals have been increasing attention on physical education as an organic mechanism in which to provide children with the knowledge and skills necessary to engage in physical activity 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 physical activity independently has long been recognized by general and adapted physical education 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). Researchers have noted the importance of teachers' behavior as a facilitating factor in students' engagement in physical activity during GPE (Jin & Yun, 2013). The positive influence of teachers along with the established teaching standard around building physically literate individuals make physical education a logical avenue for meeting physical activity promotion needs.

Instilling skills for lifelong physical activity engagement in their students may be even more critical for APE teachers than their GPE counterparts. Outside of school, parents of children with disabilities tend to enroll their children in more programs facilitating social skills than programs of other goals (Antle, 2008). Moreover, children with disabilities have less access to community based physical activity programs than their typically developing peers as there are few community programs that are accessible to them (USDHHS, 2010). As a result, the school setting may be the most reliable source of physical activity behavior development for children with disabilities. When examining facilitating factors for physical activity engagement among children with physical disabilities, King et al. (2006) found that support from physical education teachers acted as a facilitator for informal physical activity participation. Considering the lack of availability of community-based physical activity programming for individuals with disabilities and the potential for teachers to positively influence physical activity behaviors, incorporating physical activity promotion concepts may be critical elements in fostering lifetime physical activity habits and good health for individuals in APE.

Researchers who examined various behaviors of APE teachers have found, like the larger body of literature on predicting behavior, that the exploration of teaching behaviors should come from the lenses of integrated theories (Rhodes & Nigg, 2011). One such commonly utilized integration of theory is the theory of reasoned action (Ajzen & Fishbein, 1980) with the self-efficacy theory (Bandura, 1977). The theory of reasoned action includes the distal factors of attitudes toward a behavior and social normative beliefs (or how an individual believes significant others in their life feel about a particular behavior). These distal factors then influence intention which, in turn, influences behavior. The theory of reasoned action has undergone a newer iteration as the theory of planned behavior which added the concept of perceived behavioral control (or how much control an individual believes they have over performing a particular behavior). In both theories, these proximal factors influence intention which in turn influences engaging in the behavior (Ajzen & Fishbein, 1980). Researchers have debated the utility of including self-efficacy and perceived behavioral control in the same model as some consider them too similar in concept to merit inclusion of both (Bandura, 1997) and others have highlighted the differences in the specificity of the concepts (Hagger, Chatzisarantis, & Biddle, 2002). Perceived behavioral control is considered more general in nature while self-efficacy is measured with more specific items (Roberts, 2010). Researchers have found that self-efficacy provides unique variance not captured in perceived behavioral control and thus is a distinct and important factor (Hagger et al., 2002, Jin & Yun 2018; Roberts, 2010). Moreover, researchers examining the intention of physical education teachers in regards to instructional decisions found that perceived behavioral control was not a significant predictor of intention (Green,

2013). Due to the interest in capturing specificity, self-efficacy was utilized as a unique concept within the theoretical framework of this study. Additionally, researchers have found evidence of a gap between intention and behavior which suggests that the addition of the concept of implementation intention (which examines the extent to which an individual has made a detailed plan to carry out the behavior (Gollwitzer, 1993)) further improves the strength of the theoretical basis (Armitage & Conner, 2000; Gollwitzer, 1993; Roberts, 2010). Jin and Yun (2018) examined physical activity levels in inclusive middle school physical education and found better behavioral predictability with the inclusion of implementation intention in an integrated framework.

