Survey Development Examining the Association of Socialization and Physical Educator CSPAP Involvement

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Abstract

Nationally, 76% of school-aged children fail to meet recommendations for 60 minutes of daily physical activity (PA). To increase school-based PA, a comprehensive school physical activity program (CSPAP) is recommended. A CSPAP is a multicomponent, "whole-of-school approach" that includes five components: (a) quality physical education, (b) PA during school, (c) PA before and after school, (d) staff involvement, and (e) family and community engagement. Of the school faculty, physical educators possess the qualities of a physical activity leader (PAL; i.e., organize, lead, and promote PA) which are recommended to be an implementor of CSPAP but prerequisite training for specialized PAL skills is needed. Physical education teacher education (PETE) programs are viewed as an ideal setting for such training to occur.

Research on the association of PAL and CSPAP training during PETE and current CSPAP involvement of physical educators is sparse. Additionally, limited research has investigated how physical educator experiences with PA promotion as a K-12 student or how school contexts during employment are associated with CSPAP involvement. To adequately explore these gaps in the literature, teacher socialization in physical education theory (socialization) is a recommended theoretical lens to use. Thus, the purpose of research was twofold: (1) develop and evaluate the psychometric properties of a survey instrument measuring the association of socialization and physical educator's self-reported CSPAP involvement, and (2) to examine in-service physical education teachers' CSPAP involvement from the perspective of socialization using a sample of physical education teachers in the United States.

In the first study, survey instrument items were constructed organically using validated instruments in the existing CSPAP and socialization literature, then they were reviewed by experts in the areas of CSPAP and socialization for content validity. Next, a convenience sample of physical education teachers (N=70) was contacted to complete the survey as a pilot test to evaluate the survey's psychometric properties. A total of 28 physical education teachers (40% response rate) submitted completed surveys. Evaluation of the psychometric properties of survey items was accomplished using two methods: (1) principal component analysis (PCA) and (2) Bayesian exploratory factor analysis (BEFA). In addition, an analysis of the open-ended survey questions was conducted to understand participants'

perceptions with more detail and further explain the quantitative results. Pilot test data exemplified quality measures of corresponding components, survey scales had high internal consistency coefficients, and a review of open-ended questions provided contextual value to survey constructs and further clarified close-ended survey responses.

The purpose of the second study was to examine in-service physical education teachers' CSPAP involvement from the perspective of socialization using the previously developed survey instrument. The survey was sent to a sample of physical education teachers (*N*=2,976), which were identified using stratified random sampling from a list of all United States public schools. The survey remained open for five weeks and a total of 199 physical educators completed the survey (7% response rate). Due to a low response rate from the stratified sample, the survey was distributed by a link via social media (i.e., Facebook). The survey was posted on social media two times within a period of 21 days and generated an additional 60 responses. In combination, the stratified sample and social media response total was *N*=259 in-service physical education teachers within the United States.

Descriptive statistics were calculated, and an exploratory structural equation modeling (ESEM) framework was used to identify the factors underlying the data and examine structural relationships. A total of 31 survey variables were used to examine the socialization factors (i.e., acculturation [AC], professional socialization [PS], organizational socialization [OS]) underlying the data, and three variables to separately estimate a single factor measuring role breadth self-efficacy (RBSE) of physical educator confidence to be a PAL and implementor of CSPAP. In addition, four open-ended survey questions were analyzed to better understand the participant's experiences related to each factor.

The survey variables had an approximately normal distribution and exploratory procedures yielded a 3-factor solution that clearly described distinct dimensions of socialization. The ESEM results showed that the PS and OS factors were significant predictors of RBSE factor scores, whereas the AC factor was not a significant predictor of RBSE factor scores. In addition, the open-ended qualitative responses from physical education teachers supported PS and OS predictors of RBSE factor scores.

The results of this study provide an initial glimpse into the socialization factors associated with physical education teacher's CSPAP involvement. In-service physical education teachers who receive PS experiences with PAL and CSPAP training are confident

to be a PAL in their school and are confident to implement a CSPAP. In addition, support from students, faculty, and administration, and having available facilities and resources were associated with physical educators' involvement and confidence leading CSPAP initiatives. Our results suggest, (1) PETE program training of pre-service teachers to be PALs and implementors of CSPAP is of value and (2) continued support from school contexts are necessary to increase physical educator confidence to be involved with CSPAP and sustain program longevity.

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Dedication

I dedicate this dissertation to my support system.

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List of Acronyms

AC	Acculturation
CSPAP	Comprehensive School Physical Activity Program
OS	Organizational Socialization
PA	Physical Activity
PAL	Physical Activity Leader
PETE	Physical Education Teacher Education
PS	Professional Socialization
RBSE	Role Breadth Self-Efficacy
Socialization	Teacher Socialization in Physical Education Theory

Chapter 1: Introduction

This dissertation consists of two studies that examine the association of teacher socialization in physical education (socialization) and in-service physical education teachers' comprehensive school physical activity program (CSPAP) involvement. The purpose of Study 1 was to develop and evaluate the psychometric properties of a survey instrument measuring the association of socialization and physical educator's self-reported CSPAP involvement. The purpose of Study 2 was to examine in-service physical education teachers' CSPAP involvement from the perspective of socialization using a sample of physical education teachers in the United States. Chapter 1 provides a general introduction and rationale for the entire dissertation, and specific purpose and research questions for each of the two studies.

Background

Physical activity (PA) engagement has numerous health benefits, including the reduction of chronic diseases related to sedentary behavior (Centers of Disease Control [CDC], 2020a; National Physical Activity Plan Alliance [NPAPA], 2018). Currently, 76% of school aged children in the United States fail to meet the nationally recommended 60 minutes a day of PA (CDC, 2020a; Institute of Medicine [IOM], 2013; NPAPA, 2018). Youth spend on average six to eight hours per day on school campuses (National Center for Education Statistics [NCES], 2016). Thus, schools have been identified as ideal settings to provide health-enhancing "whole-of-school" (i.e., school-wide) programs aimed at improving student PA because of their infrastructure, influential environment, and access to youth (IOM, 2013; NPAPA, 2018; Pate et al., 2006). Additionally, schools have the necessary facilities, equipment, and leadership resources (e.g., classroom teachers, physical education teachers, coaches, administrators) to aid in the implementation of health-enhancing programs for students (McKenzie & Lounsbery, 2013; Slater et al., 2012).

In tandem with schools being identified as key settings for health promotion, school health, public health, and education sectors have made a call for greater collaboration between entities (e.g., health departments) to improve children's health (CDC, 2020b). From this call, the Whole School, Whole Community, Whole Child (WSCC) model was developed by the CDC. The WSCC model provides a framework for strong, collaborative approaches to learning that focus on all aspects of students' health (CDC, 2020b). The WSCC model

focuses on school health and wellbeing through ten components: (a) health education, (b) nutrition and education services, (c) employee wellness, (d) social and emotional climate, (e) physical environment, (f) health services, (g) counseling, psychological and social services, (h) community involvement, (i) family engagement, and (j) physical education and PA (CDC, 2020b).

Physical education classes are considered a viable setting for students to achieve health enhancing levels of PA and address the physical education and PA component of the WSCC model (CDC, 2013; CDC, 2020b; Society of Health and Physical Educators [SHAPE] America, 2015, 2020). The SHAPE America (2018) recommends students receive weekly allotments of physical education instruction per week: 150 minutes for elementary schools and 225 minutes for secondary schools. Even though standards-based daily physical education is recommended (SHAPE America, 2018), the majority of K-12 schools fail to meet those recommendations (CDC, 2015; NPAPA, 2018). For example, less than one-third of schools in the United States require physical education to be taught at least three days a week (i.e., 15% of elementary schools, 9% of middle schools, and 6% of high schools; NPAPA, 2018). Additionally, no federal law mandates instructional time requirements per week for physical education in K-12 schools (Kohl & Cook, 2013; McKenzie & Lounsbery, 2009; Story et al., 2009), and few states have school instructional time requirement laws for physical education (NPAPA, 2018; Sallis et al., 2012).

Due to physical education time being limited in K-12 schools, alternative ways to help children achieve health-enhancing levels of PA during school needed to be identified. Thus, the CDC partnered with SHAPE America to endorse a “whole-of-school” PA approach called the comprehensive school physical activity program (CSPAP) framework (CDC, 2013; SHAPE America, 2015, 2020). The CSPAP was designed to align with the physical education and PA component in the larger WSCC model (CDC, 2013). The CSPAP framework encompasses five components designed to work synergistically to help students achieve 60 minutes of PA before, during, and after school (CDC, 2013; SHAPE America, 2015, 2020). The five components of CSPAP include: (a) quality physical education, (b) PA opportunities during school, (c) PA opportunities before and after school, (d) staff involvement, and (e) family and community engagement (CDC, 2013; SHAPE America, 2015, 2020).

A CSPAP needs a leader to implement and sustain program goals (Carson, 2012; Dauenhauer et al., 2018). Of the school faculty, physical educators are identified as an ideal candidate to implement CSPAP within a K-12 school setting due to their faculty role and ability to lead developmentally appropriate PA (Erwin et al., 2013; Webster & Nesbitt, 2017). In addition, persons in a school who lead CSPAP (e.g., physical educators) are increasingly being identified as a PA leader (PAL; Carson, 2012; Carson et al., 2020; Castelli & Beighle, 2007; Dauenhauer et al., 2018). A PAL promotes PA inside and outside the school arena to confront inactivity and reinforce healthy active lifestyle behaviors in students, families, and the general community (Carson, 2012; Erwin et al., 2013; Webster & Nesbitt, 2017). As a PAL, physical educators are positioned to lead, advocate, and organize among key school stakeholders to initiate "whole-of-school" PA programs, such as CSPAP (Carson, 2012; Castelli & Beighle, 2007; Dauenhauer et al., 2018).

To be effective PALs of CSPAP, physical educators need prerequisite training and practical experience organizing and implementing such programs (Beighle et al., 2009; Dauenhauer et al., 2018; Kelder et al., 2014). Therefore, teacher preparation programs, such as physical education teacher education (PETE) programs, are viewed as ideal settings for PAL and CSPAP training to occur (Beighle et al., 2009; Dauenhauer et al., 2018; Webster & Nesbitt, 2017). However, the type of training preservice physical educators obtain from physical education teacher education (PETE) programs is largely dictated by requirements set forth by the Council for the Accreditation of Educator Preparation (CAEP, 2013), individual state departments of education, and university departmental priorities (Carson & Webster, 2020). Teacher preparation programs must navigate an educational environment that includes prescribed university credit limits and national accreditation requirements (CAEP, 2013; Carson & Webster, 2020). Additionally, professional organizations set teacher education standards for certification of physical education teachers (SHAPE America, 2017). Of the SHAPE America (2017) teaching standards, a requirement for first year physical education teachers to be able to describe PA promotion, organization, and advocacy strategies for "expanded PA opportunities" inside and outside the school setting (i.e., standard six, objectives 6.b and 6.c) is included. However, requirements for hands-on PA promotion (e.g., CSPAP-related experiences) are absent, so PETE programs are less likely to shift their curriculum focus (Carson & Webster, 2020; Webster et al., 2016a). In addition,

many PETE faculty members view CSPAP components as irrelevant to physical education teachers' professional responsibilities (Webster et al., 2016a).

In spite of opposition from some PETE faculty and the difficulties of balancing university and accreditation requirements (CAEP, 2013), several PETE programs have adjusted their curriculums to train pre-service teachers to become competent leaders of CSPAP (Brusseau, 2017; Bulger & Jones, 2017; Carson et al., 2017; Castelli et al., 2017; Centeio & McCaughtry, 2017; Ciotto & Fede, 2017; Dauenhauer et al., 2018; Doolittle & Virgilio, 2017; Erwin et al., 2017; Goc Karp et al., 2017; Heidorn & Mosier, 2017; Van der Mars et al., 2017; Webster, 2017). These pioneering PETE programs most often integrate PAL and CSPAP content knowledge and experiences into existing coursework (Carson et al., 2017; Kwon et al., 2019; Webster et al., 2016a, 2016b). The PETE training experiences with CSPAP, and expanded PA promotion, often include partnerships with local schools to conduct needs assessments, collect data, apply skills, and hands-on experiences implementing components of CSPAP during teaching practica and student teaching (Carson et al., 2017; Castelli et al., 2017; Webster et al., 2016b).

As PETE programs add CSPAP-related experiences and content knowledge within coursework requirements, research indicates positive outcomes for preservice teachers (Egan et al., 2022; Goh et al., 2019, 2020; Kwon et al., 2018; McMullen et al., 2014; Merica et al., in press; Webster et al., 2017). Specifically, pre-service teachers who experience CSPAP content knowledge and component implementations within coursework express positive attitudes towards CSPAP programming (Goh et al., 2019, 2020; Kwon et al., 2018; McMullen et al., 2014; Merica et al., in press; Webster et al., 2017). Additionally, preservice teachers who implement CSPAP components during practicum coursework indicate increased levels of confidence and competency leading future CSPAPs, and value for leading expanded PA programs in K-12 schools (Egan et al., 2022; Goh et al., 2019, 2020; Kwon et al., 2018; Merica et al., in press; Webster et al., 2017).

Theoretical Framework

Teacher socialization in physical education theory (socialization) relates to how a physical educator's attitudes, beliefs, and teaching practices are influenced by their lived experiences within physical education (Lacey, 1977; Lawson, 1983a, 1983b; Richards et al., 2014, 2019). Specifically, physical education teachers develop an inherent idea of what it

means to be a teacher, and specifically how to teach physical education based upon lived experiences throughout a lifetime (Lawson, 1983a, 1983b, 1986). Socialization theory encompasses three non-linear phases of a teacher's educational career: (a) acculturation (AC; i.e., childhood experiences of being a K-12 student that impact a teacher's attitudes and behaviors toward the teaching profession), (b) professional socialization (PS; i.e., PETE program training of skills, values, and knowledge needed to teach physical education), and (c) organizational socialization (OS; i.e., influence of a school setting upon becoming a full-time teacher; Lacey, 1977; Lawson, 1983a, 1983b; Richards et al., 2014, 2019). Each socialization phase influences a physical educator's attitudes, beliefs, and pedagogical practices within physical education as an in-service teacher (Lawson, 1983b; Richards et al., 2019).

AC is the first phase of teacher socialization in physical education. The AC timeline includes the formal educational experiences as a K-12 student and encompasses initial socialization into the teaching profession and specifically teaching physical education (Curtner-Smith, 1997; Lawson, 1983a). Throughout the lived experiences as a K-12 student, individuals develop an understanding of what it means to be a teacher and how to teach physical education based upon the role modeling of their physical education teachers (Lawson, 1983a, 1983b; Richards et al., 2019). A physical education teacher's attitudes, beliefs, classroom management, and teaching styles contribute to student dispositions toward physical education content and personal beliefs for being an "effective" physical education teacher (Graber, 1991; Lawson, 1983a; Richards et al., 2019). Research suggests a potential recruit (i.e., high school graduate) decides to enter a PETE program based upon positive AC experiences. Specifically, recruits are more likely to enter PETE programs if they are a successful participant in PA, physical education, sport, have a desire to coach, or are positively influenced by mentors in the PA setting (i.e., physical education teachers, coaches, parents; Lawson, 1983a, 1983b; Richards et al., 2019).

The second phase of socialization is PS. Of the three phases in socialization, the PS phase provides an opportunity to "acquire and maintain the values, sensitivities, skills and knowledge that are deemed ideal for teaching physical education" (Lawson, 1983b, p.4). Teacher candidates enter PETE programs (i.e., PS) with inherent beliefs of what it means to be a physical education teacher based upon influential experiences during childhood as a K-

12 student (i.e., AC; Richards et al., 2019). A PETE program is designed to socialize preservice teachers to become qualified physical education teachers by providing necessary content knowledge, pedagogical knowledge, and pedagogical content knowledge within physical education (Rovegno, 1992; Shulman, 1987).

The PS experiences within PETE programs typically includes, but is not limited to, curricular content knowledge, pedagogical practice, teaching practicums and student teaching (Ayers & Housner, 2008; Richards et al., 2019). The impact PETE program training has on physical educators is said to be varied (e.g., quality of the program and belief system of PETE faculty; Curtner-Smith, 2001, 2007; Curtner-Smith et al., 2008), but there is promise PETE programs can reshape preservice teachers' ideologies (Graber, 1991, 1998). As it relates to CSPAP, the PETE programs who adjust their curriculums to include CSPAP-related content and experiences do so with the intention of PS influencing future teaching behaviors, practices, and beliefs (Lawson, 1983a, 1983b; Richards et al., 2019).

The third phase, OS, refer to the process of new members (i.e., preservice teachers, first year teachers) learning the culture of an organization (i.e., school; Lawson, 1983a). Learning of school culture includes the "…behaviors and perspectives customary and desirable within the work setting, along with what ones are not" (Van Maanen & Schein, 1979, p. 211-212). Ultimately, physical education teachers new to a school organization respond to normalcies and beliefs by either implementing their knowledge bases learned in PS (i.e., PETE training) or adopt normalized and accepted practices aligned within their current school culture (Lawson, 1983a, 1983b; Richards et al., 2019). Adoption of accepted practices often leads to a "wash out" of teacher education training (Lawson 1983a; Curtner-Smith, 2001). Thus, the OS phase of teacher socialization theory is often a detriment to the training PETE programs provide to preservice students (Richards et al., 2014, 2019). Based upon OS literature within physical education, new physical educators of a school organization respond in three ways: (a) custodianship (e.g., accepting the status quo, existing practices and system), (b) content innovation (e.g., adopting new teaching practices, changing routines to achieve goals), or (c) role innovation (e.g., rejecting the current system, redefining and modifying objectives of the system; Van Maanen & Schein, 1979; Lawson, 1983a, 1983b; Curtner-Smith, 2001, 2007; Richards et al., 2014).

Study Purposes and Research Questions

The majority of CSPAP research has focused on individual programs, students, or school and child outcomes (Hunt & Metzler, 2017; Carson & Webster, 2020). Research suggests that PETE students who experience CSPAP training become confident and desire leading CSPAP in the future (Egan et al., 2022; Goh et al., 2019, 2020; Kwon et al., 2018; Merica et al., in press; Webster et al., 2017), although minimal research has investigated the association of socialization and current CSPAP involvement of physical educators in the field (Carson & Webster 2020; Chen & Gu, 2018; Erwin et al., 2013; Hunt & Metzler, 2017; Richards et al., 2019). It is vital to explore factors related to lived experiences of physical educators in order to inform a better understanding of their current involvement with CSPAP. Based upon the scope of CSPAP literature, it is worthy of exploration using a socialization theoretical lens (Carson & Webster, 2020). Thus, the purpose of this dissertation is to examine in-service physical education teachers' CSPAP involvement from the perspective of socialization theory. Research is conducted via two studies.

Study 1. The purpose of Study 1 is to develop a survey instrument for measuring in-service physical education teachers' socialization experiences and CSPAP involvement, and to examine the instrument's psychometric properties. The survey instrument measures latent factors associated with in-service physical education teachers' self-reported CSPAP-related socialization (i.e., AC, PS, OS) and involvement. The research question grounding Study 1:

- What latent factors underlie in-service physical education teachers' self-reported CSPAP-related socialization and involvement?

Study 2. The purposes of Study 2 are to: (a) continue an evaluation of the instrument's psychometric properties, and (b) examine the association of physical educators' socialization experiences and confidence with respect to CSPAP implementation. The data collected for Study 1 is used to conduct Study 2. The research question and sub-questions underlying Study 2 are:

- What is the association of in-service physical education teachers' socialization experiences and CSPAP involvement?
    - What are the associations between in-service physical education teachers' experiences with PA promotion and CSPAP-related activities during AC (e.g., lived experiences as a K-12 student) and current CSPAP involvement?

- What are the associations between in-service physical education teachers' preservice training experiences (e.g., PS learning experiences related to CSPAP) and current CSPAP involvement (e.g., extent of involvement in different CSPAP components)?
- What are the associations between OS (e.g., school climate, policy, routines) and in-service physical education teacher's CSPAP-involvement?

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Chapter 2: Literature Review

The purpose of chapter two is to provide a comprehensive literature review informing both research studies. Chapter two is organized into the following sections: (a) whole-of-school physical activity (PA) programming, (b) comprehensive school physical activity programs (CSPAP), (c) physical activity leader (PAL), (d) PAL training, (e) physical education teacher education (PETE), (f) PETE experiences with CSPAP training, (g) teacher socialization in physical education theory (socialization), and (g) a summary connecting gaps in the literature pertaining to the research study aims.

Whole-of-School PA Programs

Since the 1980's, youth obesity rates have risen in tandem with decreased time spent being physically active, which has prompted extensive health-based programming and research efforts in school settings (Carson & Webster, 2020). To combat rates of inactivity and obesity, the United States Department of Health and Human Services (USDHHS) created the Healthy People initiative for the American population (USDHHS, 1990). The Healthy People initiative sets national objectives to improve the health and well-being of Americans over the upcoming decade (USDHHS, 1990; USDHHS, 2021). Within the Healthy People initiative, PA objectives are established for K-12 schools and for school-aged children to achieve during the upcoming decade (USDHHS, 2021). Specific school-based PA objectives include: (a) an increased proportion of students who meet current federal PA guidelines (objective PA-3), (b) an increased proportion of the nation's public and private schools that require daily physical education for all students (objective PA-4), and (c) an increase of regularly scheduled elementary school recess in the United States (objective PA-6; USDHHS, 2021). Nationally, K-12 schools develop PA policies and guidelines to meet Healthy People recommendations established for the school setting (Carson & Webster, 2020; USDHHS, 2021).

Based upon the development of initial USDHHS (1990) Healthy People objectives, the Centers of Disease Control (CDC) developed a whole-of-school and community-specific set of guidelines for increasing PA among school-aged children (CDC, 1997). The CDC (1997) *Guidelines for School and Community Programs to Promote Lifelong Physical Activity Among Young People* provided a foundation for a comprehensive framework to be developed for achieving PA goals within school settings. Recommendations set forth within

the CDC (1997) guidelines included developing partnerships among school and community stakeholders (e.g., school administrators and public health officials), and changes within school policy (e.g., increase PA opportunities during school) to promote a physically active lifestyle among school-aged children.

Despite national recommendations for increasing PA opportunities in K-12 schools (CDC, 1997; CDC, 2015; USDHHS, 2021), school-aged children are not meeting the recommended 60 minutes of daily PA (Institute of Medicine [IOM], 2013; National Physical Activity Plan Alliance [NPAPA], 2018). School-aged children who meet recommendations for PA are at a decreased risk for chronic diseases, such as heart disease, obesity, and type 2 diabetes (CDC, 2020a). In addition, school-aged children who are more active than their sedentary peers demonstrate higher levels of academic achievement, memory, and concentration (CDC, 2020a; Dwyer et al., 2001). Of the waking hours, school-aged children spend 97% of their time on K-12 school campuses (National Center for Education Statistics [NCES], 2016), 80-93% of that time is spent being sedentary (NPAPA, 2018). Thus, schools are identified as an ideal setting for targeted whole-of-school PA interventions (i.e., comprehensive model) due to their existing infrastructure, resources, access to K-12 students (IOM, 2013; Pate et al., 2006), and established national school-based PA objectives (USDHHS, 2021).

Whole-of-school program initiatives to combat sedentary behaviors and increase K-12 students' PA levels throughout the school day is not a novel concept (Pate et al., 2006). School PA promotion and initiatives to increase student health behaviors have been prevalent among America's K-12 schools since the colonial period (Allensworth et al., 1997). Benjamin Franklin advocated for school-aged children to achieve a "healthful situation" and promoted physical exercise as a primary subject to be included within the development of school curriculums (Allensworth et al., 1997). Increasing the PA levels of school-aged children was a priority amongst leaders in education throughout the nineteenth and twentieth century with the incorporation of physical training or "gymnastics", which would later become identified as physical education (Allensworth et al., 1997; Lee & Bennett, 1985).

Quality physical education is viewed as an ideal setting for K-12 students to accumulate PA during school and is a cornerstone for "whole-of-school" PA programs (CDC, 2013; CDC, 2020a; Society of Health and Physical Educators [SHAPE] America,

2015, 2018). The physical education national standards (SHAPE America, 2013a) related to PA include student outcomes for demonstrating the knowledge and skills to achieve and maintain a health-enhancing level of PA and fitness (i.e., Standard 3). Moreover, participation in physical education helps students develop health-enhancing behaviors and an identity as a physically active person (Dishman, 2013; IOM, 2013). The SHAPE America (2018) recommends school-aged children receive weekly allotments of instructional time in physical education: 150 minutes for elementary students and 225 minutes for secondary students. In addition, the USDHHS Healthy People objectives (2021) support increasing the proportion of K-12 schools that require daily physical education by the year 2030 (i.e., Objective PA-4; 4.8% of elementary schools, 11.5% of middle schools, and 2.3% of high schools).

Daily physical education is needed to help school-aged children accumulate the recommended 60 minutes of PA per day and contribute to physical, social, and cognitive development (IOM, 2013). Even though physical education and PA recommendations are advocated by national organizations (NPAPA, 2018; SHAPE America, 2018; USDHHS, 2021), no federal education law mandates instructional time requirements per week for physical education in K-12 schools (Kohl & Cook, 2013; McKenzie & Lounsbery, 2009; Story et al., 2009). Nationwide, K-12 schools are failing to meet SHAPE America's (2018) weekly instructional time recommendations for physical education (Ogden et al., 2016; Sallis et al., 2012; NPAPA, 2018). In addition, few states have school instructional time requirement laws for physical education (Sallis et al., 2012), and rates of daily physical education instruction among school-aged children have declined since 1991 (Clennin et al., 2018). Currently, less than one-third of schools in the United States require physical education to be taught at least three days a week (i.e., 15% of elementary schools, 9% of middle schools, and 6% of high schools; NPAPA, 2018).

Due to challenging circumstances, physical educators are unable to solve schoolwide inactivity alone (e.g., limited instructional time, not a required course; Carson & Webster, 2020; McKenzie & Lounsbery, 2009; Ogden et al., 2016; Sallis et al., 2012). However, the CDC (2020b) endorses collaboration among school and community stakeholders (e.g., administrators, physical educators, health department officials) to positively impact school-aged children's PA behaviors. In addition, the CDC (2013, 2020b) recommendations for

collaboration include creating partnerships among school stakeholders (e.g., classroom teachers, physical educators, administrators) to increase the allotment of PA a student receives throughout the school day. Thus, the "whole-of-school" PA initiatives that partner quality physical education with school and community PA programs are identified as an ideal method for achieving school-based PA and physical education objectives (CDC, 1997; CDC, 2013; CDC, 2020b; SHAPE, 2013b, 2015, 2020). The proposal for stakeholder collaboration introduced in CDC (1997) guidelines would later become a steppingstone toward a more formal "whole-of-school" PA initiative, known as a comprehensive school physical activity program (CSPAP; CDC, 2013; SHAPE, 2013b, 2015, 2020).

CSPAP

In 2004, national legislation (Public Law 108-265) was passed (i.e., Child Nutrition and Women, Infants, and Children [WIC] Reauthorization Act of 2004) mandating schools who receive federal funding develop wellness policies to address student health (i.e., nutrition education, food service; National Association for Sport and Physical Education [NASPE], 2008; now SHAPE America). The main goal for the Child Nutrition and WIC Reauthorization Act of 2004 was to incorporate stakeholder expertise (e.g., health departments, school administrators) to develop nutrition and wellness policies in K-12 schools (Carson & Webster, 2020). Of the school wellness policies established within the 2004 legislation, a K-12 school requirement to address student PA needs was included (NASPE, 2008). To address the newly passed legislation (Public Law 108-265), CDC (1997) guidelines, and Healthy People (1990) objectives, NASPE published a position statement introducing the CSPAP framework (NASPE, 2008).

The CSPAP was conceptualized to help schools provide K-12 students opportunities to achieve recommended levels of PA per day in conjunction with physical education classes (CDC 2013; NASPE, 2008; SHAPE America, 2013b). As previously mentioned, physical education is deemed as necessary for helping K-12 students achieve recommended levels of PA (IOM, 2013), but physical education cannot meet daily PA goals alone. A CSPAP is identified as a way of building upon K-12 school physical education, based on the assumption that physical education is necessary but insufficient for serving the PA needs of all youth (SHAPE America, 2013b; Carson & Webster, 2020). A CSPAP is a multi-component, whole-of-school framework designed to achieve two goals: (a) to develop

students' knowledge, skills, and confidence to be physically active for a lifetime, and (b) to provide students the opportunity to achieve 60 minutes of daily PA (SHAPE America, 2015). The components of a CSPAP include: (a) PA opportunities before and after school, (b) quality physical education, (c) during school PA opportunities, (d) staff involvement, and (e) family and community engagement (CDC, 2013; SHAPE America, 2015, 2020). Each component of the CSPAP framework is intended to work synergistically to achieve program goals, while incorporating partnerships among school and community stakeholders (CDC, 2013; SHAPE America, 2015, 2020).

Since the CSPAP inception, the definition of CSPAP has progressively shifted. The original definition and intention of CSPAP was for all five components to be implemented at the same time within the school setting (SHAPE America, 2013b; Webster et al., 2020a). However, traditional five-component CSPAP adoption has been low among schools across the nation (Alliance for Health, Physical Education, Recreation and Dance [AAHPERD], 2011; Brener et al., 2017). An early survey conducted by SHAPE America (then AAHPERD, 2011) found only 16% of elementary schools, 13% of middle schools, and 6% of high schools had adopted a five-component CSPAP. More recently, the CDC School Health Profiles reported only 3% of secondary schools had adopted a five-component CSPAP (Brener et al., 2017).

Child outcome research conducted on full five-component CSPAP implementations is limited (Chen & Gu, 2018; Erwin et al., 2013; Hunt & Metzler, 2017; Russ et al., 2015; Stoepker et al., 2020a). Additionally, the majority of CSPAP adoption research has aimed at identifying barriers (e.g., Cothran et al., 2010; Deslatte & Carson 2014; Jones et al., 2014; McMullen et al., 2014a; Michael et al., 2019) and facilitators (Carson et al., 2014a; Cothran et al., 2010; Goh et al., 2017; Michael et al., 2019) for implementation in K-12 schools. Due to limited five-component CSPAP adoption, researchers are envisioning CSPAP differently to achieve PA goals based on the contextual variables of each school setting (Webster et al., 2020a).

Webster and colleagues (2020a) believe sustainable CSPAP implementations are more achievable and feasible with less than five components being implemented simultaneously. A CSPAP consisting of less than five components implemented concurrently is identified as a "multicomponent CSPAP" (Webster et al., 2020a). A multicomponent

CSPAP includes quality physical education as the cornerstone component, with any combination of additional components implemented to achieve PA goals (i.e., quality physical education plus one, two, or three additional CSPAP components; Webster et al., 2020a). A multicomponent CSPAP is defined as,

> …any program, regardless of the number or variety of its components, that provided opportunities for all students at the school to meet the national guideline of 60 minutes of PA each day and develop knowledge, skills, and dispositions to lead a physically active lifestyle. (Webster et al., 2020b, p. 78)

Results from a recent national survey of physical educators indicated that over 70% of schools represented in the study implemented a CSPAP based on the definition of a multicomponent CSPAP (Webster et al., 2020b). Complementing a quality physical education program with additional CSPAP components is viewed as a more accommodating approach to increase motivation and engagement for people who lead CSPAP implementations (i.e., physical activity leaders [PALs]) in K-12 schools (Webster et al., 2020a).

Emerging evidence of multi-component CSPAP adoption suggests positive effects related to the health and academic outcomes for school-aged children (Hunt & Metzler, 2017). Specifically, early multi-component CSPAP research results indicate improvement of gross motor skills and cardiorespiratory endurance (Brusseau et al., 2018; Burns et al., 2017), daily step counts (Brusseau et al., 2016, 2018; Burns et al., 2015), PA enjoyment (Fu et al., 2016), and classroom on-task behavior (Burns et al., 2016). Implementing multicomponent CSPAPs suggest promising health and behavioral effects on school-aged children, but physical activity leaders (PALs) are needed to effectively implement CSPAP (Carson, 2012, 2013; Castelli & Beighle, 2007; Dauenhauer et al., 2018).

Of the K-12 school faculty, physical educators are often identified as potential PALs and leaders of CSPAP due to their ability to plan, organize, and instruct developmentally appropriate PA (Carson, 2012, 2013; Castelli & Beighle, 2007; Dauenhauer et al., 2018). Even though physical educators are identified as a PAL in the school, the majority of graduates from PETE programs and in-service physical education teachers have not received training to fulfill their PAL role (Dauenhauer et al., 2018; Webster et al., 2016a, 2016b). Thus, additional PAL training opportunities are needed for in-service and preservice physical

educators to be implementors of CSPAP (Dauenhauer et al., 2018; Stoepker et al., 2020a; Zhang et al., 2018).

PAL

In 2006, Pate et al. (2006) recommended K-12 schools provide a comprehensive, multifaceted approach for PA promotion beyond the physical education classroom. Soon thereafter, CSPAP was established, and leaders of whole-of-school PA programming were identified as "PA directors" (i.e., PAL; Beighle et al., 2009; Castelli & Beighle, 2007). The role of a PAL within the school setting is to develop, plan, and implement CSPAP components that maximize PA opportunities throughout the school day (i.e., before, during, and after school; Carson, 2012). As previously mentioned, physical education teachers are identified as ideal PALs because of their ability to organize, coordinate, and lead developmentally appropriate PA opportunities to school-aged children (Carson, 2012, 2013; Castelli & Beighle, 2007). However, beyond providing developmentally appropriate PA, there are a variety of other responsibilities required of PALs to be effective leaders of CSPAP (e.g., advocate for PA, organize PA opportunities, collaborate among school and community stakeholders; Carson, 2013; Stoepker et al. 2020a).

It was originally believed that PAL responsibilities should include being competent leaders of PA promotion, and the point person for leading all five components of a CSPAP (Beighle et al., 2009; Castelli & Beighle, 2007). However, Carson (2013) later defined the primary responsibility of a PAL as, "…to spearhead the creation of an active school culture where youth achieve and learn how to adopt the recommended amounts of 60 minutes of PA per day" (p.344). In addition, Carson (2013) stressed the responsibilities of a PAL should focus on coordinating at least two of the five CSPAP components. The aforementioned multicomponent view of CSPAP (i.e., quality physical education plus multiple components to achieve PA goals; Webster et al., 2020a) aligns with Carson's (2013) belief of a CSPAP as a framework that guides youth to achieve and learn to adopt recommended levels of PA per day.

Based upon PAL skillset recommendations (Beighle et al., 2009; Carson, 2012, 2013; Castelli & Beighle, 2007; Webster et al., 2015a, 2015b), Stoepker et al. (2020a) believe the necessary responsibilities of a PAL are to: (a) advocate for physical education and PA, (b) train school faculty on the value of health and PA, (c) be one of the primary organizers of

"whole-of-school" PA and health events, and (d) become knowledgeable and able to implement each CSPAP component based upon school health and PA needs. The responsibilities of a PAL are wide-ranging, thus, prerequisite PAL training for physical educators is recommended to become competent implementors of PA program initiatives (i.e., CSPAP; Carson, 2012; Dauenhauer et al., 2018; Webster et al., 2015b). Over the previous decade, training opportunities for in-service and preservice physical educators (i.e., professional development, university teacher education training) have been developed (Active Schools, 2020; Carson, 2012; Carson et al., 2017, 2020; Castelli et al., 2017; SHAPE America, 2021).

PAL Training

The majority of physical education teachers have not had the opportunity to receive PAL in-service teacher training until recently (Dauenhauer et al., 2018; SHAPE America, 2021). In 2011, SHAPE America spearheaded the first opportunities for in-service physical education teachers to receive training for becoming certified "directors of PA" (i.e., PALs; Carson, 2012). The PAL certification program organized by SHAPE America consisted of a one day six-hour training. Workshop activities included content knowledge of the CSPAP model, PA program initiatives, and steps for effective CSPAP implementation in K–12 schools (Dauenhauer et al., 2018). The PAL certification process following the one-day training included submitting artifacts of a CSPAP implementation action plan and the successful completion of a certification exam (Carson, 2012). From 2011-2013, SHAPE America's PAL certification program certified 440 participants (85% physical educators, 10% PETE faculty, 5% district staff; Dauenhauer et al., 2018).

Based upon lessons learned, the SHAPE America one day professional development training evolved into what is known today as the PAL Learning System (Carson, 2013; SHAPE, 2021). In 2013, the rollout of the PAL Learning System professional development came to fruition in conjunction with Michelle Obama's *Let's Move!* Active Schools initiative (Active Schools, 2020). The PAL Learning System organized by SHAPE America (2021) includes a one day in-person workshop with the CSPAP implementation guide (CDC, 2013). Workshop activities are intended to train K-12 school employees who want to create active learning environments and guarantee 60 minutes of PA per day for all students (SHAPE America, 2021). The training focuses on developing four competencies: (a) content

knowledge of PA integration, (b) leadership development to implement a CSPAP, (c) communication and promotion to advocate for PA, and (d) learning how to build relationships and collaborate among school stakeholders (SHAPE America, 2021). As of 2018, the PAL Learning System had reached 22,956 K-12 schools and 35,412 teachers (top three categories: 35% physical education teachers, 21% classroom teachers, 11% administrators, Active Schools, 2020).

The number of in-service teachers attending PAL professional development is growing, but systemic change in the physical education field requires preservice training adoption at the teacher education level (Zhang et al., 2018). Most in-service physical education teachers have not had the opportunity to receive preservice PAL training or CSPAP-related training within PETE programs (Dauenhauer et al., 2018). One way to increase the number of physical educators trained to be PALs in the field is by training preservice teachers in PETE programs (Beighle et al., 2009; Carson et al., 2017; Castelli et al., 2017; Dauenhauer et al., 2018).