Differences in perceptions of physical activity promotion may exist between GPE and APE teachers due to differences in sought after knowledge and skills between the fields (Lytle, Lavay, & Rizzo, 2010). It has been noted that high-quality APE teachers need not only master the requirements of GPE but also be able to apply these concepts to children with disabilities. This application of skills requires additional content knowledge in special education law, behavior management, modifications, assessment, and designing and implementing individualized education plans (Lytle et al., 2010). Emphasis of these additional skills and a noted lack of importance placed on physical activity promotion within APE teacher preparation (Yun & Beamer, 2018) may differentially impact the incorporation of physical activity promotion into teacher preparation for APE and GPE. Differences in teacher training could result in differences in perceived social normative beliefs and opportunities to practice physical activity promotion which in turn could influence self-efficacy levels (Bandura, 2004). Differences in social norms and/or self-efficacy would ultimately result in differences in intention, implementation intention, and behavior in promoting physical activity. Therefore, this study utilizes an expanded, integrated theoretical framework (TRA, Self-efficacy and implementation intention; see figure 1 below) to examine factors that could contribute to physical activity promotion behaviors of APE teachers. These results were then compared to data previously collected with GPE teachers. Due to the differing nature of job requirements between GPE and APE teachers, it is hypothesized that APE teachers will have a more difficult time with out-of-school physical activity promotion than GPE teachers.

## Materials and Methods

### Participants

A total of 253 people participated in this study, 208 GPE teachers and 45 APE teachers in the United States. Demographic information for all participants is depicted in Table 1. Whereas GPE 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 GPE counterparts with 14% having a Doctoral degree, and 85% having a graduate degree compared to 1% and 63% respectively. Pearson's Chi-Squared test revealed that there was a significant association between education level and group,  $\chi^2(3, n = 253) = 23.28, p < .001$ .

### Instruments

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 physical education 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 physical activity 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 physical activity with out-of-school physical activity promotion as the subject of the questions. For all variables, composite scores were obtained by adding the item scores for each variable and dividing that sum by the total number of items for the variable, for an overall score between one and seven, where seven indicates

higher/more favorable physical activity motivation beliefs and behaviors. Reliability of the instrument within this data set was calculated and presented in table 2 below.

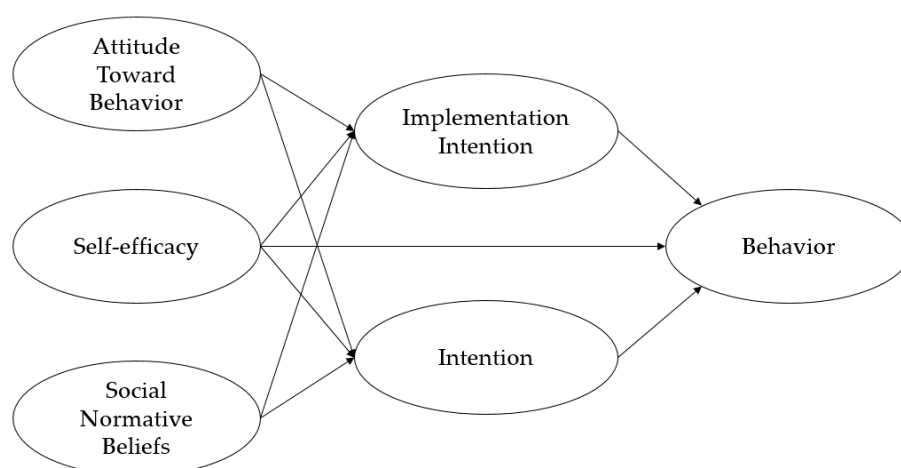


Figure 1. Integrated Theoretical Framework

Table 1. Demographic Characteristics of Participants

	GPE Teachers % (n)	APE Teachers % (n)
Sex		
Male	50.1% (105)	25.0% (11)
Female	49.9% (103)	75.0% (34)
Race		
Caucasian	91.0% (190)	95.0% (43)
African American/Black	5.0% (10)	0.0%
Asian	1.0% (2)	0.0%
American Indian/Alaskan Native	0.0%	2.0% (1)
Other Race	3.0% (6)	2.0% (1)
Education		
Bachelors	33.0% (69)	9.0% (4)
Masters	62.0% (129)	71.0% (32)
PhD	1.0% (3)	14.0% (6)
Primary focus on PE in degree	94.0% (195)	96.0% (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

Key: PhD= Doctoral Degree; PE= Physical Education; GPE= General Physical Education

## Procedures

APE teachers were recruited through a list of the teachers who obtained a National APE Certification from the National Consortium of Physical Education and Recreation of Individuals with Disabilities. The targeted list consists of teachers who passed the APE National Standards (APENS) national certification exam between 2010 and 2015. In addition, APE teachers were recruited from a national conference for APE.