PETE Programming

The mission of a PETE program is to provide: (a) initial preparation of teachers, (b) continued professional development of teachers, and (c) the improvement of physical education through development and sustainment of better school programs (Siedentop & Locke, 1997). Specifically, a PETE program develops foundational content knowledge, pedagogical knowledge, and pedagogical content knowledge (PCK) of preservice teachers to be able to lead quality physical education programs in K-12 schools (Fernadez-Balboa et al., 1996; Rink, 2007; Shulman, 1987). However, the discussion over "what knowledge is of most worth?" (Rink, 2007) for preservice teachers to acquire within PETE is widely debated (Ennis, 2014; McKenzie & Lounsbery, 2013; Metzler, 2014; Richardson, 2011; Silverman & Mercier, 2015; Ward, 2013).

Shulman (1987) believed effective teachers should have a knowledge base covering seven different categories: (a) content knowledge, (b) general pedagogical knowledge, (c) curriculum knowledge, (d) PCK, (e) knowledge of learners, (f) knowledge of contexts, and (g) knowledge of educational ends. While each knowledge base is viewed as vital for educator success, PCK is imperative for physical educators to exhibit due to the intricacies of leading groups through PA, and teaching motor skills and sport tactics in a classroom setting

(Metzler, 2014; Tsangaridou, 2006). Physical educators need PCK to "package" everything they understand about learners, the lesson, program goals, instructional strategies, the school, students, and community together (Silverman & Mercier, 2015; Tsangaridou, 2006).

Rink (2007) stressed the importance of PETE programs to include discipline knowledge within the broader kinesiology field to be applied to physical education content, "…giving students the skills, knowledge, and dispositions they need to lead a physically activity lifestyle requires knowledge and understandings from a variety of knowledge bases including the kinesiology subdisciplines" (p. 103). Advocacy for a deep understanding of content knowledge is echoed by Ward (2013), as well as Silverman and Mercier (2015) who indicate the value of PETE programs providing an array of content knowledge and teaching experiences that best prepare preservice teachers for the complexity of teaching physical education content.

In addition to developing PCK and content knowledge, the preparation of PETE students includes knowledge of contexts (e.g., school culture, climate, policy; Richardson, 2011; Shulman, 1987). Richardson (2011) noted PETE programs should prepare preservice physical education teachers to be effective in school settings where physical education is marginalized, rather than lead preservice teachers to believe additional learning outcomes can be achieved. Preparing for teaching limitations in physical education include being proficient with reduced instructional time, having limited classroom space, teaching large class sizes, and a lack of resources for leading physical education classes in K-12 schools (Richardson, 2011).

McKenzie and Lounsbery (2013) noted the role of PETE programs is to prepare preservice physical educators for teaching within a public health context, "Schools are the most cost-effective public health resources…physical educators are uniquely well positioned to provide and promote PA" (p. 419). Training to teach within a public health context includes curriculum and instruction focused on advancing public health goals (i.e., providing PA during class time, teaching movement and behavioral skills, and promoting PA and physical fitness; McKenzie and Lounsbery, 2013). Furthermore, Lawson (1998) stressed the "United States has a children's crisis" with physical education being eliminated from school curriculums due to the lack of connection of increasing health and physical activity behaviors. To add, Webster and colleagues (2015b) noted in a systematic review of public

health-aligned recommendations for preparing PETE students identified three major areas of focus; pre-service physical education teachers should (a) be physically active and fit role models, (b) have knowledge of behavior change theories, and (c) be able to advocate for school-based PA. Building on the notion of training preservice physical educators within a public health focus (Lawson, 1998; McKenzie & Lounsbery, 2013; Webster et al., 2015b), PETE colleagues have clamored for program alignment toward whole-of-school PA promotion and PAL training (Beighle et al., 2009; Carson et al., 2017; Castelli et al., 2017; Kelder et al., 2014; Webster & Nesbitt, 2017).

In addition to the calls for developing teachers' PCK knowledge (Metzler, 2014; Tsangaridou, 2006), content knowledge (Rink, 2007; Silverman and Mercier, 2015; Ward, 2013), knowledge of school contexts (Richardson, 2011), and preparation for teaching within a public health context (Lawson, 1998; McKenzie and Lounsbery, 2013; Webster et al., 2015b), the initial teaching standards set forth by SHAPE America (2017) overlap with these calls. The SHAPE America (2017) national standards for initial teaching in physical education provide PETE programs a framework to develop preservice teachers into competent and capable physical educators. Specifically, SHAPE America (2017) standards and objectives include: (1) content and foundational knowledge, (2) skillfulness and health-related fitness, (3) planning and implementation, (4) instructional delivery and management, (5) assessment of student learning, and (6) professional responsibility.

National teaching standards set by SHAPE America (2017) provide PETE programs an outline for performance-based assessment of preservice teachers' content knowledge, pedagogical knowledge, and PCK for teaching physical education. In addition, expectations within the SHAPE America (2017) initial teaching standards include physical educators being responsible for organizing and promoting PA in and outside of K-12 schools (e.g., PAL). Even though SHAPE America (2017) national standards do not specifically identify CSPAP, objective benchmarks are set for physical educators to be able to demonstrate the responsibilities of a PAL. Standard six objectives (i.e., 6.b and 6.c; SHAPE America, 2017) recommend preservice physical education teachers should "…demonstrate knowledge of promotion/advocacy strategies for physical education and expanded PA opportunities that support the development of physically literate individuals" (e.g., PAL).

To adequately achieve SHAPE America (2017) standard six objectives (i.e., 6.b and 6.c) and prepare future physical educators to become PALs, PETE programs have adopted a variety of learning experiences integrating PA promotion in K-12 schools and communities (Carson et al., 2017; Castelli et al., 2017). However, PETE programs are strained by requirements and recommendations set by the Council for the Accreditation of Educator Preparation (CAEP, 2013). The extensive CAEP (2013) accreditation requirements set for PETE programs do not include PAL or CSPAP-related training. In addition, PETE program coursework opportunities are reduced due to hyper-specificity of the kinesiology sub-disciplines (i.e., biomechanics, motor behavior; Carson & Webster, 2020; Rink, 2007). The reduction of PETE program course load opportunities in conjunction with CAEP (2013) accreditation requirements limit CSPAP and PAL training adoption (Webster et al., 2016a, 2016b). Further, the methods for achieving teacher preparation standards (CAEP, 2013; SHAPE America, 2017) are dependent upon individual PETE program philosophies for "what knowledge" preservice physical educators should acquire upon entering K-12 schools (Carson & Webster, 2020; Rink, 2007). Taking these points into consideration, integrating PAL and CSPAP training within PETE requires shared consensus among program faculty to adopt the public health focus (McKenzie & Lounsbery, 2013; Webster & Nesbitt, 2017). In addition, formal and annual evaluations are needed to examine PETE program training outcome effectiveness (Metzler & Tjeerdsma, 1998).

PETE Outcomes

Regardless of the learning opportunities and expectations a PETE program establishes, continual program assessment is important to determine if the program is having its intended impact (Cochran-Smith, 2003). Program assessment is identified as "…the sum of related activities used to gather, interpret, analyze and use information for making decisions and improvements in the implementation and effectiveness of an initial certification program" (Metzler & Tjeerdsma, 1998, p.470). There is a general lack of teacher education program assessment in the field teaching and teacher education (Galluzzo & Craig, 1990). Early program assessment researchers noted that teacher educators seem to know more about what is happening to students in public schools than what happens to students in their own classrooms (Graber, 1988). Strategies for ongoing PETE program assessment have been established to determine how well students have learned the intended knowledge, skills,

and dispositions related to teaching physical education (Gurvitch & Blankenship, 2008; Metzler & Tjeerdsma 2000; Woods & Lynn, 2001).

Each PETE program is not considered the same and cannot be expected to benefit from a uniform assessment tool. To complete ongoing and comprehensive PETE program assessment, Metzler and Tjeerdsma (1998) suggest the Development, Research, and Improvement (DRI) model. The DRI model is a customized assessment tool designed to assess prospective teachers' acquisition of national standards for beginning teachers (NASPE, 1995; now SHAPE America, 2017) and achieve CAPE (2013) accreditation requirements. Specifically, the assessment model is centered on questions which define individual PETE program success. Assessment tool questions include, 'what are we doing in this program?', 'what evidence will we accept as indication of program effectiveness?', and 'how do we use the collected evidence for making improvement in the program?' (Metzler & Tjeerdsma, 1998, p.473). Following the development of the DRI model (Metzler & Tjeerdsma, 1998), Georgia State University shared their experiences with the assessment model (Metzler & Tjeerdsma, 2000). Based upon DRI model assessment questions, faculty of the Georgia State University PETE program identified student work (e.g., unique lesson plans, teaching performance assessments, culminating projects) that provides evidence for meeting initial physical education teacher standards set forth by NASPE (1995), now SHAPE America (2017). Metzler and Tjeerdsma (2000) noted full faculty discourse and "buy-in" commitment is needed to implement the DRI model and make programming changes based upon outcomes. The DRI model is considered a framework to assist PETE programs for longitudinal self-assessment of program effectiveness (Metzler & Tjeerdsma, 1998).

Efforts to determine preservice teachers' longitudinal acquisition of PETE program knowledge bases, dispositions, and preferred pedagogical practices are minimal (Curtner-Smith et al., 2008; Gurvitch & Blankenship, 2008; Woods & Lynn, 2001). However, the limited longitudinal PETE program assessment research indicates professional training can positively impact physical education teachers' pedagogical practices in the field (Gurvitch & Blankenship, 2008; Woods & Lynn, 2001). For example, Woods and Lynn (2001) followed up with six PETE graduates from the University of South Florida after their first and tenth years teaching physical education. Research results suggest graduates continued to use lesson

content development introduced and practiced during PETE experiences (e.g., informing, extension, refinement, and application tasks, Rink, 2007; Woods & Lynn, 2001).

Additional longitudinal assessment of an individual PETE program at Georgia State University (Gurvitch and Blankenship, 2008) included contacting graduates from the previous five years. Data collection included a combination of questionnaire and interview data from PETE graduates currently teaching physical education. Research results suggest PETE graduates of Georgia State practiced traditional or direct teaching models and incorporated a variety of other teaching models in their classrooms (i.e., sport education model, cooperative learning, tactical games model). In addition, PETE graduates noted their implementation of multiple teaching models was due to the variety of experiences garnered in their professional training. Even though longitudinal research of program effectiveness is limited (Curtner-Smith et al., 2008; Gurvitch & Blankenship, 2008; Woods & Lynn, 2001), results support professional training in PETE programs influence future teaching practices in the field.

Longitudinal PETE program assessment literature (though limited) suggests positive associations between professional training and current involvement in the field (Gurvitch & Blankenship, 2008; Metzler & Tjeerdsma 2000; Woods & Lynn, 2001). A gap in the programming assessment literature is present as it relates to pre-service and in-service teachers' CSPAP and PAL-related training experiences and current involvement as in-service physical educators in the field (Carson & Webster, 2020). The evaluation of PETE-specific training practices related to whole-of-school PA advocacy and programming associated with current teacher practices and involvement in CSPAP is needed (Carson & Webster, 2020; Webster et al., 2020a, 2020b).

PETE Experiences with CSPAP

Physical educators are expected to be competent implementing CSPAPs, and it is recommended that in-service and preservice physical educators receive adequate training (Beighle et al., 2009). Demonstrating CSPAP competency includes: (a) leading a high-quality physical education program, (b) organizing PA opportunities inside and outside the school day, and (c) being an advocate for PA among administrators, parents, school-aged children, and the broader community (Kelder et al., 2014). To develop competency, PETE programs have been identified as ideal training settings to equip preservice teachers with the

necessary PAL skillset and knowledge base to implement CSPAPs (Beighle et al., 2009; Carson et al., 2014b).

Specific training recommendations for PETE preparation of preservice teachers to be PALs and competent in CSPAP include: (a) model driven reform of PETE programming using a health optimizing physical education model (Metzler et al., 2013) or external-internal partnership model (Webster et al., 2015a), (b) curriculum modification (e.g., addition of CSPAP content into teaching methods coursework, developing learning objectives aligned with CSPAP; Carson et al., 2017), (c) teaching internship restructuring to include CSPAP component implementation (Egan et al., 2022; Merica et al., in press; McMullen et al., 2014b; Webster et al., 2015a, 2015b), (d) collaboration with the cooperating teacher (i.e., support and cooperation between PETE and supervisor teacher; Portelance & Carson, 2016), and (e) CSPAP and PAL training certification within PETE (Carson, 2012; Zhang et al., 2018).

Despite recommendations for PAL and CSPAP training integration into PETE programs (Beighle et al., 2009; Carson et al., 2014b; Webster et al., 2015b; Zhang et al., 2018), systemic change among PETE programs to train preservice teachers for a PAL role in K-12 schools remains a challenge (Webster et al., 2016a, 2016b). Results from a nationwide survey found the many PETE faculty believe CSPAP-related training as irrelevant for the preparation of pre-service physical education teachers (Webster et al., 2016a). Nationwide, the preparation of future physical educators to become PALs and leaders of CSPAP is lagging among PETE programs (Zhang et al., 2018), but novel training initiatives in select PETE programs are emerging (Carson et al., 2017; Castelli et al., 2017).

The integration of PAL and CSPAP-related training in PETE is relatively new (Carson & Webster, 2020). In 2017, a series of articles in the Journal of Physical Education Recreation and Dance highlighted 12 PETE programs (i.e., Brusseau, 2017; Bulger & Jones, 2017; Carson et al., 2017; Centeio & McCaughtry, 2017; Ciotto & Fede, 2017; Dauenhauer et al., 2018; Doolittle & Virgilio, 2017; Erwin et al., 2017; Goc Karp et al., 2017; Heidorn & Mosier, 2017; Van der Mars et al., 2017; Webster, 2017) paving CSPAP integration into curriculum, teaching internships, and PAL certification (undergraduate level, $N = 7$; graduate level, $N = 3$; and both undergraduate and graduate levels, $N = 2$; Carson et al., 2017).

Specific examples of CSPAP and PAL training integration strategies emphasized within the PETE programs include: (a) coursework assignments (e.g., school PA policy analysis, CSPAP advocacy plans, community stakeholder interviews; Centeio & McCaughtry, 2017; Ciotto & Fede, 2017; Erwin et al., 2017; Goc Karp et al., 2017; Heidorn & Mosier, 2017; Van der Mars et al., 2017; Webster, 2017), (b) field experiences within K-12 schools (e.g., leading classroom brain breaks, analyzing student PA behaviors, implementing components of CSPAP; Bulger & Jones, 2017; Centeio & McCaughtry, 2017; Ciotto & Fede, 2017; Doolittle & Virgilio, 2017; Erwin et al., 2017; Goc Karp et al., 2017; Heidorn & Mosier, 2017; Van der Mars et al., 2017; Webster, 2017), (c) preservice teacher attendance at PAL certification workshops (Dauenhauer et al., 2018; Heidorn & Mosier, 2017; Van der Mars et al., 2017), and (d) graduate level research experiences examining student, teacher or school outcomes from CSPAP implementation (Brusseau, 2017; Dauenhauer et al., 2018; Webster, 2017). Even though PAL and CSPAP-related training opportunities are being provided in several pioneering PETE programs (Carson et al., 2017; Castelli et al., 2017), effectiveness of specific training practices is relatively unknown (Zhang et al., 2018).

The literature investigating the impact of PAL and CSPAP training on preservice teachers in PETE is limited (Carson & Webster, 2020; Chen & Gu, 2018; Erwin et al., 2013; Hunt & Metzler, 2017; Kwon et al., 2019). Emerging research indicates preservice teachers have positive dispositions towards PAL and CSPAP-related training experiences in their PETE program coursework (Egan et al., 2022; Goh et al., 2019, 2020; Kwon et al., 2018; McMullen et al., 2014b; Merica et al., in press). Kwon et al. (2018) surveyed PETE students and asked them to share experiences with CSPAP preparation in their PETE programs. Results indicated positive PETE student opinions about the role of physical educators as leaders of CSPAP. Even though PETE students indicated positive attitudes toward implementing CSPAP, PETE students also noted feeling unprepared to promote and implement expanded PA programing beyond physical education (Kwon et al., 2018). In addition, PETE students expressed a desire for additional experiences coordinating and organizing CSPAP with K-12 school faculty.

Feelings of unpreparedness are echoed by PETE majors in another CSPAP-related research study (McMullen et al., 2014b). A group of PETE majors enrolled in a teaching

internship course integrated before and after-school PA promotion. Based upon student teaching experiences with PA promotion, the PETE students indicated similar feelings unpreparedness and difficulty promoting PA outside of physical education class (McMullen et al., 2014b). Even though PETE students felt unprepared, overwhelming consensus for additional professional training experiences implementing out-of-class PA promotion in K-12 schools is echoed in the literature base (Goh et al., 2020; Kwon et al., 2018; Merica et al., in press; McMullen et al., 2014a).

Literature on CSPAP-related training experiences within PETE practicum courses is limited, but research indicates positive associations between training experiences and future implementation of CSPAP as an in-service teacher (Egan et al., 2022; Goh et al., 2019, 2020; McMullen et al., 2014b; Merica et al., in press; Webster et al., 2017). Specifically, integrating CSPAP implementations within teaching practicums suggest PETE students develop competency for leading CSPAP in the future (Merica et al., in press; Webster et al., 2017), and feel a sense of relatedness among classroom teachers and students (Goh et al., 2020). In addition, PETE student experiences implementing PA outside of physical education within service-learning based coursework is associated with positive PETE student dispositions toward the physical educator role as a PAL in schools (Egan et al., 2022; Webster et al., 2017). Research from Webster et al. (2017) and Egan et al. (2022) indicate PA promotion experiences (i.e., implementing a component of CSPAP) within a service-learning based course contributed to meaningful outcomes for PETE students. Specifically, PETE students developed personal connections among youth, parents, and school staff while promoting PA outside of physical education (Egan et al., 2022; Webster et al., 2017), all of which are part of the necessary skillset of a PAL (Carson, 2013; Stoepeker et al., 2020a).

Although research is limited, results suggest PETE students who experience CSPAP and PAL training have positive dispositions for future PA implementation as in-service teachers (Egan et al., 2022; Goh et al., 2019, 2020; Kown et al., 2018; Merica et al., in press; McMullen et al., 2014b; Webster et al., 2017). Based upon the limited existing literature of CSPAP integration in teacher preparation programs, additional research is needed to support the effectiveness of CSPAP and PAL training integration into PETE programs (Carson & Webster, 2020; Erwin et al., 2013; Hunt & Metzler, 2017). Specifically, additional research

is needed to understand the association of CSPAP-related training practices in PETE and current CSPAP involvement of in-service teachers (Carson & Webster, 2020).

In addition to CSPAP training effectiveness research, theoretically based research is needed to investigate physical educators' attitudes, perceptions, and involvement with CSPAP (Erwin et al., 2013; Chen & Gu, 2018; Hunt & Metzler, 2017). Few researchers have utilized theory to guide CSPAP research to interpret data and explain the underlying causes or influences of observable fact (Hunt & Metzler, 2017). Using theory-based research aids in the development of measurable outcomes, such as survey instrument development, to explain relationships among concepts (Erwin et al., 2013; Hunt & Metzler, 2017). Specifically, recommended theories to guide future CSPAP research in PETE should include diffusion of innovations (Webster et al., 2020c), social-ecological theory (Webster et al., 2013), and teacher socialization in physical education theory (socialization; Carson & Webster, 2020; Hunt & Metzler, 2017).