APE teachers registered on the APENS 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 teachers on the list serve. These participants completed the survey confidentially 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. APE teachers recruited through an APE 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.

Table 2. Description, number of items and reliability of instruments with Cronbach’s alpha

Construct	Items	Alpha	Likert Scale
Attitude	7	.92	7 point bipolar pair (e.g. beneficial to not beneficial)
Subjective Norm	8	.90	7 point (strongly agree to strongly disagree)
Self-efficacy	6	.91	7 point (completely confident to completely not confident)
Intention	5	.78	7 point (Strongly agree to Strongly disagree)
Implementation Intention	4	.98	7 point (Strongly agree to Strongly disagree)
Promotion Behavior	4	.72	7 point (very often to not at all)

GPE teachers were recruited using a stratified random sampling method. 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 GPE teachers for each school. When more than one GPE teacher was listed for the school, random selection was used to select the teacher 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 and initial contacts (2687 emailed and 348 mailed) 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.

GPE teachers who were emailed the survey link completed the survey confidentially online through Qualtrics (Alfrey et al., 2012; Castelli & Williams, 2007) (Qualtrics, Provo, UT). 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. GPE teachers who were 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 10.2% among GPE teachers. Prior to

any research activity, this study was approved by the institutional review board and all participants completed informed consent before participation.

## 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, all surveys with greater than 10% missing data were removed from the data set (83 total; 20 APE teachers and 62 GPE teachers) resulting in a total of 253 (45 APE teachers and 208 GPE teachers) surveys included in the analysis. 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 were considered missing at random, missing data were 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 answer the first research question descriptive statistics and confidence intervals were calculated. To answer the research question on differences in physical activity promotion factors between groups, six separate multiple linear regressions were run on self-efficacy, social normative beliefs, attitude toward behavior, intention, implementation intention, and behavior, with education level (BSc, MSc, PhD) and type of educator (general physical educators (GPE) or adapted physical educators (APE)) as the independent variables. All independent variables were dummy coded to distinguish between types of educator (APE as the reference group) and education level (MSc as the reference group). All analyses were conducted using SPSS 23 (IBM Corp, 2015) with an alpha level set at .05.

## Results

APE teachers reported fewer minutes per week of physical education class time (93.7 minutes/week) and smaller class sizes (15.8 students) compared to GPE teachers (127.8 min/week; 28 students). For behavior, 17.8% of APE teachers promoted out-of-school physical activity at least once a week, 51.1% one to three times a month, and 31.1% less than once a month compared to 23.1%, 59.1%, and 17.8% of GPE teachers respectively. For attitude, 95.7% of APE and 97.1% of GPE teachers had favorable attitudes toward out-of-school physical activity promotion with 57.8% of APE and 56.7% of GPE teachers feeling very favorable about out-of-school physical activity promotion. Among APE teachers, 71.1% had confidence in their ability to promote out-of-school physical activity with 22.2% reporting they were completely confident. Among GPE teachers, 83.2% reported they were confident in their abilities to promote out-of-school physical activity with 25.0% reporting they were completely confident. APE (60.0%) and GPE (59.6%) teachers reported feeling as though out-of-school physical activity promotion was valued among their peer groups. Only 33.0% of both APE and GPE teachers reported having any implementation intention and 55.6% of APE and 69.2% of GPE teachers reported any intention to promote out-of-school physical activity.

To answer the research question on examining differences in physical activity promotion beliefs, intentions, and behaviors, regression analyses were run. Descriptive properties of the outcome variables are depicted in Table 3. For both groups, the variable with the highest average score was attitude toward physical activity promotion (6.39 for APE and 6.3 GPE teachers) and the variable with the lowest average score was implementation intention (3.59 for APE and 3.57 for GPE teachers).

Regression results on examining differences in major variables are depicted in Table 4. 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 Bachelor's degrees have lower levels of intention for promoting out-of-school physical activity during physical education (-.483; bias-corrected bootstrapping CI= -.914, -.007), regardless of whether they teach GPE or APE. A between groups difference was present in self-efficacy with APE teachers (M=4.98) having lower self-efficacy than GPE teachers (M=5.54) with a  $\beta$  of .660 and bootstrapping CI of .178 to 1.132.