Teacher Socialization in Physical Education

Individuals learn skills, knowledge, values, and the norms of social groups or institutions through lived experiences, also known as socialization theory (Clausen, 1968). Socialization theory can be applied broadly across agents of socialization (i.e., social groups, school, work), but is most notably applied to researching the lived experience of assimilating into a specific occupational career (i.e., profession), more formally known as occupational socialization (Van Maanen & Schein, 1979). Occupational socialization theory guides how individuals make sense of the social and political processes of a profession. The lived experiences within an occupation frame an individual's assimilation into a given profession, such as the teaching profession (Van Maanen & Schein, 1979; Zeichner & Gore, 1990).

Grounded in occupational socialization, teacher socialization theory is a field of research dedicated to understanding the processes by which an individual decides to join the teaching profession and teach a specific academic area (i.e., math, science, physical education; Lacey, 1977; Zeichner & Gore, 1990). To understand the mediating factors which influence an individual to become a physical educator, the theory of teacher socialization in physical education was established (Lawson, 1983a).

Teacher socialization in physical education theory (socialization) refers an individual's formed assumptions about the teaching profession, and specifically about

teaching physical education. Specifically, socialization examines the association of lived experiences as a K-12 student, preservice teacher in professional training (i.e., PETE), and as an in-service teacher on current teaching beliefs, attitudes, and behaviors within physical education (Lawson, 1983a, 1983b). Lawson (1986) explained socialization as "…all the kinds of socialization that initially influence persons to enter the field of physical education and that later are responsible for their perceptions and actions as teacher educators and teachers" (p.107). Researchers have adopted a three-phase approach to understanding socialization, and is viewed as a nonlinear process (i.e., all forms of socialization do not occur at same time; Richards et al., 2014). Three distinct socialization phases across a physical educators lifetime include: (a) acculturation (AC; i.e., positive or negative experiences in childhood as a K-12 student which develop beliefs and attitudes toward the teaching profession and physical education), (b) professional socialization (PS; i.e., socialization into physical education as preservice teachers in PETE programs), and (c) organizational socialization (OS; i.e., socialization into the role as a teacher influenced by school contexts; Lacey, 1977; Lawson, 1983a, 1983b; 1986; Richards et al., 2014, 2019).

Acculturation (AC). The first phase of socialization is AC. The AC phase is the accumulation of lived experiences as a K-12 student within physical education, including interactions with physical education teachers and coaches (Lawson, 1983a, 1983b). Experiences and interactions with physical education are considered an apprenticeship of observation during AC (Lortie, 1975). Potential recruits into the field of teaching physical education develop subjective theories related to what it means to be an effective teacher and teach physical education based upon their lived experiences during the AC phase (Richards et al., 2014). A sweeping systematic review of socialization literature (Richards et al., 2019) found of the 111 socialization research studies conducted over the previous four decades, only 10 focused on the AC phase of socialization. Specifically, socialization research has investigated the influence of AC on current PETE students (e.g., Belka et al., 1991; Hutchinson, 1993; Placek et al., 1995; Ralph & MacPhail, 2015). Research indicates PETE students have a strong background and interest in sport (Belka et al., 1991; Ralph & MacPhail, 2015), coaching, and viewed physical education as a means to stay involved in sport (Hutchinson, 1993; Placek et al., 1995). In addition, the majority of PETE students reported experiencing K-12 physical education programs which focused on multi-sport units

and fitness, with less emphasis on noncompetitive activities (Placek et al., 1995). Moreover, PETE students indicated their parents, siblings, and past physical educators and coaches as influential for entering the physical education teaching profession (McCullick et al., 2012). Although it is known PETE students are heavily influenced by positive experiences with role models in sport and PA settings (McCullick et al., 2012; Placek et al., 1995), little is known if AC experiences with whole-of-school PA programs are associated with in-service physical educators' current involvement of PA promotion programs (Hunt & Metzler, 2017; Richards et al., 2019).

Professional Socialization (PS). The second phase of socialization is PS. Preservice teachers enter PETE programs (i.e., PS phase) with an inherent idea of what is means to be a teacher and physical educator based upon lived experiences as a K-12 student (i.e., AC; Lawson 1983a, 1983b). Through PETE, preservice teachers are trained in the knowledge, skills, and dispositions PETE faculty believe is necessary to become quality physical educators (Richards et al., 2014). In addition, PETE training includes challenging preservice teachers' subjective theories of teaching physical education developed during the 12 or more years as a K-12 student (Curtner-Smith et al., 2008; Richards et al., 2014).

Evidence suggests that the influence of PETE programs has been relatively mixed at altering preservice teacher's subjective theories related to what it means to be an effective physical educator (Curtner-Smith, 1999, 2001; Curtner-Smith et al., 2008; Graber, 1988; McKenzie & Lounsbery, 2013; Stran & Curtner-Smith, 2009). Often PETE programs meet resistance from preservice teachers during PS (Richards et al., 2013). Research suggests preservice teachers will often project an image of compliance related to PETE program goals and innovative teaching experiences but tend to revert to teaching methodologies and practices exposed to as a K-12 student (Graber, 1991; MacDonald & Tinning, 1995; Stroot & Ko, 2006).

In general, the socialization research regarding PS has focused narrowly on: (a) role and value orientations of PETE students (Bain & Wendt, 1983; Curtner-Smith, 1996; Ennis & Chen, 1993; Sofo & Curtner-Smith, 2010), (b) overcoming AC through intentional PS training in teacher education (i.e., PETE; Curtner-Smith, 1996, 2007; Graber, 1991, 1998; Macdonald & Tinning, 1995; McMahon & MacPhail, 2007), (c) the importance of field-based learning in PETE (Curtner-Smith, 2007; O'Sullivan & Tsangaridou, 1992; Placek &

Dodds, 1988; Wright et al., 2015), and (d) a focus on pedagogical models-based practice in field experiences related to teaching physical education (Curtner-Smith & Sofo, 2004; Harvey et al., 2015; McMahon & MacPhail, 2007; Stran & Curtner-Smith, 2010).

PS research focused on teaching role orientations suggests PETE students possess two orientations toward teaching physical education (i.e., teaching orientation and coaching orientation; Bain & Wendt, 1983; Curner-Smith, 1996; Ennis & Chen, 1993; Sofo & Curtner-Smith, 2010). The preservice teachers with a strong background in athletics align their role as a physical education teacher with a "coaching orientation," and students with less experience in athletics identify with a "teaching orientation" (Bain & Wendt, 1983). In addition, PS studies exploring the connection between role preference and value orientations (Ennis & Chen, 1993) found most preservice teachers enter PETE programs with a focus on disciplinary content (Stran & Curtner-Smith, 2009, 2010). Further, a consensus among the PETE community has been the importance for field-based experiences with purposeful reflection for facilitating preservice teacher development (Curtner-Smith, 2007; O'Sullivan & Tsangaridou, 1992; Richards et al., 2013). Field-based experiences which mirror preservice teacher's childhood experiences reinforce subjective theories, and lead to a "washing out" of content learned within PETE programs during PS (Lawson, 1983b; Richards et al., 2014).

PS research suggests PETE programs can develop preservice teacher orientation perspectives to emphasize PA and health promotion within physical education (Mordal-Moen & Green, 2014), technical teaching behaviors (Wright et al., 2015), and pedagogical models-based teaching practices (McMahon & MacPhail, 2007). In addition, PETE programs have potential to positively impact teaching behaviors related to teaching physical education (McMahon & MacPhail, 2007; Mordal-Moen & Green, 2014; Wright et al., 2015). PS research pertaining to CSPAP training in PETE is associated with positive beliefs, attitudes, and desire for implementing PA promotional programs in the future (Egan et al., 2022; Goh et al., 2019, 2020; Merica et al., in press; McMullen et al., 2014a; Webster et al., 2017). However, a gap in the research is present in relation to the association of PS experiences with CSPAP training and current CSPAP involvement of in-service physical educators (Carson & Webster, 2020; Hunt & Metzler, 2017; Richards et al., 2019).

Organizational Socialization (OS). The third phase of socialization refers to the OS that takes place in the context of schools. The graduates of PETE programs are socialized into the role of an in-service teacher based upon the context of a school environment (e.g., school climate, policies, co-teacher beliefs; Richards et al., 2019). The socialization research within OS has focused primarily in four areas: (a) bridging teacher education and teacher induction (Blankenship & Coleman, 2009; Graber, 1998; Keay, 2005; O'Sullivan, 1989), (b) the influence of biography and school culture on teaching practice (Curtner-Smith, 1997, 1999, 2001; Stylianou et al., 2013; Williams & Williamson, 1998; Wright 2001), (c) teacher knowledge and continuing professional development (Keay, 2006, 2007; Pissanos & Allison, 1996; Rhodes & Woods, 2012; Richards & Templin, 2011; Schempp, 1993), and (d) marginalization, burnout, and early-career attrition of physical educators (Lux & McCullick, 2011; O'Sullivan, 1989; Sparkes et al., 1993; Templin et al., 1994; Woods & Lynn, 2014).

Graduates of PETE programs transition into K-12 schools as neophyte teachers (i.e., teacher with less than five years of classroom experience; Richards et al., 2019). The structure of a school environment is customarily concerned with maintaining the "status quo" (Lawson, 1983a, p. 3), while traditionally prioritizing and rewarding experience over new knowledge (Richards et al., 2013). Neophyte teachers often struggle to compartmentalize the differences between activities embraced in the new school environment and those promoted in their PETE programs (Curtner-Smith et al., 2008; Lawson, 1986), such as implementing components of CSPAP. Often when neophyte physical educators comply with the "status quo" of customary practices, it is due to an alignment with a teacher's subjective theories developed during the AC phase of socialization (Curtner-Smith, 2001; Schempp et al., 1993). Ultimately, complying to traditional norms in a physical education program leads to a "washout" of learned experiences within PETE (e.g., PAL and CSPAP training; Blankenship & Coleman, 2009). Induction-assistance school initiatives that ease the transition for beginning teachers and pair neophyte teachers with experienced educators supportive of innovative teaching indicate positive OS outcomes (Keay, 2005; Richards & Templin, 2011). In addition, continued professional development is noted as a key factor for induction and building upon lessons learned in PETE (e.g., PAL training, Active Schools, 2020; Keay, 2007; Richards & Templin, 2011).

OS has been linked to the marginalization of physical education. Marginalization is a physical educator's feeling of being unappreciated or disconnected to the school's educational mission (Lux & McCullick, 2011). In addition, the marginalization of physical education within a school environment has contributed to teacher stress, burnout, and attrition (O'Sullivan, 1989; Macdonald, 1995). Research suggests physical education marginalization can be combatted by delivering high-quality programs, advocating for PA, health, physical education, and forging connections with school faculty, administrators, parents, and the broader community (Lux & McCullick, 2011). The strategies to combat marginalization are closely aligned to the competencies and expectations of implementing CSPAP as a PAL in schools (Kelder et al., 2014; Webster et al, 2020a). CSPAP literature has investigated barriers (Cothran et al., 2010; Deslatte & Carson, 2014; Jones et al., 2014; McMullen et al., 2014b) and facilitators (i.e., Carson et al., 2014a; Goh et al., 2017; Michael et al., 2019) related to successful CSPAP implementation. Literature uncovering the associations of OS and current CSPAP involvement of physical educators is relatively unknown and valuable to investigate. Socialization theory is a life-long process in which preprofessional experiences and learning become linked with professional values, beliefs, and behaviors (Lawson, 1983a; Lortie, 1975), however teacher self-efficacy (i.e., beliefs, confidence) related to lifetime experiences and teacher behaviors is advantageous to explore to better understand current practices of in-service teachers (Bandura, 1971).

Role Breadth Self Efficacy

Socialization experiences are associated with current behaviors of in-service teachers (Lawson, 1983a). However, the examination of socialization experiences related to teacher self-efficacy can further inform the degree to which experiences are associated with educator behaviors, attitudes, and beliefs (Bandura, 1977; Lawson, 1986). Teacher self-efficacy emphasizes the role of an individual's self-perceptions, and ultimately, decisions to engage in particular behaviors (Badura, 1971, 1977). The combined perspectives of socialization and teacher self-efficacy (i.e., beliefs, confidence, perceived competency) is a useful framework for examining the influence of lifetime experiences of physical education teachers to be a PAL and be involved with CSPAP (Carson & Webster, 2020; Webster et al., 2015c). Previous CSPAP literature investigating key elements of self-efficacy (i.e., teacher attitudes, behaviors, perceived competence) has examined: (a) biographical characteristics of

preservice classroom teachers and PA promotional attitudes (Webster, 2011; Webster et al., 2015c), (b) factors associated with physical educators being potential CSPAP adopters (Webster et al., 2020b), and (c) PETE faculty beliefs for preparing preservice teachers for CSPAP (Webster et al., 2016). One of the major themes delineated from research results was teacher confidence as a key dependent variable of pre-service and in-service teachers to be implementors of expanded PA opportunities, as well as implement CSPAP.

One way to examine teacher confidence to be a PAL and involved with CSPAP is by viewing physical educators' socialization experiences associated with their perceptions of role breadth self-efficacy (RBSE). The concept of self-efficacy refers to people's judgements about their capability to perform particular tasks (Bandura, 1986). Self-efficacy is an increasingly important construct within organizational research (Pinder, 2014), and more pointedly within research related to the self-efficacy of individuals to take on a particular role (e.g., PAL) or occupation (e.g., teaching; Bandura, 1977). RBSE refers to "the extent to which people feel confident that they can carry out a broader and more proactive role, beyond traditional prescribed technical requirements" (Parker, 1998, p. 835). To take on broader duties of an occupation, such as initiating programs (e.g., being a PAL and implement CSPAP), it requires individuals to be sufficiently confident in their abilities (Parker, 1998).

Of the mediating factors associated with RBSE and related to the CSPAP literature, a teachers' perceived confidence is identified as a key dependent variable for successful adoption of leading school-based PA promotion and CSPAP (Webster, 2011; Webster et al., 2010, 2013, 2015c). Previous research has explored the role of pre-service and in-service classroom teacher competency (i.e., confidence) to lead PA promotion in schools based upon their personal experiences as a K-12 student and coursework within teacher certification training (Allison et al., 1990; Morgan et al., 2001; Webster, 2011; Webster et al., 2010, 2013a, 2013b, 2015b). As it relates to pre-service training for CSPAP-related initiatives, Webster et al. (2010) and Webster (2011) explored pre-service classroom teachers' experiences in a course on school-based PA promotion. The pre-service teachers who took the course were more confident to teach physical education (Webster et al., 2010) and promote PA throughout the school (i.e., in the classroom, at recess, before and after school initiatives; Webster, 2011) than their peers who had not taken the course. Additionally, the

PAL and CSPAP-related training for pre-service physical education teachers suggest increased levels of confidence to lead PA promotion initiatives as an in-service teacher (Egan et al., 2022; Merica et al., in press; Webster et al., 2017). Investigation into the association of AC, PS, and OS experiences related to teacher confidence to be a PAL and be involved with CSPAP is largely unknown and should be explored (Carson & Webster, 2020).

Socialization experiences of a physical educator influence their teaching beliefs, attitudes, and behaviors (Lawson, 1983a). In order to examine how teacher confidence to be a PAL and be involved with CSPAP is associated with socialization experiences, RBSE is an ideal lens in which to use in conjunction with socialization theory. Relevant literature directly related to the association of socialization and confidence regarding these factors is largely absent (Carson & Webster 2020; Richards et al., 2019). Although this relationship is relatively unknown, researcher understanding of in-service teacher's current CSPAP involvement and being a PAL based upon the three phases of socialization (i.e., AC, PS, OS) is worthy of investigation. Additional research is needed to understand how the association of socialization experiences are related to physical educator confidence to be a PAL and be involved with CSPAP in schools.

Conclusion

School-aged children are not meeting the recommended amount of daily PA per day (IOM, 2013; NPAPA, 2018). Accumulating at least 60 minutes of daily PA leads to healthy bones, muscles, and a decreased risk for chronic diseases, such as heart disease, obesity, and type 2 diabetes (CDC, 2020a). The K-12 school campus setting is identified as ideal for whole-of-school initiatives and interventions to increase school-aged children's' PA levels (IOM, 2013; Pate et al., 2006). In addition, physical education classes are an opportune setting for students to achieve levels of PA, but the allotment of physical education instructional time within K-12 schools has increasingly diminished over the previous three decades (CDC, 2020a; McKenzie & Lounsbery, 2009; Sallis et al., 2012). To help K-12 students achieve recommended levels of PA and develop lifelong healthy active lifestyle behaviors, the CSPAP framework was developed (CDC, 2013; SHAPE, 2015; Webster et al., 2020a).

To be effective implementing a CSPAP, it is recommended schools elect a PAL to organize and implement whole-of-school PA promotional programs (i.e., CSPAP; Carson,

2012). Of the school faculty, physical educators are typically members of a school staff who are trained in providing developmentally appropriate PA, thus are ideal candidates to be PALs of a school (Carson, 2012; Carson, 2013). The majority of physical education teachers have not had the opportunity to receive PAL or CSPAP training within teacher education (i.e., PETE) or professional development (i.e., Active Schools, 2020). To initiate change within the physical education field, PETE programs are viewed as ideal settings to develop PAL skillsets and train physical educators to become leaders of CSPAP (Carson et al., 2017; Castelli et al., 2017; Webster & Nesbitt, 2017). Across the nation, pioneering PETE programs have integrated CSPAP preparation into their curriculum and teaching internships, and have included PAL certification opportunities (Carson et al., 2017; Castelli et al., 2017). Theoretically, the objective of PETE programs infusing CSPAP and PAL training are to change preservice teachers preconceived ideology of physical education developed during AC phase of socialization (Clausen, 1968; Lacey, 1977; Richards et al., 2019).

Based on lived experiences within the AC phase of socialization, preservice teachers develop an ideology of the physical educator role within K-12 schools (Lawson, 1983a). AC research indicates high school graduates are influenced to become physical educators based upon their strong background and interest in sports, coaching, and desire to stay involved in sport (Belka et al., 1991; Hutchinson, 1993; Placek et al., 1995; Ralph & MacPhail, 2015). In addition, high school graduates enter PETE programs due to positive family or educational influences during AC (i.e., influence of K-12 teachers and coaches to enter PETE; McCullick et al., 2012). However, minimal research has investigated the association of AC experiences in PA promotional programs (e.g., CSPAP) or the PA promotional behaviors of previous physical education teachers and in-service physical educator CSPAP involvement (Carson & Webster, 2020; Richards et al., 2019).