Table 3. Descriptive Properties of Major Outcome Variables

Variable	APE			GPE			Mann-Whitney Test	
	M	SD	SE	M	SD	SE	U	p
Behavior	3.69	1.24	.18	4.04	1.11	.08	3935.0	.09
Attitude	6.36	1.00	.15	6.34	.825	.06	4410.0	.52
Self-efficacy	4.98	1.52	.23	5.54	1.10	.08	3745.0	.04
Social normative beliefs	4.55	1.08	.16	4.68	1.16	.08	4411.5	.55
Implementation intention	3.59	1.72	.26	3.57	1.60	.11	4670.5	.98
Intention	4.74	1.76	.26	4.99	1.53	.10	4306.5	.40

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

Key: APE= Adapted Physical Education; GPE= General Physical Education; M= Mean; SD= Standard Deviation; SE= Standard Error; U= Mann-Whitney test statistic; p= asymmetrical significance (2-tailed)

## Discussion

The researchers' purposes in conducting this study were to examine beliefs, intentions, and behavior of out-of-school physical activity promotion among APE teachers and comparing these beliefs, intentions, and behaviors to those of GPE teachers. Teachers in this study reported high scores for attitudes toward promoting out-of-school physical activity (6.3 on a seven point scale). Previously, researchers have shown that GPE and APE teachers have favorable attitudes towards teaching strategies promoting physical and social health of students (Jeong & Block, 2011; Martin & Kulinna, 2004; Wang et al., 2015). Behaviors scores (3.6 for APE and 4.0 for GPE teachers) were considerably lower than attitude scores indicating that other factors outweigh the influence of attitude on behavior. Attitude has been found to be a significant predictor of teacher behaviors related to teaching inclusive classes (Conatser, Block, & Gansneder, 2002; Jeong & Block, 2011), integrating physical activity into lessons (Martin & Kulinna, 2004), and utilizing physical activity as a behavior management strategy (Burak, Rosenthal, & Richards, 2013). However, when examining teaching strategies related to additional curriculum components into GPE classes, Green (2013) found that attitude did not predict inclusion of nutrition education. As the researchers of this study also focused on the incorporating of an additional component in class (i.e. promoting out-of-school physical activity), other factors outside of attitudes may be more influential in expanding the scope of physical education than other teaching strategies (i.e. inclusion of children with disabilities).

Scores for self-efficacy and social normative beliefs, though lower than attitude, were also higher than the scores for behavior for both GPE and APE teachers which would also indicate a disconnect between these constructs and behavior. Researchers have indicated that social normative beliefs predict behavior related to multiple aspects of teaching GPE and APE (Burak et al., 2013; Green, 2013; Jeong & Block, 2011; Martin & Kulinna, 2004) and that self-efficacy predicts behavior in teaching GPE (Pan et al., 2013). Based on the results of this study, researchers found that APE teachers possess higher levels of education but significantly lower self-efficacy for physical activity promotion compared to GPE teachers. As seen through theoretical models, self-efficacy has a direct connection to intention as well as behavior and is considered a major predictive factor of behavior (Bandura, 2004). In the context of GPE teaching practice, self-efficacy has been shown to influence the development of lesson plans and enactment of teaching strategies in the classroom and physical activity engagement in physical education (Jin & Yun, 2018; Pan et al., 2013). Utilizing a portion of the additional training for APE teachers to provide supported practice opportunities to promote out-of-school physical activity may be a way to improve self-efficacy.