High school graduates enter PETE programs (i.e., PS) with an inherent idea of the physical educator role and profession based upon lived experiences as a K-12 student (Lawson, 1983a, 1983b). The goal of PETE programs in the PS phase is to challenge preservice teachers to question their preconceived beliefs and ideologies of physical education and develop necessary skills to teach physical education (Lawson, 1983a, 1983b). PS research suggests PETE programs develop preservice teachers' perspectives of emphasizing PA and health promotion in K-12 schools (Mordal-Moen & Green, 2014). In

addition, research related to CSPAP training experiences within PETE indicate positive preservice teacher orientations toward PA promotion in schools and CSPAP (Egan et al., 2022; Kown et al., 2018; Goh et al., 2019, 2020; Merica et al., in press; Webster et al., 2017). Presently, a gap in the literature pertaining to the association of PS (i.e., PETE training experiences) and current CSPAP involvement of in-service physical education teachers has yet to be explored (Carson & Webster, 2020; Hunt & Metzler, 2017; Richards et al., 2019).

OS is the process of prospective and experienced teachers accepting or unaccepting the ideology and value structure influenced and rewarded by a school organization (e.g., school climate, administrators, school district policies; Lawson, 1983b, 1986). The OS phase of teacher socialization theory often leads to a "washout" of PS influences on neophyte teachers (i.e., teachers with less than five years of teaching experience; Richards et al., 2019). The CSPAP literature has examined barriers (Cothran et al., 2010; Deslatte & Carson, 2014; Jones et al., 2014; McMullen et al., 2014b) and facilitators (i.e., Carson et al., 2014a; Goh et al., 2017; Michael et al., 2019) within K-12 schools (i.e., organizations) for effective CSPAP implementation, but little is known about the association of OS of physical education teachers and their CSPAP involvement (Carson & Webster, 2020; Richards et al., 2019).

Teacher confidence as a key dependent variable of pre-service and in-service teachers to be implementors of expanded PA opportunities, as well as implement CSPAP (Webster et al., 2010, 2015). One way to examine teacher confidence is by viewing physical educators' socialization experiences associated with their perceptions of role breadth self-efficacy to be a PAL and involved with CSPAP (Carson & Webster, 2020). Relevant literature directly related to the association of socialization and confidence regarding these factors is largely absent (Carson & Webster, 2020; Richards et al., 2019). Although this relationship is relatively unknown, researcher understanding of in-service teacher's current CSPAP involvement and being a PAL based upon the three phases of socialization (i.e., AC, PS, OS) is worthy of investigation. Thus, based on the thorough review of literature and research gaps present, there is a need to empirically examine the association of socialization phases (i.e., AC, PS, OS) and confidence with respect to physical educators' CSPAP involvement.

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Chapter 3: Measuring Physical Education Teacher Socialization with Respect to Comprehensive School Physical Activity Programming

School-aged children who participate in regular physical activity (PA) and achieve the recommended 60 minutes of PA per day experience several health benefits, such as the reduction of chronic diseases (i.e., type two diabetes, obesity) and improved self-esteem (Centers of Disease Control [CDC], 2020). However, 76% of American children fail to meet daily PA guidelines (National Physical Activity Plan Alliance [NPAPA], 2018). During school, K-12 students spend 80-93% of their time sedentary (CDC, 2020; NPAPA, 2018). Schools thus present a key setting for increasing children's PA opportunities (CDC, 2013; NPAPA, 2018).

The CDC (2015) recommends a comprehensive school physical activity program (CSPAP) as the national framework for school-based PA. A CSPAP is identified as a coordinated, multicomponent, "whole-of-school approach" (Institute of Medicine [IOM], 2013) to achieve two major goals: (a) educate school-aged children with the knowledge and skills necessary to lead a lifetime of PA, and (b) ensure school-aged children meet the recommended 60 minutes of daily PA (CDC, 2013, 2015; Society for Health and Physical Educators of America [SHAPE America], 2015). The CSPAP framework includes five components: (a) quality physical education (e.g., appropriate instruction, assessment of student learning), (b) PA during school (e.g., at recess, within the classroom), (c) PA before and after school (e.g., active transportation to/from school, intramurals), (d) staff involvement (e.g., staff wellness programming), and (e) family and community engagement (e.g., joint-facility agreements among organizations; SHAPE America, 2015). A growing body of research supports the effectiveness of each CSPAP component in helping to increase PA in school-aged children (Chen & Gu, 2017; Erwin et al., 2013).

Preliminary national surveys suggest the implementation of CSPAPs that include all five components is limited (i.e., 16% of elementary schools, AAHPERD, 2011; 3% of secondary schools, Brener et al., 2017). Webster and colleagues (2020a) recommend approaching the conceptualization and implementation of CSPAPs with greater flexibility, recognizing that not all schools may need to implement all five components to achieve program goals. In addition to quality physical education as the foundation of the program, schools may differ in the number and combination of other components they choose to

implement. Drawing from this perspective to define a CSPAP, results of a recent survey with a national sample of physical education teachers indicated over 70% of schools had implemented a CSPAP (Webster et al., 2020b).

In addition to rethinking how to conceptualize a CSPAP, there is a need to rethink the professional preparation requirements for future physical education teachers who will be positioned to play significant roles in implementing a CSPAP. Physical education teachers are increasingly being called upon to serve as school wide physical activity leaders (PALs; Beighle et al., 2009; Carson, 2012; Carson et al., 2014; Erwin et al., 2013; SHAPE America, 2015; Stoepker et al., 2020a). As a PAL, physical educators should lead, advocate, and organize school stakeholders to initiate CSPAPs (Carson, 2012; Castelli & Beighle, 2007; Stoepker et al., 2020a). However, the knowledge and skills recommended to serve in such a role extend beyond what has traditionally been taught in physical education teacher education (PETE) programs (Webster et al., 2015) and authors have recommended that additional training is needed for physical education teachers to effectively serve their schools as PALs (Beighle et al., 2009; Dauenhauer et al., 2018; Kelder et al., 2014).

PETE programs are recognized as an ideal setting for PAL training to occur (Dauenhauer et al., 2018; Webster et al., 2015; Zhang et al., 2018) and researchers are finding that CSPAP-related preparation is an important element in the development of preservice physical education teachers' PAL skills (Egan et al., 2022; Goh et al., 2019, 2020; Kwon et al., 2018, 2019; Merica et al., in press; Webster et al., 2017). Yet, the adoption of CSPAP preparation within PETE programs appears to be limited (Carson et al., 2017; Castelli et al., 2017; Webster et al., 2016a), and little is known about how such preparation at the preservice level may impact the in-service physical education teachers' involvement in CSPAP implementation (Carson & Webster, 2020; Webster et al., 2020a).

Theoretical Framework

Teacher socialization in physical education theory (socialization) refers to an individual's formed assumptions about the teaching profession, and specifically about teaching physical education (Richards et al., 2014, 2019). Physical education teachers assimilate themselves into the teaching profession and how to teach physical education based upon their lifetime experiences (i.e., socialization experiences; Lacey, 1977; Lawson, 1983a, 1983b). Socialization theory intends to explain how a physical educator's attitudes, beliefs,

and teaching practices are influenced by their lived experiences throughout a lifetime (Lawson, 1983a, 1983b). Socialization is categorized into three distinct, non-linear phases: (a) acculturation (AC), (b) professional socialization (PS), and (c) organizational socialization (OS; Lawson 1983a, 1983b, 1986; Richards et al., 2019). Given that physical education teachers are recommended to lead and organize CSPAP, it is essential for researchers to identify factors associated with physical educators' lived experiences that influence their current CSPAP involvement. Framing "lived experiences" around the phases of socialization theory (i.e., AC, PS, OS) is advantageous for exploring gaps in the CSPAP literature base (Carson & Webster, 2020; Erwin et al., 2013; Hunt & Metzler, 2017; Russ et al., 2015).

The first phase of socialization (i.e., AC) is defined as any K-12 childhood experience that has an impact on a teacher's attitudes and behaviors toward the teaching profession (Lawson, 1983a). In-service physical education teachers often model teacher behaviors and practices from their personal experiences as a K-12 student in their own physical education classrooms (Richards et al., 2014, 2019). When a teacher models their K-12 experiences, they draw from the types of instruction used (Ralph & MacPhail, 2015), teaching orientations demonstrated (i.e., coach or teacher-first orientation; McCullick et al., 2012), and/or PA advocacy demonstrated in the school setting (McCullick et al., 2012; Placek et al., 1995). Even though individuals who enter PETE programs are highly influenced by experiences with role models in sport and PA settings (McCullick et al., 2012; Placek et al., 1995), little is known if AC experiences with CSPAPs are associated with in-service physical educators' involvement in such programs (Chen & Gu, 2018; Hunt & Metzler, 2017; Richards et al., 2014, 2019).

The second socialization phase (i.e., PS) draws on preservice teachers' novel learning experiences within a PETE program (Lawson, 1983a). One of the duties of a teacher certification program (i.e., PETE program) is to train preservice teachers in the knowledge, skills, and dispositions PETE faculty believe is necessary to become quality physical educators (Richards et al., 2014, 2019). PETE programs often include opportunities to develop content knowledge, pedagogical knowledge, and pedagogical content knowledge through general content courses, teaching practicums, and student teaching experiences (Ayers & Housner, 2008; Richards et al., 2018, 2019). Evidence about the degree to which

PAL and CSPAP learning opportunities occur in PETE programs is emerging (Carson et al., 2017; Castelli et al., 2017; Webster et al., 2016a, 2016b). However, the association of CSPAP preparation in PETE as it relates to in-service physical educator CSPAP involvement is relatively unknown (Carson & Webster, 2020; Webster et al., 2020a).

Finally, OS focuses on neophyte teachers (i.e., teacher with less than five years of classroom experience (Lawson, 1983b, 1986; Richards et al., 2018, 2019; Van Maanen & Schein, 1979). A school's culture and environment (e.g., policies, built infrastructure, and attitudes/behavior of other faculty) contribute to a beginning physical education teacher's degree of implementation related to the knowledge and practices learned during PS (i.e., PETE training; Lawson, 1983a, 1983b; Richards et al., 2019). Unfortunately, the OS phase often detracts from skills and training gained in PETE programs because of established school standards of practice and policy (i.e., cooperating teacher beliefs, school policies, administrator values; Curtner-Smith, 2001; Richards et al., 2019), and adoption of these accepted practices can lead to a "wash out" effect on neophyte teachers (i.e., dismissal of advocated and instructed knowledge gained in PETE; Richards et al., 2019). Related research on CSPAPs has identified in-service teachers perceived barriers (Cothran et al., 2010; Deslatte & Carson, 2014; Jones et al., 2014; McMullen et al., 2014) and facilitators (i.e., Carson et al., 2014; Goh et al., 2017; Michael et al., 2019) of implementing various CSPAP components. However, there is a dearth of research on physical education teachers' CSPAP involvement from the perspective of OS (Carson & Webster, 2020; Richards et al., 2019).

The overwhelming majority of socialization literature has been based in qualitative methodology, with limited research exploring the development of validated instruments using socialization theory (Richards et al., 2014, 2019). The most recent and relevant socialization instrument development literature includes measurement of physical educator feelings of marginalization and isolation (Gaudreault et al., 2017), perspectives of teaching multiple school subjects and role conflict (Iannucci et al., 2019), and perceptions of mattering (i.e., belief of being significant in a school setting; Richards et al., 2017). Additionally, few researchers have used theory to guide CSPAP research in the development of surveys to assess quantifiable outcomes (Chen & Gu, 2018; Erwin et al., 2013; Hunt & Metzler, 2017; Russ et al., 2015). Those that have developed and/or used theoretically based CSPAP instruments have studied (a) school principals' self-reported CSPAP involvement (Orendorff

et al., 2021, 2022), (b) classroom teachers PA promotion (Webster et al. 2010, 2013, 2015), and (c) physical education teachers' perceived attributes of CSPAPs (Webster et al., 2020b, 2020c). In addition, there are existing validated CSPAP instruments for assessment and measurement of school policies and practices (Stoepker et al., 2020b), and school health and PA (CDC, 2012, 2014; Lounsbery et al., 2013; Singletary et al., 2019). However, to date, a validated instrument to measure the latent factors of physical educators' CSPAP involvement from a socialization perspective has yet to be developed (Carson & Webster, 2020; Hunt & Metzler, 2017; Richards et al., 2014, 2019). Such a tool would significantly enhance the landscape of both research and practice in physical education to explore mediating factors that influence physical educators' CSPAP involvement. Thus, the purpose of this study was to develop a survey, grounded in socialization, for measuring in-service physical education teachers' socialization experiences and CSPAP involvement, and to examine the instrument's psychometric properties. The research question underpinning this study was, "What latent factors underlie in-service physical education teachers' self-reported CSPAP-related socialization and involvement?"

Method

Prior to the initiation of this study, the university's institutional review board approved all research activities. This instrument development study is part of a larger investigation to examine the association of physical education teachers' lifetime experiences and involvement in CSPAPs from a socialization perspective. The current study drew upon the parts of the survey designed to measure latent factors underlying CSPAP preparation, CSPAP involvement, and socialization variables. Survey items were developed and validated through a five-step process, which mirrored similar CSPAP (Stoepker et al., 2020b; Orendorff et al., 2021; Webster et al., 2020b) and socialization instrument development literature (Gaudreault et al., 2017; Iannucci et al., 2019; Richards et al., 2017). The instrument validation process involved: (1) reviewing previous literature related to CSPAP and socialization, (2) creating a pool of items, (3) participation and feedback from content experts in CSPAP and socialization research, (4) conducting a pilot study with in-service physical educators, and (5) finalizing the items using exploratory factor analysis.

Reviewing Previous Literature and Theory

The first step was to review content and instrument development literature related to (a) CSPAP and (b) socialization. The CSPAP literature was examined to identify factors associated with physical education teachers' CSPAP involvement. The conceptual review included published studies and other relevant narratives (e.g., doctoral dissertations, theoretical articles) to understand how CSPAP involvement and effectiveness are evaluated and measured in the field (AAHPERD, 2011; Berei et al., 2018; Brener et al., 2017; Mulhearn, 2020; Orendorff et al., 2021, 2022; Stoepker et al., 2020b; Webster et al., 2010, 2013, 2016a, 2016b, 2020b, 2020c). In tandem with the CSPAP literature, socialization literature provided the theoretical framework from which to understand and interpret physical educators' current CSPAP involvement associated with each phase of socialization theory (i.e., AC, PS, OS; Richards et al., 2014, 2019). In addition, the extent to which socialization theory has been utilized in instrument development literature was reviewed (Gaudreault et al., 2017; Iannucci et al., 2019; Richards et al., 2014, 2017, 2019). Based on the literature review, item construction around four constructs related to: (a) AC, (b) PS, (c) OS (Lawson, 1983a, 1983b), and (d) competence (Webster et al., 2010) were developed.

Creating a Pool of Items

In the second step, a pool of 99 items for potential inclusion on the survey was developed. Survey items were developed and recoded from reviewing previously validated instruments in the socialization (Gaudreault et al., 2017; Iannucci et al., 2019; Richards et al., 2017) and CSPAP-related literature (CDC, 2012, 2014; Lounsbery et al., 2013; Orendorff et al., 2021; Singletary et al., 2019; Stoepker et al., 2020b; Webster et al., 2020c). While non-validated surveys in the literature helped inform the survey development (AAHPERD, 2011; Berei et al., 2018; Brener et al., 2017; Mulhearn, 2020), they were not recoded from these surveys because a larger sample size was thought to yield further validation for the instrument.

The initial list of survey items was reviewed by members of the research team in the survey development process, and further refined and evaluated by content experts from both the socialization and CSPAP research fields who contributed to the review of survey item face validity and content validity (Taherdoost, 2016). The constructs and item distribution were calibrated in the following order: (a) AC (22 items, 12 items with follow up prompts),

(b) PS (20 items), (c) OS (32 items), (d) competence (8 items), (e) demographics (17 items). The items were written with a mixture of response options (i.e., dichotomous, Likert, checklist, and open-ended). Dichotomous items were assessed using *yes*, *no*, and *I don't know/remember* options and included follow up questions using checklists to identify specific examples of the teacher's lifetime experiences with PA promotion. For example, one of the items stated, "*As an elementary student, I participated in school-organized physical activity opportunities before/after school (e.g., active transportation options to/from school, intramural sports, PA clubs)*". If a participant responded "yes", then they were asked to, "*Please indicate which school-organized physical activity opportunities before/after school you participated in as an elementary student (check all that apply).*" In addition, Likert scale items were written with a six-point scale ranging from *strongly disagree* to *strongly agree*, followed by a seventh option, where appropriate, to indicate they do not know or do not remember. These scale ranges are recommended within the instrument development literature (Fink, 2015; Johnson and Morgan, 2016; Preston & Colman, 2000) and are consistent with scales used in previous CSPAP survey development research (Orendorff et al., 2021, 2022; Webster et al., 2020b, 2020c). At the end of each construct item pool, an open-ended question was included to further explore the participants' experiences with each survey construct (e.g., "*Please tell us more about your CSPAP-related participation experiences as a K-12 student*"; see Appendix D for the complete survey). At the beginning of each survey section, we included a definition of a CSPAP, based on the definitions used in previous CSPAP instrument development literature (Orendorff et al., 2021, 2022; Webster et al., 2020b, 2020c):

> For the purposes of this study, a CSPAP is defined as providing PHYSICAL ACTIVITY OPPORTUNITIES for all students to participate in: (1) physical education AND (2) ONE OR MORE of the following components: Physical Activity During School (e.g., physical activity during regular classroom time, at recess, or during lunch), Physical Activity Before & After School (e.g., active transportation options to/from school, intramural sports, physical activity clubs), Staff Involvement (e.g., staff wellness programming, staff training for physical activity promotion, staff/administrator support for physical activity promotion), Family and Community

Engagement (e.g., facility joint-use agreements with outside organizations, physical activity events for families, active homework).

The following sections include descriptions of each survey construct item pool.

Acculturation (AC). Physical educators' lived experiences as a K-12 student in regard to CSPAPs provided the framework for developing AC items. AC items investigated physical educators' childhood experiences of participating in specific CSPAP components at each education level (i.e., elementary school, middle school, high school). In addition, AC items explored physical educators' childhood K-12 physical education teachers' PAL skills (e.g., behaviors of organizing and advocating for PA opportunities; Stoepker et al., 2020a) and the CSPAP implementation habits of each component (specific CSPAP component implementation examples were provided by SHAPE America [2015] and the CDC [2015]).

Professional Socialization (PS). PS items were developed to explore physical educators' training experiences during their PETE program. These items focused on novel training experiences developing PAL skills (Carson et al., 2017; Stoepker et al., 2020a) and organizing and leading CSPAP components (CDC, 2015; SHAPE America, 2015; Webster et al., 2016a). Specifically, the PS items were created using literature regarding PAL and CSPAP training recommendations for PETE programs identified by Stoepker et al. (2020a) and Zhang et al. (2018), a systematic review of public health-aligned recommendations for preparing PETE students to implement CSPAP (Webster et al., 2015), and documented PAL and CSPAP training practices in PETE programs (Carson et al., 2017; Castelli et al., 2017; Webster et al., 2016b).

Organizational Socialization (OS). To better understand the association of OS factors (i.e., co-worker influence, school policy and practice) and CSPAP involvement of physical educators, OS items were created and recoded from validated CSPAP instruments (Orendorff et al., 2021; Stoepker et al., 2020b; Webster et al., 2020b) and socialization literature (Gaudreault et al., 2017; Iannucci et al., 2019; Richards et al., 2017). In addition, OS items focused on three areas related to facilitators and barriers to implement CSPAP in K-12 schools: (a) current CSPAP opportunities and resources available, (b) physical education and PA policies, and (c) resources and support (Carson et al., 2014).

Competence. The final construct of survey items consisted of exploring physical educators' competency to organize and lead CSPAP components. The competence items

were written in an effort to investigate teachers' beliefs and confidence for implementing CSPAP and being a PAL. Eight items were developed from examining CSPAP survey literature that investigated: (a) biographical characteristics of preservice classroom teachers and PA promotional attitudes (Webster et al., 2010), (b) factors associated with physical educators being potential CSPAP adopters (Webster et al., 2020c), and (c) PETE faculty beliefs for preparing preservice teachers for CSPAP (Webster et al., 2016a).

Content Expert Review

To inform item revision decisions and test the validity and reliability of the survey instrument, the Delphi method was used (Linstone & Turoff, 1975). Implementing the Delphi method within instrument development includes gathering the collective opinions and knowledge from experts about a specific topic. This method provides information related to face validity (i.e., extent to which items measure what they are intended to measure) and content validity (i.e., extent to which items are relevant to a given topic area; Taherdoost, 2016). The Delphi method is one of the most effective methods of gathering expert consensus to develop measurement tools (Shariff, 2015), and has recently been used for clinical (Sun et al., 2017; Vance et al., 2015) and educational (Ormshaw et al., 2016; Stoepker et al., 2020b; Valor et al., 2016) research purposes.

The Delphi method typically uses a purposive sample of experts of a particular topic of interest (Shariff, 2015). For this study, CSPAP experts and socialization experts were selected based upon their extensive scholarly contributions to their respective research fields. PETE faculty who authored articles published in a special feature of the Journal of Physical Education, Recreation, and Dance (Carson et al., 2017), which highlighted PETE programs incorporating CSPAP professional preparation experiences, were invited as reviewers. Additionally, CSPAP experts were selected based on having authored one or more chapters for a textbook about CSPAP research and practice (Carson & Webster, 2020). Socialization experts were identified based on having authored socialization literature review articles (Richards et al., 2014, 2019). In total, 33 content experts (CSPAP, n=20; socialization, n=13), all of whom are university faculty, were invited to participate in the Delphi process. They were emailed an invitation to participate that included a brief explanation and purpose of the research, along with a URL link to the survey in Qualtrics. Non-responders were sent three reminder emails to encourage participation. The survey remained open for four weeks.

Participation involved submitting comments regarding the content and face validity of the instrument at the end of each section of the survey in an open-ended submission entry. Providing an open-ended question/answer forum allowed experts to provide in-depth input on what they believed to be missing, needed revision, or needed to be added to the survey.

Pilot Test

A pilot test was conducted to statistically assess the survey's psychometric properties. The survey was sent to a convenience sample of 70 physical education teachers. Teachers were selected using the authors' personal contacts and professional networks. An email was sent to the teachers inviting them to participate in the study. The email included the purpose of the study and a URL link to the survey in Qualtrics. Non-responding teachers were sent follow up invitations to participate one, two and three weeks after the initial invitation.

Analysis

Content Expert Review

A total of 15 content experts (CSPAP, n=9; socialization, n=6) completed the survey and provided feedback (45% response rate). Responses were collected via Qualtrics, transferred and into an Excel spreadsheet, and categorized into different sections based on socialization variables and demographic items. The spreadsheet was then shared with five additional members of the research team for peer debriefing (Creswell, 2007).

Pilot Test

Quantitative data analysis. A total of 28 physical education teachers (40% response rate) submitted completed surveys for the pilot test. The participants' demographic, teacher background, and school context information are reported in Table 3.1. Data were analyzed using the computer software program Statistical Package for the Social Sciences (IBM SPSS 26.0) and M*plu*s 8. The goal for analyzing pilot test data was to examine psychometric properties of the developed survey instrument. This was accomplished using two methods, (a) principal component analysis (PCA) and (b) Bayesian exploratory factor analysis (BEFA).

A PCA is a data reduction technique used to summarize content information in large data tables for a smaller set of "summary indices" to be easily analyzed visually (Abdi & Williams, 2010). Conducting a PCA provided us the ability to analyze and identify specific variables that are either independent or dependent upon each other. In addition, a PCA helped

us identify patterns within clusters of data (i.e., individual survey scale data), and observe trends and outliers of variables regarding the total variance of survey items within each scale (Lever et al., 2017).

An exploratory factor analysis is commonly used in social sciences to depict the relationships between variables (i.e., items) and latent factors (i.e., dimensions; Schmitt & Sass, 2011). For our study, a Bayesian exploratory factor analysis (BEFA) was used to identify the factor structure underlying the survey response pilot testing data. An exploratory factor analysis is typically used for large sample sizes, but recent literature has showed that when data are well conditioned (i.e., high α, low *f*, high *p*), a BEFA can provide accurate results with samples of less than 30 individuals (de Winter et al., 2009; Webster et al., 2020b). Additionally, the BEFA does not rely on the assumption of multivariate normality and does not require large samples; this estimation method provides accurate results with very small samples (Heerwegh, 2014). Conducting a BEFA allowed for the examination of the relationships among Likert survey scales. Due to the small sample size, each survey scale was analyzed separately rather than in relation to the other components. In addition, each scale was measured for internal consistency using Cronbach's alpha (α) index of internal consistency to measure the survey scale reliability of items (Tavakol & Dennick, 2011).

Qualitative data analysis. An analysis of the open-ended survey questions was conducted to understand participants' perceptions in more depth and further explain the quantitative results. Two members of the research team coded the data. The first step was to read participants' responses to determine if the qualitative data supported the quantitative data. Next, researchers started thematic analysis (Creswell, 2007) by looking for initial codes and categories; due to limited data, we specifically looked for emerging salient points across categories as opposed to developing themes (Guest et al., 2020).

Table 3.1 Participant demographics, teacher background, and school context information for pilot test sample.

Age		**Gender**		**Experience teaching physical education**							**Current school level**		**Highest education level obtained**	
20-24	n=1			Years	1-5	6-10	11-15	16-20	21-25	26 +	Elem	n=16		
25-34	n=13	male	n=9								MS	n=2	Bachelors	n=12
35-44	n=9	female	n=18	Elem	n=20	n=1	n=1	n=1	n=1	n=1	HS	n=3	Masters	n=10
45-54	n=3	prefer not say	n=1	MS	n=9	n=2	n=3	n=0	n=2	n=0	Elem/MS	n=3	Masters +	n=4
55-64	n=2			HS	n=12	n=0	n=0	n=1	n=0	n=0	Elem/HS	n=1	Ph.D./Ed.D.	n=2
											Elem/MS/HS	n=2		

*All pilot test participants identified as white and licensed physical education teachers
**A total of five states were represented where pilot test participants were employed

Results

Content Expert Review

Members of the research team reviewed the feedback from content experts and provided recommendations for revision to finalize the instrument. For example, many content experts suggested three items within the OS construct were not representative and four individual items required changes to their wording/phrasing. Based upon the content expert feedback, the research team reviewed the items and discussed possible revision or elimination and accepted all suggested changes. Also, it was suggested by content experts to add an *"I don't know/remember"* option to Yes/No and Likert scale item responses within the AC construct. This was due to participants having to recall childhood experiences, which may be difficult. After reviewing expert feedback, the research team agreed to add the additional response option. Furthermore, socialization content experts recommended adding an open-ended qualitative question at the end of each survey construct (i.e., AC, PS, OS, competence) to capture the highly contextual and socially bound nature of socialization. Additionally, socialization content experts encouraged us to add a final question to the survey to ask for participant willingness to participate in a follow up interview. These additions were made to the survey after peer debriefing (Creswell, 2007) among members of the research team.

Pilot Test

Quantitative results. Based on the analysis of pilot test data, a minimal number of values (i.e., three per variable) were missing. Missing values were distributed completely at random and were imputed using the expectation maximization algorithm (Moon, 1996). Pilot test data exemplified quality measures of corresponding components and survey scales had high internal consistency coefficients. Complete results of survey scale reliability index for coefficients of internal consistency and posterior predictive p-values (PPP-values) are located Table 3.2. Obtaining a PPP-value of 0.5 is determined as an ideal measure to make predictions of simulated data. A model's predictions are considered "biased" if the PPP-value is greater than, or less than, 0.5 (Meng, 1994). Based on BEFA of survey scales, the OS 3-5, 5-6, and 6-5 survey scale groups had lower PPP-values and lower internal consistency indices. Within each of these survey scale groups, they included two items with factor

loadings lower than the 0.32 cutoff (Costello & Osborne, 2005) and deemed not statistically significant.

Based on the PCA, 52 items (*N*=55) had statistically significant loadings (i.e., above the cutoff of 0.32, Costello & Osborne, 2005) under their corresponding factor. The OS 5-6 survey scale group had three items that did not meet the desired cutoff range and diminished the corresponding scale's reliability and total variance. Items with low factor loadings are an indication the item may not be a good measure for the scale (i.e., not related to the other items in the construct). The three items deemed potentially problematic due to their low factor loading were, (1) *Most students in my school get more than one recess per day* (.208), (2) *Administrator "buy-in" is a barrier for me to implement CSPAP* (0.179), and (3) *Teacher/faculty "buy-in" is a barrier to implementing CSPAP* (0.078). However, by removing items and conducting the PCA again, the scale significance improved to well above the desired cutoff percentage (See Table 3.2). Smaller sample sizes can cause responses to be hyper-specific (de Winter et al., 2009; Preacher & MacCallum, 2002), but after research team debriefing, members of the research team decided to retain all items for the larger investigation of physical educators (see Chapter 4), as results may change with a larger sample size. If not, low scoring reliability items will be removed from the larger sample analyses. See Table 3.3 for complete list of items and factor loadings.

Qualitative results. After reviewing participants' responses to each open-ended question and beginning the initial phases of thematic analysis, the researchers felt that the responses provided contextual value to survey constructs and further clarified close-ended survey responses. For example, the following emerging salient points emerged for each of the four questions examined (Guest et al., 2020). For question one, referring to CSPAP related participation experiences as a K-12 student, respondents indicated participation in PA programs coupled with not having CSPAP related opportunities as a K-12 student and served as motivators for CSPAP implementation as an in-service teacher. The second question about CSPAP and PAL training experiences in teacher certification revealed: (a) hands-on experiences were beneficial in PETE, (b) many PETE programs only focused on quality physical education, and (c) that for many respondents CSPAP was not established during their PETE program training experiences. The third question, regarding current school influences for CSPAP, elicited responses directly related to the factors associated with OS

(Lawson, 1986). For example, respondents addressed school policy (i.e., supportive or nonsuppurative PA and/or physical education policies), support (i.e., from community, students, and/or school personal), and school culture (i.e., belief and awareness of PA importance) as it relates to their CSPAP involvement. The final question, about beliefs and confidence for CSPAP implementation, revealed responses focused on prior experiences, time, resources and funding as facilitators and barriers related to personal beliefs and competence to implement CSPAP.

Table 3.2 Bayes exploratory factor analysis and principal component analysis of pilot test.

Survey Scale	Bayes Exploratory Factor Analysis (BEFA)			Principal Component Analysis (PCA)	
	95% CI*	Chi-Squares	PPP-Value	Reliability Index	Total Variance (%)
A1-5	7.026	49.009	0.414	0.791	50.321
PS1-5	-19.315	17.502	0.596	0.880	67.888
PS2-6	-19.735	22.672	0.453	0.935	76.093
PS5-3	-12.955	11.652	0.494	0.935	90.247
OS2-9	-28.099	38.864	0.386	0.664	30.359
OS3-5	1.771	38.903	0.010	0.693	46.026
OS4-3	-12.373	12.201	0.439	0.504	50.394
OS5-6	-9.134	38.204	0.131	0.683 (0.832)**	44.683 (66.542)**
OS6-5	-6.163	36.064	0.072	0.681	44.256
B&C1-3	-12.598	11.421	0.530	0.701	63.516
B&C2-4	-15.264	12.398	0.500	0.701	59.296

* CI=confidence interval

**Parenthesis indicates measures with low factor loading items removed

Table 3.3 Survey construct scale, items, and factor loadings.

Survey Construct	Item	Factor Loading
A*1-5	As a K-12 student, at least one of my physical educators was considered the physical activity leader for the school (e.g., organized physical activity opportunities for students outside the classroom, promoted physical activity to staff)	0.660
A1-5	As a K-12 student, at least one of my physical educators implemented a physical education program that included: standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity	0.659
A1-5	As a K-12 student, at least one of my physical education teachers organized physical activity opportunities for school staff/faculty (e.g., staff wellness programming, walking/jogging groups, staff training for physical activity promotion).	0.906
A1-5	As a K-12 student, at least one of my physical education teachers organized physical activity opportunities for my family/community (e.g., 5k events, family fitness nights at school, physical activity newsletters).	0.725
A1-5	As a K-12 student, at least one of my physical education teachers organized physical activity opportunities before/after school for all students (e.g., intramurals, physical activity clubs).	0.733
A1-5	As a K-12 student, at least one of my physical education teachers organized physical activity opportunities during school for all students (e.g., classroom-based physical activity, structured recess, open-gyms).	0.515
PS**1-5	A physical education program that includes: standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity.	0.532
PS1-5	Additional physical activity opportunities before and/or after school (e.g., active transportation to school, intramurals, walk/run-a-thons, physical activity clubs, open gym).	0.878

PS1-5	Physical activity initiatives during school (e.g., classroom-based physical activity, structured recess, physical activity assemblies, open gym).	0.853
PS1-5	Physical activity initiatives involving family/community engagement (e.g., 5K events, family fitness nights at school, health fair).	0.881
PS1-5	Physical activity initiatives for school staff/faculty (e.g., fitness programs/events for teachers, health screening for teachers, staff training for physical activity promotion).	0.915
PS2-6	Establish partnerships with school/community stakeholders for physical activity initiatives (e.g., school administrators/faculty, universities, YMCAs, health department, parks and recreation, Boys/Girls Club).	0.901
PS2-6	Evaluate current physical activity offerings in K-12 school environments (e.g., before/after school, during school, facilities, equipment resources).	0.926
PS2-6	Develop joint use agreements for facility usage of physical activity initiatives.	0.799
PS2-6	Train school personnel on physical activity integration during school.	0.915
PS2-6	Market/promote physical activity initiatives.	0.842
PS2-6	Implement CSPAP as a future in-service teacher.	0.844
PS5-3	My value for school-wide physical activity initiatives	0.948
PS5-3	My perceived importance for school-wide physical activity promotion	0.957
PS5-3	My current CSPAP involvement as an in-service teacher (e.g., before/after school physical activity, during school physical activity, staff involvement, family/community engagement)	0.945
OS*** 2-9	Every student has the opportunity to participate in physical education every school term (i.e., semester, quarter).	0.303
OS2-9	Every student has the opportunity to participate in a school intramural sports program.	0.558
OS2-9	School sponsored physical activity opportunities are available to all students before or after the school day.	0.369

OS2-9	My school promotes and/or supports active transport activities. (e.g., walking, cycling)	0.690
OS2-9	Most teachers at my school provide activity breaks in the classroom, as a break, or as part of academic work.	0.319
OS2-9	Most students in my school get more than one recess per day.	0.208*
OS2-9	Community organized physical activity programs are available for all students on school grounds outside of the normal school day (e.g., YMCA/YWCA).	0.737
OS2-9	My school provides physical activity events for family and community members to participate.	0.784
OS2-9	My school provides physical activity classes/programs for faculty and/or staff. (e.g., walking/jogging, aerobics, yoga, basketball)	0.644
OS3-5	Written policy at my school requires physical education be taught a specific number of minutes per week or a specific number of days per week.	0.658
OS3-5	Students at my school are required to take physical education for graduation or promotion to the next grade or school level.	0.622
OS3-5	My school has a written policy or guideline that prohibits classroom teachers from withholding students from physical education as a punishment or for academic work.	0.605
OS3-5	My school has a written policy or guideline that prohibits classroom teachers from withholding students from recess as a punishment or for academic work.	0.764
OS3-5	My school's policies positively influence my CSPAP involvement (e.g., physical education requirements, student access to gyms/green spaces, allotted time for classroom physical activity integration).	0.730
OS4-3	Indoor and outdoor physical activity facilities/resources (e.g., gym space, weight room, outdoor green space) are open to students, their families, and the community outside of school hours.	0.897
OS4-3	Indoor and outdoor physical activity facilities/resources (e.g., gym space, weight room, outdoor green space) positively influence my CSPAP involvement.	0.493
OS4-3	Budgetary constraints prevent me from implementing a CSPAP.	0.681

OS5-6	Administrator "buy-in" is a barrier	0.179[a]
OS5-6	Administrators expect me to implement CSPAP.	0.818
OS5-6	Administrators positively influence	0.839
OS5-6	Teachers/faculty "buy-in' is a barrier to implementing CSPAP.	0.078[a]
OS5-6	Teachers/faculty expect me to implement CSPAP.	0.824
OS5-6	Teachers/faculty positively influence my current CSPAP involvement.	0.768
OS6-5	Families/community "buy-in" is a barrier to implementing a CSPAP.	0.611
OS6-5	Family/community members expect me to implement CSPAP.	0.647
OS6-5	Families/community positively influence my current CSPAP involvement.	0.684
OS6-5	Student "buy-in" is a barrier t	0.700
OS6-5	Students positively influence my current CSPAP involvement.	0.680
B&C**** 1-3	I believe one of the roles of a physical educator in schools is to be a physical activity leader (e.g., organize physical activity opportunities for students outside the classroom, promote physical activity to staff and families/community).	0.685
B&C1-3	I believe one of my roles as a physical educator is to form a group of stakeholders for CSPAP implementation (e.g., parents, faculty/staff, administration)	0.862
B&C1-3	I believe one of my roles as a physical education teacher is to implement a CSPAP at my school(s).	0.832
B&C2-4	I feel confident being a physical activity leader for my school(s) (e.g., organize physical activity opportunities for students outside the classroom, promote physical activity to staff and families/community).	0.552
B&C2-4	I feel confident implementing physical education program that includes: standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity.	0.791
B&C2-4	I feel confident implementing multiple components of CSPAP (e.g., before/after school physical activity, staff involvement).	0.832

B&C2-4	I can implement a CSPAP (i.e., PE +1 or more additional components).	0.865

*Acculturation=AC
**Professional Socialization=PS
***Organizational Socialization=OS
****B&C=competence
[a] indicates low factor loading but item kept due to small sample size

Discussion

The purpose of this study was to develop a survey instrument grounded in socialization theory to measure in-service physical education teachers' socialization experiences and CSPAP involvement and examine the instrument's psychometric properties. The creation of a valid and reliable instrument that measures latent factors related to socialization experiences (e.g., childhood experiences, PETE training, cohort dispositions) and teacher competence (i.e., beliefs, confidence) associated with the degree of CSPAP involvement of physical educators fulfills a major gap in the CSPAP literature.