Table 4. Multiple Linear Regression Results for Major Outcome Variables by Education Level and Group with Bias Corrected Bootstrapping Confidence Intervals

	$\beta$	Bias	SE	95% CI		R <sup>2</sup>
				Lower	Upper	
Behavior						
BSc	.09	.01	.21	-.05	.79	.02
PhD	.35	.00	.16	-.21	.42	
Group	.37	-.01	.39	-.52	1.03	
Attitude						
BSc	-.01	.00	.12	-.24	.26	.02
PhD	-.64	-.01	.48	-1.69	.18	
Group	-.04	-.01	.15	-.36	.26	
Self- Efficacy						.04
BSc	-.13	.00	.16	-.45	.20	
PhD	-.07	.01	.57	-1.22	1.01	
Group	.66*	-.01	.25	.18	1.13	
Subjective Norm						.00
BSc	.05	.00	.16	-.26	.34	
PhD	-.09	-.01	.45	-1.14	.73	
Group	.13	-.00	.18	-.23	.47	
Implementation Intention						.00
BSc	.19	.01	.24	-.27	.66	
PhD	.15	.02	.52	-.96	1.11	
Group	.09	.00	.28	-.45	.67	
Intention						.03
BSc	-.48*	.01	.23	-.91	-.01	
PhD	-.29	-.04	.80	-1.95	1.22	
Group	.40	-.01	.27	-.16	.93	

Note: Group refers to general or adapted physical education teachers. Master's degree is the reference level for education and adapted physical education is the reference level for group.

Key: BSc= Bachelor's degree; PhD= Doctoral degree;  $\beta$ = regression coefficient; SE= Standard Error; CI= confidence Interval; R<sup>2</sup>= Model Fit

Determinants of self-efficacy include mastery experience (i.e. past success in the specified behavior), vicarious experience (i.e. watching others perform the behavior), verbal persuasion (i.e. response received from others after performing the behaviors), and physiological response to the performing the behavior (Bandura, 1997). Positive past attempts with the behavior along with positive responses from others and physiological response to the behavior can contribute on increased self-efficacy for promoting out-of-school physical activity in APE classes (Bandura, 1997). Considering this link between practice and self-efficacy (Bandura, 1997), the lower levels of self-efficacy seen among APE teachers in this study suggest lack of training in this effort. In fact, Yun and Beamer (2018) suggested that promoting physical activity has not been widely advocated for and/or accepted in APE. Rather, the focus of APE has largely been skill development and/or modification of traditional sports and games (Yun & Beamer, 2018). Expanding current APE teacher education training programs to include more opportunities to engage in physical activity promotion could result in increased self-efficacy and thus higher rates of actual promotion in APE. For example, teachers in training could be required to periodically incorporate out-of-school physical activity promotion into their APE lesson plans as a specific focus. This strategy would provide for recurring opportunities to practice physical activity promotion and build mastery experience as well as to receive positive feedback on promotion to build self-efficacy (Bandura, 1986).

Despite the inclusion of developing physically literate individuals as a teaching standard, GPE teachers report feeling unprepared by their own teacher education program to incorporate physical



activity promotion into physical education 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 physical activity among their students (Thom, 2011). The low self-efficacy reported by teachers in this study may be considered an indicator of poor preparation as previous experience is considered a critical factor in improving self-efficacy (Bandura, 1986). The lack of physical activity promotion training in teacher education programs is reflected in international commentaries about the shifting nature of physical education 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” teacher education programs, or those that emphasize the skills that GPE and APE teachers need to promote physical activity outside of class as well as to restructure the school environment to better facilitate physical activity promotion (McKenzie & Lounsbery, 2014; Thorburn et al., 2011). To meet this shifting ideology of physical education, physical education training programs could benefit from taking full school approach to promoting physical activity like that documented in Scotland (Thorburn, & Atencio, 2011). Thorburn and Atencio (2011) describe a whole school approach where the physical education teacher works closely with the school administration and classroom teachers to make physical activity engagement of students a priority for the entire school. Utilization of a school-wide approach could address teachers’ attitudes toward and perceived social norms of promoting physical activity as this approach provides the teachers with a cooperative network that recognizes the importance of physical activity promotion by both their colleagues and their superiors. Coordinated, school-wide efforts could improve aspects predicting promotion behaviors, however, whole school approaches require a shift in current school-wide physical activity promotion ideologies in schools that rely on physical education alone to meet this need.