Survey Reliability

Following an extensive literature search, peer review (Delphi method) from content experts for survey development, and analysis of pilot data results from a convenience sample of physical educators, this study provides ample evidence of best practices of instrument development reliability. The development methods of this instrument are consistent with similar practices in the socialization (Gaudreault et al., 2017; Iannucci et al., 2019; Richards et al., 2017) and CSPAP (Stoepker et al., 2020b; Orendorff et al., 2021; Webster et al., 2020c) instrument development literature bases. When comparing the survey development methods to other CSPAP and socialization instruments, our instrument development procedures are most closely aligned with instruments developed by Gaudreault et al. (2017) and Stoepker et al. (2020b). Our research procedures modeled Gaudreault and colleagues' (2017) thorough theoretical literature review of existing instruments. In addition, we similarly investigated the empirical literature base related to socialization theory (Gaudreault et al., 2017) and CSPAP (Stoepker et al., 2020b) before developing items and conducting validity and reliability testing. Furthermore, both research studies (Gaudreault et al., 2017; Stoepker et al., 2020b) conducted similar content and face validity review by content experts using the Delphi Method (Linstone & Turoff, 1975). In both research studies, content experts

were asked to review survey items and provide feedback regarding content validity and face validity (n=8 experts for Gaudreault et al., 2017; n=11 experts for Stoepker et al., 2020b).

In both research studies, physical education teachers were asked to participate in a pilot test so that psychometrics of instrument constructs and item factor loadings could be evaluated. Both studies conducted pilot testing with a convenience sample and similar sample sizes of physical educators to our research study (*N*=40 for Gaudreault et al., 2017; *N*=35 for Stoepker et al., 2020b). Regarding other relevant survey development literature, similar validity and reliability methods were utilized (i.e., Iannucci et al., 2019; Richards et al., 2017), as well as similar sampling procedures and sizes for pilot testing (Orendorff et al., 2021, *N*=42; Webster et al., 2020c, *N*=45) were used in this study. Based upon these accepted practices in instrument development research literature for both the fields of CSPAP and socialization theory, readers can be confident that the methods for reliability used in our study are justified.

Survey Validity

The finalized survey instrument contains items across constructs directly related to each phase of socialization (i.e., AC, PS, OS; Lawson, 1983a) and teacher competence (Webster et al., 2010). The number of items for each respective construct do not reflect importance over one another. However, experts recognize socialization experiences as highly contextually influential on a physical educator's beliefs, behaviors, and instructional practices (Richards et al., 2014, 2019), and a potential contributing factor for CSPAP involvement (Beighle et al., 2009; Carson, 2012; Carson & Webster, 2020; Dauenhauer et al., 2018). The survey item factor loadings from pilot test data exemplified quality measures of corresponding components and survey scales had high internal consistency coefficients. Based upon these preliminary results, researchers were confident in the validity of the developed survey instrument, pending data results from a larger investigation (i.e., Study 2).

In addition, based upon the emerging salient points (Guest et al., 2020) gathered from open-ended questions in the pilot test, researchers believe the qualitative data (a) adds contextual value to our survey (i.e., contributes to evidence-based understanding of the respondent's experiences; Creswell, 2007) and (b) yield participant responses that address the questions' intent (Geer, 1988), and provide evidence that builds on the existing CSPAP literature (e.g., barriers and facilitators, Carson et al., 2014; teacher competence, Webster et

al., 2010). The initial results (both open and close-ended questions) indicated this survey is a viable tool to further explore physical education teachers' socialization and CSPAP involvement.

Survey Application

The development and validation of a survey instrument that psychometrically measures the latent factors associated with socialization and CSPAP involvement of physical education teachers addresses gaps in the literature. Results from research using this survey can help PETE programs develop best practices to train preservice teachers to become PALs and adopters of CSPAP. In addition, researchers will be able to investigate associations between physical education teachers' AC, PS, and OS experiences and their CSPAP involvement.

Limitations

Even though this study makes an important contribution to the literature by quantifying the constructs of (a) socialization and (b) competency related to CSPAP involvement of physical educators, it is not without limitations. First, the sample of physical education teachers who participated in the pilot study were primarily comprised of teachers within the pacific northwest with professional relationships to members of the research team (e.g., former PETE students, practicum teachers for student teachers). A non-convenience sample may contribute to greater validation of the survey instrument. In addition, we had a relatively low response rate for our pilot study (N=28). A larger sample size could produce more robust estimates of reliability. Results from the larger investigation (Chapter 4) of physical educators provide additional evidence of reliability and substantially enhance the findings from this study; however, validating a survey instrument requires ongoing evidence from researchers at independent institutions and this research should be considered initial evidence to be confirmed though additional inquiry (Weiss et al., 2014). Lastly, socialization is contextually grounded, and a teacher's socialization cannot fully be understood from a survey. Additional data collection methods, such as interviews and observations, are needed to compliment continued research in this area of inquiry.

Conclusion

The purpose of this study was to develop a valid and reliable instrument that measures latent factors associated with in-service physical education teachers' self-reported CSPAP-related socialization (i.e., AC, PS, OS), competence, and their current involvement in CSPAPs. The results provide evidence of face and content validity and demonstrate that the instrument is a reliable tool for continued research examining physical education teachers' socialization and CSPAP involvement.

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Chapter 4: The Association of Physical Educators' Socialization Experiences and Confidence with Respect to Comprehensive School Physical Activity Program Implementation

The prevalence of obesity and associated health problems is prominent among school-age youth in the United States (Centers of Disease Control [CDC], 2020). Participating in regular physical activity (PA) reduces adverse health effects related to sedentarism (CDC, 2020), but 76% of American children and adolescents fail to meet national PA guidelines (National Physical Activity Plan Alliance [NPAPA], 2018). Achieving regular bouts of PA during childhood is linked to an increased likelihood of being physically active as an adult (Institute of Medicine [IOM], 2012; Telama et al., 1997, 2005). The school setting is identified as a key intervention point for promoting PA (NPAPA, 2018) due to: (a) the prominent amount of time youth spend at school (i.e., 6-8 hours per day; National Center for Education Statistics [NCES], 2016) and (b) the number of children and adolescents who attend school regularly (95% of young people; Lee et al., 2006). Targeted "whole-of-school" PA programs are recommended by national organizations (i.e., CDC, Society of Health and Physical Educators of America [SHAPE America]) to combat youth inactivity (NPAPA, 2018).

The comprehensive school physical activity program (CSPAP) framework has emerged as a "whole-of-school" approach to PA promotion with two major goals: (a) equip youth with the knowledge, skills, and confidence to engage in a lifetime of participation in PA, and (b) ensure youth meet the national guidelines of at least 60 minutes of moderate-to-vigorous PA each day (National Association for Sport and Physical Education [NASPE], 2008; SHAPE America, 2015). A CSPAP is envisioned to supplement a quality physical education program with additional opportunities for youth to be physically active and practice the skills learned in physical education (Webster et al., 2020a). Such opportunities may include further PA during school (e.g., during regular classroom time, at recess) and PA before and/or after school (e.g., active transportation to school initiatives, PA clubs/intramurals). The support of all school staff, as well as families and community partners, is considered essential to the implementation and sustainability of a CSPAP (Carson & Webster, 2020). Thus, the CSPAP framework encompasses the following five

components: (a) physical education, (b) PA during school, (c) PA before and after school, (d) staff involvement, and (e) family and community engagement (SHAPE America, 2015).

The uptake of CSPAPs that include all five components is low among K-12 schools (i.e., 16% of elementary schools, AAHPERD, 2011; 3% of secondary schools, Brener et al., 2017). However, not all schools may need to implement each of the five components to achieve program goals (Webster et al., 2020a). Over 70% of physical education teachers from a national sample indicated their schools had implemented a CSPAP when the concept was defined as any combination or variety of components that provided sufficient opportunities for all students to be physically active for 60 minutes each day, and to develop the knowledge and skills to pursue a physically active lifestyle (Webster et. al., 2020b). Understanding CSPAP implementation may therefore require more flexible conceptualizations of multicomponent initiatives. Furthermore, given that there appears to be a substantial number of physical education teachers who are working at schools without a full CSPAP, it is imperative to investigate the reasons why some schools have implemented such programs while others have not, and why, in particular, there may be physical education teachers who are not involved with these initiatives.

Theoretical Framework

One perspective to provide information about physical education teachers' CSPAP involvement is teacher socialization in physical education theory (socialization). Socialization investigates how lived experiences of physical educators within the teaching profession are associated with their current teaching behaviors, practices, and dispositions (Lawson, 1983a, 1983b). Specifically, socialization examines the association of lived experiences over a three-phase, non-linear process of a physical educator's lifetime (Richards et al., 2019). The phases of socialization include: (a) acculturation (AC; i.e., positive or negative experiences in childhood as a K-12 student which develop beliefs and attitudes toward the teaching profession and physical education), (b) professional socialization (PS; i.e., socialization into physical education as preservice teachers in PETE programs), and (c) organizational socialization (OS; i.e., socialization into the role as a teacher influenced by school contexts; Lawson 1983a, 1983b, 1986; Richards et al., 2014, 2019).

The majority of socialization research literature has focused on each phase of socialization separately (Richards et al., 2014), with minimal investigation into the role of PA

promotion (Richards et al., 2019). The AC literature suggests PETE students entering the physical education profession are influenced by their previous physical educators and sport coaches to be an advocate for PA (McCullick et al., 2012; Placek et al., 1995), and the PS research indicates PETE programs can develop teacher orientation perspectives that emphasize PA and health promotion within physical education as an in-service teacher (Mordal-Moen & Green, 2014). In addition, the OS literature has explored the role of combatting marginalization of physical education in a school by delivering high-quality physical education programs, advocating and promoting PA, and forging connections with school faculty, administrators, parents, and the broader community (Lux & McCullick, 2011). However, relevant literature associated with socialization and CSPAP is largely absent (Carson & Webster 2020; Richards et al., 2019).

In-service teachers are highly influenced by their K-12 experiences in physical education, although, the investigation of AC experiences with CSPAP-related activities (e.g., PA promotion/programs) and in-service teacher CSPAP involvement is unknown (Carson & Webster, 2020; Hunt & Metzler, 2017; Richards et al., 2014, 2019). In regard to PS, training recommendations of pre-service teachers to be PALs and implementors of CSPAP are established in the literature (Webster et al., 2015a; Zhang et al., 2018), and empirical research on PAL and CSPAP training with pre-service teachers in PETE is associated with positive beliefs, attitudes, and desire for implementing similar programs in the future as an in-service teacher (Egan et al., 2022; Goh et al., 2019, 2020; Merica et al., in press; Webster et al., 2017). However, minimal research has investigated the association of PS experiences with PAL and CSPAP training and in-service physical educators' CSPAP involvement in the field (Carson & Webster, 2020; Mulhearn, 2020; Webster et al., 2020a). In relation to OS and CSPAP, school support (i.e., principals, administration) is identified as a mediator in physical education teachers' decision to adopt CSPAP (Webster et al., 2020c). However, it is unclear which aspects of OS (i.e., administrative support, school/district policies, availability and/or condition of building facilities, equipment/materials, budget) are associated with physical educator's CSPAP involvement (Egan et al., 2018; Richards et al., 2019; Webster et al., 2020c). Socialization experiences across a lifetime can be attributed to current practices, attitudes, and beliefs of in-service teachers (Richards et al., 2019), however, socialization can

also be an effective lens to explore the association of experience and teacher self-efficacy (i.e., beliefs and confidence; Bandura, 1997).

Role Breadth Self-Efficacy

The combined perspectives of socialization and teacher self-efficacy is a useful framework for examining the influence of physical educators' lifetime experiences associated with their perspective as a PAL and to be involved with CSPAP (Carson & Webster, 2020; Webster et al., 2015c). Self-efficacy refers to people's judgements about their capability to perform particular tasks (Bandura, 1986), and is an increasingly important construct within organizational research (Pinder, 2014) and more pointedly within research related to the self-efficacy of individuals to take on a particular role (e.g., PAL) or occupation (e.g., teaching; Bandura, 1977). One way to examine teacher self-efficacy to lead programs or be associated with a role beyond what is traditionally expected, is by investigating physical educators' socialization experiences coupled with their perceptions of role breadth self-efficacy (RBSE). Specifically, RBSE refers to "the extent to which people feel confident that they can carry out a broader and more proactive role, beyond traditional prescribed technical requirements" (Parker, 1998, p. 835). To take on broader duties of an occupation, such as initiating programs (e.g., being a PAL and implement CSPAP), it requires individuals to be sufficiently confident in their abilities (Parker, 1998). Of the mediating factors associated with RBSE, a teachers' perceived confidence is identified as a key dependent variable for successful adoption of leading school-based PA promotion and CSPAP (Webster, 2011; Webster et al., 2010; 2013a, 2015b).

Previous research has explored the role of pre-service and in-service classroom teacher competency (i.e., confidence) to lead PA promotion in schools-based AC experiences as a K-12 student and PS experiences with teacher certification coursework within teacher certification training (Allison et al., 1990; Morgan et al., 2001; Webster, 2011; Webster et al., 2010, 2013a, 2013b, 2015b). As it relates to PS training for CSPAP-related initiatives within teacher certification programs, Webster et al. (2010) and Webster (2011) explored pre-service classroom teachers' experiences in a course on school-based PA promotion. The pre-service teachers who took the course were more confident to teach physical education (Webster et al., 2010) and promote PA throughout the school (i.e., in the classroom, at recess, before and after school initiatives; Webster, 2011) than their peers who had not taken the

course. In addition, PS literature regarding the PAL and CSPAP-related training for pre-service physical education teachers suggest increased levels of confidence to lead PA promotion initiatives as an in-service teacher (Egan et al., 2022; Merica et al., in press; Webster et al., 2017).

The association of socialization experiences with teacher confidence to be a PAL and be involved with CSPAP is lacking (Carson & Webster, 2020). Although the relationship is relatively unknown, it is important to understand physical education teacher confidence to take on responsibilities and roles beyond the traditional norms of their occupation (Carson & Webster, 2020). As suggested in the literature, teacher confidence is an important factor related to their involvement with expanded PA programs and CSPAP (Webster et al., 2010; Webster, 2013). However, additional research is needed to understand how the association of socialization experiences in AC, PS, and OS are related to physical educator confidence to be a PAL and be involved with CSPAP in schools.

Purpose of the Study

Physical education teachers are uniquely positioned to serve as PA leaders (PALs) who implement CSPAPs (Carson, 2012; Carson & Webster, 2020; Stoepker et al., 2020) as they possess the ability to organize, promote, and lead developmentally appropriate PA opportunities to K-12 students (Beighle et al., 2009; Carson, 2012; Zhang et al., 2018). However, there appears to be a substantial number of physical education teachers nationally who work at schools without a CSPAP (Webster at al., 2020c), and whose involvement in CSPAP adoption may therefore be minimal. Previous research has examined physical educator's adoption of CSPAPs in relation to their domain-specific innovativeness, educational background, demographics, and perceived school support from the perspective of diffusion of innovations theory (Webster et al., 2020c). This research identified perceived attributes of CSPAP (e.g., simplicity, trialability), as well as CSPAP-related professional training, knowledge, and perceived school support were associated with program adoption. Despite this emerging evidence, there is still a dearth of research on understanding physical educators' CSPAP involvement (Carson & Webster, 2020; Webster et al., 2020a, 2020c). Thus, the purpose of this study was to examine the association of physical education teachers' socialization (AC, PS, and OS) and confidence with respect to CSPAP implementation.

Method

Participants

A total of 259 physical education teachers participated in this study. Participants reported a balanced gender distribution (50% female, 47.1% male, 1.8% transgender, 1.2% preferred not to say). Participants provided their age ranges between 20-24 (3.6%), 25 and 34 (32.7%), 35 and 44 (28%), 45 and 54 (22%), 55 and 64 (11.3%), and 65 and older (2.4%). Most of the respondents (79.4%) identified as White, 7.6% identified as African American or Black, 3.5% identified as Asian, 3.5% identified as more than one race, 3.5% preferred not to disclose their race, 1.8% identified as American Indian, 0.6% identified as Alaska Native. Approximately 14.5% of the sample indicated having a Hispanic descent. Most participants received their teacher certification training to become a physical education teacher from a university/college PETE program (87.2%). Approximately 6.7% did not receive formal training to become a physical education teacher, and 6.2% had completed an alternative licensure (e.g., online certification program), and 34.2% were National Board certified. Complete participant demographic information (i.e., education level, teaching experience, current grade level) is available in Table 4.1.

Table 4.1 Participants' self-reported demographics and school contexts.

		Participants (N=259)
Highest level of education obtained	High school diploma / GED	2.4%
	Associates degree	4.1%
	Bachelors	41.2%
	Masters	27.6%
	Masters plus	21.2%
	Ph.D.	1.2%
	Ed.D.	2.4%
Certified to teach PE	Yes	93.3%
	No	6.7%
Employment Area Designation	Rural	40.6%
	Suburban	37.1%
	Urban	22.3%
	West	41.5%

Employment Region	South	17.2%
	Midwest	26.8%
	Northeast	14.5%
Experience teaching physical education	0 Years	E*=18.7%, M**=26.9%, H***=22.2%
	1-5 Years	E=40.6%, M=29.7%, H=40.7%
	6-10 Years	E=16.1%, M=17.9%, H=10.4%
	11-15 Years	E=7.1%, M=14.5%, H=11.1%
	16-20 Years	E=9.0%, M=3.4%, H=8.1%
	21-25 Years	E=3.9%, M=4.1%, H=3.7%
	26 or more	E=4.5%, M=3.4%, H=3.7%
Current grade level	Kindergarten	25.5%
	1st Grade	27.4%
	2nd Grade	28.2%
	3rd Grade	28.6%
	4th Grade	29.3%
	5th Grade	28.6%
	6th Grade	20.5%
	7th Grade	18.5%
	8th Grade	18.9%
	9th Grade	16.6%
	10th Grade	15.4%
	11th Grade	15.4%
	12th Grade	16.6%
Free or reduced lunch	< 10%	4.2%
	10-20%	11.3%
	20-30%	16.1%
	30-40%	14.3%
	40-50%	13.7%
	50-60%	10.1%
	60-70%	8.9%
	> 70%	21.4%
	0-500	40.8%
	501-1,000	33.1%

Total student enrolment	1,001-1,500	15.4%
	1,501-2,000	7.7%
	2,001-2,500	2.4%
	2,501 +	0.6%
First learn about CSPAP	National conference	8.3%
	Regional conference	2.1%
	State conference	8.3%
	Website	6.3%
	Physical education teacher at your school	4.2%
	Physical education teacher not at your school	4.2%
	Classroom teacher at your school who is not a physical education teacher	0.7%
	Instructional coaches	0.7%
	Someone who holds a position in district-level leadership	4.2%
	Formal learning experiences in your pre-service teacher education program (e.g., PETE program)	20.1%
	Formal learning experiences in an in-service professional development workshop/training	5.6%
	Informal learning experiences (e.g., reading professional literature on your own)	2.1%
	This survey	31.9%
	National guidance documents	1.4%
Prior knowledge of CSPAP	Nothing	21.8%
	A little	24.7%
	Some	17.1%
	Fair amount	20.6%
	A lot	15.9%

*E= Elementary grades (i.e., K-5)
**M= Middle school grades (i.e., 6-8)
***H=High school grades (i.e., 9-12)

Instrumentation

A survey instrument, developed and validated in a previous research study (Merica et al., in preparation), was used to investigate the association of physical education teachers' socialization and role perceptions specific to CSPAPs. The instrument measures (a) CSPAP-related socialization experiences in each socialization phase (i.e., AC, PS, OS), (b) confidence (i.e., RBSE) to be a PAL and implement a CSPAP, and (c) background/demographic variables. There are five sections preceded by an introduction and informed consent that include a stated purpose and survey directions. The survey introduction and each subsequent section provided participants with an overview of the CSPAP framework and included the definition of a CSPAP based on previous literature (Webster et al., 2020a, 2020b, 2020c). At the end of the survey, participants were given the opportunity to submit their name and email address to be entered in a drawing to win a $50 Amazon gift card and/or be interviewed by members of the research team to further discuss their CSPAP perceptions and experiences.