In addition to lack of physical activity promotion training, a lack of community based accessible physical activity programs could make out-of-school physical activity promotion especially difficult for APE teachers (Bloemen et al., 2014; Shields, Synnot, & Barr, 2012). National recognition of the lack of adapted programming as a major health concern has been shown by the United States Department of Education. Through a Dear Colleague letter written in December 2013 (USDE, 2013), the US Department of Education detailed their position in support of prioritizing extracurricular activities for students with disabilities in accordance with legislation (IDEA and section 504). Even with federal support, 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 APE teachers with knowledge of these programs and tools to facilitate program development (e.g. pooling resources across smaller schools/districts) may improve physical activity promotion (Tymeson, 2013). Although there is considerable variability between European education systems, legislation, and out-of-school physical activity opportunities for individuals with disabilities (Klavina & Kudlacek, 2011), historically, out of school physical activity has been a focus of physical education to a much greater extent among European education systems than those in the United States (DePauw & Doll-Teppe, 1989). The European Standards in adapted physical activity project includes objectives focused on building competency in APA for sports and rehabilitation as well as in schools (Kudlacek & Barrett, 2011). However, like the United States, European guidelines for promotion of out-of-school physical activity as an occupational goal of APE teachers may not be clearly outlined. Even with provisions for adapted sport and rehabilitation within communities, without placing an emphasis within APE teachers’ jobs of preparing their student to engage in these activities on their own, children may not develop the skills necessary to engage in sport and recreational activities.

In addition to community-wide factors, job related factors might also be preventing APE teachers from reaching the self-efficacy level seen in GPE teachers. Overall, physical education resources are continuously in danger as physical education funding is among the first to be decreased when budgets are cut and restructured (SHAPE, 2016). This strain on resources is common to GPE and APE teachers alike. However, APE teachers tend to be marginalized within both special education and GPE 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 GPE 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 social support necessary to positively impact self-efficacy and promotion behaviors. Overall, the results of this study have lead the researchers to conclude that APE teachers have favorable attitudes for promoting out-of-school physical activity, however, other variables like a lack of planning prevent the translation of these attitudes into promotional behaviors.

Limitations for this study include the return rate of surveys, availability of contact information, and the completeness of the registries. The number of adapted physical educators sent the survey is unknown as the survey was sent out via a registry by an administrator on the researchers' behalf, therefore it is not possible to calculate the return rate for this portion of the sample. The return rate for GPE teachers was 10.9% which is lower than desired for survey based research however, this return rate is comparable to the return rate seen in other studies that used similar recruitment methods. Additionally, this study was limited by both the National Center on Education Statistics and APENS listings. As individuals for both participant groups were recruited through these list-serves, the sample was limited to those included on the list serve which may not have been up to date and therefore missing some schools or individuals who should have been included.

### Conclusions

Both GPE and APE teachers report favorable attitudes towards out-of-school physical activity promotion. Behavior scores were considerably lower than attitude scores indicating that other factors may influence the incorporation of out-of-school physical activity promotion into lessons. Implementation intention had the lowest score of any of the theoretical components that influence behavior. APE teachers reported significantly lower self-efficacy scores than GPE teachers. As a result, APE teachers may benefit from more opportunities in making detailed plans for and practicing promotion of out-of-school physical activity in classes during teacher preparation. This practice could improve self-efficacy and implantation scores and in turn increase how frequently APE teachers promote out-of-school physical activity in lessons.

### Perspectives

Researchers can utilize the results of this study to inform new knowledge on the promotion of out-of-school physical activity in APE. Physical educators have previously indicated that they feel unprepared to promote out-of-school physical activity (Alfrey et al., 2012; Castelli & Williams, 2007). In the current study, APE teachers reported lower self-efficacy for out-of-school physical activity promotion despite having higher education levels. These results align with notions of previous studies that call for greater integration of out-of-school physical activity promotion into physical education teacher education programs (McKenzie & Lounsbery, 2014; Thorburn et al., 2011). Additionally, the low score for implementation intention indicates a need to improve out-of-school physical activity promotion planning. Incorporating out-of-school physical activity promotion into lesson plans could be a way to improve implementation intention through a strategy that is natural to APE teachers' current knowledge and skill base (i.e. lesson planning). Therefore, professionals can integrate the current results into their knowledge of APE teachers' beliefs and intentions for out-of-school physical activity promotion and evaluate and expand on APE teacher training.

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