Procedures

All research activities were approved by the first author's university Institutional Review Board prior to the initiation of this study. The population of interest was K-12 public school in-service physical education teachers in the United States. Stratified random sampling was used to obtain a proportionately random national sample of schools from which to identify physical education teachers (Thomas et al., 2015). Stratified sampling is a method of sampling a population into smaller subgroups, called "strata", which are organized based upon shared characteristics or attributes (Acharya et al., 2013). Stratified random sampling has numerous applications and benefits, such as studying population demographics, and is considered a precise metric to represent a larger population (Acharya et al., 2013; Thomas et al., 2015). The strata for our sample of physical educators were characterized by: (a) the state in the United States where physical educators taught, (b) school district within the state, (c) school within the district, and (d) the grade level physical educators taught (i.e., elementary, middle, or high school).

A total of 60 physical education teachers (i.e., 20 elementary, 20 middle school, 20 high school) were selected from each state (total of 3,000 physical education teachers). Sample size goals were set based upon previous nationwide survey research of school

professionals and CSPAP involvement (Orendorff et al., 2021, 2022; Webster et al., 2020b, 2020c). Researchers gathered and organized physical education teachers' names and email addresses, along with their identifying states, school districts, school names, and education levels within an Excel spreadsheet.

To limit the instances of over-representation of physical education teachers from the same school district or school, and develop a system of random selection, sampling procedure rules were implemented. First, contact information for every school district in each state was gathered from the NCES (2016) website and randomized into a list using an Excel spreadsheet sort function. Then, researchers identified individual school districts from each state using a random choice generator (Google, 2022). Based upon the school district selected, individual schools (i.e., elementary, middle, or high school) were chosen from the school district website to locate contact information of potential physical education teachers for the study. A maximum of two physical education teachers from each school level (i.e., elementary, middle, or high school) within a school district could be chosen (i.e., maximum of 6 teachers per school district). Furthermore, researchers set a goal of selecting only one physical education teacher per school.

There were several sampling challenges. At the school level, teachers' email addresses sometimes were unavailable on school websites. In these cases, the sampling rule was extended to no more than two physical education teachers chosen from a given school. Additionally, the number of school districts for each state varied greatly. For example, Hawaii operates their entire school system under one school district, while Alaska has a limited number of school districts outside of their major metropolitan areas (i.e., Anchorage, Fairbanks, Juneau). Due to these issues, as a last resort researchers selected physical education teachers from school districts and individual schools with the most available contact information if the aforementioned sampling procedure rules could not be met.

Once sample size goals were met (i.e., 3,000 teachers), a blanket email was sent to all email addresses identified for the physical education teachers inviting them to participate in the study. In the email, teachers were told of the purpose of the study, that completing the survey would enter their name into a drawing for a $50 Amazon gift card, and to use an embedded URL link to complete the survey in Qualtrics. A total of 2,976 emails were successfully delivered (24 inactive emails). A five-week window was provided for

participants to complete the survey. Follow-up invitation emails to participate in the study were sent to non-responders four consecutive weeks after initial contact.

After initial contact and follow-up email reminders, a total of *n*=199 physical educators had responded to the survey (7% response rate). Due to a low response rate from the stratified sample, researchers decided to distribute the survey link via social media (i.e., Facebook) to a physical education-based group (i.e., Health and Physical Education Teaching Resources) that are followed by in-service physical educators across the United States. The survey was posted twice on social media within 21 days, generating an additional *n*=60 responses (*N*=259).

Data Analysis

The original survey, developed in a previous study (Merica et al., in preparation) and distributed for the present study, consisted of *N*=99 items. Due to the limited sample size, specific survey questions were selected for analysis from the item pool. With a sample size of 259, the cases per variable ratio exceeded the recommendations of 2 and 5 cases per variable or at least 100 subjects (Mundfrom et al., 2005; Osborne & Costello, 2004; Wolf et al., 2013) and 20 subjects per factor (Arrindel & van der Ende, 1985). Therefore, a limited number of items from the survey were selected by the research team to determine the most representative list of items. Four members of the research team (i.e., first, second, third, and fourth authors) conducted a thorough content analysis to determine which items best represented their corresponding factor and addressed the intended content related to physical educators being involved with CSPAP and being a PAL. In addition, items were selected based upon representation and performance measures related to underlying theoretical (i.e., socialization phases, RBSE) and statistical criteria (i.e., item factor loadings, model fit indices).

After conducting a content, theoretical, and statistical review of items, *N*=55 items from the survey were chosen to be analyzed. Specifically, *n*=31 items aimed to measure three major socialization dimensions: (1) AC (6 items), (2) PS (12 items), and (3) OS (13 items); *n*=3 items measuring RBSE (i.e., confidence) to be a PAL and implement a CSPAP; *n*=4 open-ended questions to inform quantitative data and provide depth to physical educators' contextual experiences (Geer, 1988); *n*=17 demographic questions. The following sections explain each analysis procedure that was conducted.

Descriptive Analysis

The first step in analyzing data was examining the distribution of survey responses. First, descriptive statistics were calculated (e.g., mean [*M*] and standard deviation [*SD*]) to determine the extent to which respondents endorsed each survey item. Next, a univariate skewness and kurtosis and Mardia's multivariate indices of skewness and kurtosis (Mardia, 1970) was conducted to further examine the distribution of survey responses and determine whether the data met the assumption of multivariate normality. Univariate skewness coefficients larger than two and univariate kurtosis coefficients larger than seven indicate a non-normal distribution (Asparouhov & Muthén, 2009; Chou & Bentler, 1995; Muthén & Asparouhov, 2012). Although there are no generally accepted guidelines regarding the values of univariate kurtosis that indicate multivariate non-normality, the research literature suggests that data with multivariate kurtosis larger than three may produce biased results with maximum likelihood (ML) estimation (Bentler & Wu, 2002; Finney & DiStefano, 2006).

Exploratory Structural Equation Modeling (ESEM)

An exploratory factor analysis (EFA) within the exploratory structural equation modeling (ESEM) framework was used to identify the factors underlying the data and examine structural relationships (Asparouhov & Muthén, 2009). While traditional structural equation modeling (SEM) relies on a confirmatory factor analysis (CFA), ESEM estimates an exploratory measurement model with rotations and yields a more realistic representation of the data by allowing items to cross-load (Muthén & Asparouhov, 2012), and the exploratory approach helps avoid item misspecification (Asparouhov & Muthén, 2009). Research using simulated data has shown that taking cross-loadings into account increases estimation precision. Whereas, fixing even very small cross-loadings such as 0.100 to zero, may induce significant estimation inflation and bias in parameter estimates (Asparouhov & Muthén, 2009; Asparouhov et al., 2015). In addition to EFA, ESEM allows the specification of covariates and structural coefficients, and calculates goodness of fit indices (Marsh et al., 2014; Morin & Maiano, 2011). Therefore, ESEM estimates the EFA model, while including the methodological advances of a CFA and SEM by assessing model fit and allowing the estimation of structural coefficients (Marsh et al., 2014; Morin & Maiano, 2011).

A total of 31 survey variables were used to examine the socialization factors (i.e., AC, PS, OS; Richards et al., 2019) underlying the data, and three variables to separately estimate a single factor measuring RBSE (i.e., confidence to be a PAL and implement CSPAP). The statistical software M*plus* 8 was used to conduct latent variable modeling procedures. Survey responses were standardized and used as observed indicators. The estimation method was maximum likelihood (ML). This procedure provides the most accurate results when variables are continuous, and data meet the assumption of multivariate normality (Finney & DiStefano, 2006).

Solutions with differing numbers of socialization factors were examined. Further, the relationship between socialization factors and RBSE factor scores by specifying RBSE as a dependent variable in the ESEM model was estimated. The optimal solution was selected based on the interpretability of the factors and theoretical criteria. Specifically, statistical criteria consisting of the number of eigenvalues larger than one, the examination of the scree plot, and the following goodness of fit indices were identified: a) chi-square (χ^2) and its *p*-value, b) χ^2 divided by degrees of freedom (χ^2/df), c) Tucker-Lewis index (TLI), d) comparative fit index (CFI), and e) standardized root mean square residual (SRMR), and f) root mean square error of approximation (RMSEA) and its 90% confidence interval (CI).

The χ^2 test measures overall model fit. Non-significant χ^2values show good fit to the data (Barrett, 2007); however, larger models and non-normal data often inflate the χ^2 coefficient. This limitation was addressed by using χ^2/df to assess model fit. When $\chi^2/df < 3$ the model is determined to have a good fit to the data (Finney & DiStefano, 2006). The TLI and CFI values larger than 0.95 indicate excellent fit, values larger than 0.90 show good fit, whereas values lower than 0.90 indicate poor model fit (Hu & Bentler, 1999). RMSEA and SRMR values smaller than 0.05 are evidence of excellent fit, values ranging between 0.05 and 0.08 show good fit, values ranging between 0.08 and 0.10 indicate only acceptable fit, whereas values above 0.10 show poor fit (Hu & Bentler, 1999).

Qualitative Data Analysis

Four open-ended survey questions were analyzed to better understand the participants' perceptions and experiences as they relate to each factor (i.e., AC, PS, OS, RBSE). Open-ended questions provide an opportunity to capture information that cannot be easily captured in closed-ended questions and further explain quantitative results (Geer,

1988). Two members of the research team (i.e., first and second authors) coded the data and conducted thematic analysis (Creswell, 2007) by looking for initial codes and categories. Due to limited data, researchers specifically looked for emerging salient points across categories as opposed to developing themes (Guest et al., 2020). Open-ended survey response data, such as salient points, are used to enhance, confirm, and/or refine the story told through quantitative data (Geer, 1988; Guest et al., 2020). Researchers assigned pseudonyms throughout this article to protect respondents' anonymity.

Results

Descriptive Analyses

The survey variables used in this study had an approximately normal distribution. As indicated in Table 4.2, most physical educators perceived receiving a high-quality physical education experience as a K-12 student. Among the items measuring AC, the item with the highest ratings was "*As a K-12 student, at least one of my physical education teachers implemented a physical education program that included: standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity*" (*M*=4.56, *SD*=1.428). As it relates to physical education programs, most respondents reported high ratings of training preparation in their teacher certification programs (i.e., PS) to lead quality physical education programs. In the group of items aiming to measure PS, the item with the highest ratings was "*My teacher certification program prepared me to develop a physical education program that includes standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity*" (*M*=5.09, *SD*=0.877). Regarding OS, physical educators perceived their school facilities and resources to be important for their CSPAP involvement. In the group of items aiming to measure OS, the item with the highest ratings was "*Indoor and outdoor physical activity facilities/resources (e.g., gym space, weight room, outdoor green space) positively influence my CSPAP involvement*" (*M*=4.36, *SD*=1.058). Lastly, participants felt confident to be leaders of PA in their school and implement quality physical education. The two items with the highest ratings measuring RBSE were "*I feel confident implementing physical education program that includes standards-based instruction, assessment of student learning, opportunities for moderate-to-vigorous physical activity"* (*M*=5.26, *SD*=0.958) and "*I feel confident being a physical activity leader for my*

school(s) (e.g., organize physical activity opportunities for students outside the classroom, promote physical activity to staff and families/community" (*M*=4.94, *SD*=1.030).

Table 4.2 Descriptive statistics.

Acculturation (AC)	*Min*	*Max*	*M*	*SD*	Skewness	Kurtosis
As a K-12 student, at least one of my physical education teachers…						
Was considered the physical activity leader for the school (e.g., organized physical activity opportunities for students outside the classroom, promoted physical activity to staff).	1	6	4.48	1.514	-.925	.079
Implemented a physical education program that included: standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity.	1	6	4.56	1.428	-1.067	.375
Organized physical activity opportunities for school staff/faculty (e.g., staff wellness programming, walking/jogging groups, staff training for physical activity promotion).	1	5	2.80	1.200	.027	-.569
Organized physical activity opportunities for my family/community (e.g., 5k events, family fitness nights at school, physical activity newsletters).	1	5	2.35	1.073	.460	-.228
Organized physical activity opportunities before/after school for all students (e.g., intramurals, physical activity clubs).	1	5	3.01	1.249	-.097	-.722

Organized physical activity opportunities during school for all students (e.g., classroom-based physical activity, structured recess, open-gyms).	1	5	3.10	1.240	-.078	-.782
Professional Socialization (PS)	*Min*	*Max*	*M*	*SD*	Skewness	Kurtosis
Based upon the survey definition of CSPAP training (i.e., Physical Education plus one or more components), my teacher certification program trained me to implement CSPAP as an in-service teacher.	1	6	3.91	1.346	-.472	-.223
My teacher certification program prepared me to develop...						
A physical education program that includes standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity.	1	6	5.09	0.877	-1.642	4.834
Additional physical activity opportunities before and/or after school (e.g., active transportation to school, intramurals, walk/run-a-thons, physical activity clubs, open gym).	1	6	4.11	1.162	-.564	.308
Physical activity initiatives during school (e.g., classroom-based physical activity, structured recess, physical activity assemblies, open gym).	1	6	4.27	1.088	-.526	.141
Physical activity initiatives involving family/community engagement (e.g., 5K events, family fitness nights at school, health fair).	1	6	3.94	1.209	-.280	-.059

Physical activity initiatives for school staff/faculty (e.g., fitness programs/events for teachers, health screening for teachers, staff training for physical activity promotion).	1	6	3.85	1.256	-.129	-.281
Establish partnerships with school/community stakeholders for physical activity initiatives (e.g., school administrators/faculty, universities, YMCAs, health department, parks and recreation, Boys/Girls Club).	1	6	4.08	1.213	-.566	.223
Evaluate current physical activity offerings in K-12 school environments (e.g., before/after school, during school, facilities, equipment resources).	1	6	4.26	1.190	-.703	.458
Develop joint use agreements for facility usage of physical activity initiatives.	1	6	3.80	1.295	-.358	-.273
Train school personnel on physical activity integration during school.	1	6	3.69	1.239	-.132	-.213
Market/promote physical activity initiatives.	1	6	4.13	1.200	-.662	.417
Implement CSPAP as a future in-service teacher.	1	6	3.84	1.370	-.278	-.528
Organizational Socialization (OS)	*Min*	*Max*	*M*	*SD*	Skewness	Kurtosis
My school promotes and/or supports active transport activities. (e.g., walking, cycling).	1	6	4.26	1.232	-.835	.702
Most teachers at my school provide activity breaks in the classroom, as a break, or as part of academic work.	1	6	4.15	1.269	-.560	.064
Most students in my school get more than one recess per day.	1	6	3.86	1.527	-.447	-.661

Community organized physical activity programs are available for all students on school grounds outside of the normal school day (e.g., YMCA/YWCA).	1	6	3.82	1.425	-.408	-.554
My school provides physical activity events for family and community members to participate.	1	6	3.69	1.317	-.157	-.355
My school provides physical activity classes/programs for faculty and/or staff. (e.g., walking/jogging, aerobics, yoga, basketball)	1	6	3.57	1.342	-.142	-.540
Indoor and outdoor physical activity facilities/resources (e.g., gym space, weight room, outdoor green space) positively influence my CSPAP involvement.	1	6	4.36	1.058	-.998	1.671
Administrators expect me to implement CSPAP.	1	6	3.39	1.242	.139	-.426
Teachers/faculty expect me to implement CSPAP.	1	6	3.33	1.212	.060	-.178
Teachers/faculty positively influence my current CSPAP involvement.	1	6	3.63	1.131	-.104	.058
Family/community members expect me to implement CSPAP.	1	6	3.36	1.239	.157	-.397
Families/community positively influence my current CSPAP involvement.	1	6	3.55	1.114	-.173	-.028
Students positively influence my current CSPAP involvement.	1	6	4.13	1.035	-.557	.982
Role Breadth Self-Efficacy (RBSE)	*Min*	*Max*	*M*	*SD*	Skewness	Kurtosis
I feel confident implementing multiple components of CSPAP (e.g., before/after school physical activity, staff involvement).	1	6	4.89	1.057	-0.930	0.710

I feel confident implementing physical education program that includes standards-based instruction, assessment of student learning, opportunities for moderate-to-vigorous physical activity.	1	6	5.26	0.958	-1.575	2.871
I feel confident being a physical activity leader for my school(s) (e.g., organize physical activity opportunities for students outside the classroom, promote physical activity to staff and families/community).	1	6	4.94	1.030	-1.129	1.819

Indices of univariate skewness ranged between -1.843 and -0.782 while indices of univariate kurtosis ranged between 0.46 and 5.35 (Table 4.2). Mardia's coefficients of multivariate skewness and kurtosis were 1.601 (p=0.112) and 2.321 (p=0.092) respectively. These indices showed that survey responses had a univariate and multivariate normal distribution. The proportion of missing values ranged between 1% and 12% per survey item. Little's MCAR test showed that their distribution was completely random (Chi-Square = 638.062, DF = 701, Sig. = 0.957). Therefore, to avoid losing data, missing values were imputed using the expectation-maximization algorithm.

ESEM

Exploratory procedures yielded three eigenvalues larger than one and the scree plot indicated that 3 or 4 factors may underlie the data (Figure 4.1). Therefore, models were estimated and compared with three and four factors. As indicated in Table 4.3, the four-factor solution (Model 1) had a slightly better fit to the data but included several cross-loading items and the factors did not have strong theoretical support. The 3-factor solution (Model 2) included only two cross-loading items and the factors clearly described distinct dimensions of socialization (i.e., AC, PS, OS; Richards et al., 2019). Therefore, the three-factor solution was selected as optimal for our data. The two cross-loading items were sequentially removed and a simple structure was obtained. The two items removed were: 1) *"As a K-12 student, at least one of my physical education teachers organized physical activity opportunities for my family/community (e.g., 5k events, family fitness nights)"*, and 2) *"Most teachers at my school provide activity breaks in the classroom, as a break, or as part of academic work."*

Removing the cross-loading items significantly improved the model fit (Table 4.3). Further, all items had statistically significant loadings above the recommended value of 0.300 under the corresponding factor. The final factor structure included only items with loadings above 0.320 (Costello & Osborne, 2005), no free-standing items, cross-loading items, or items with non-significant loadings (alpha=0.05; Costello & Osborne, 2005). Specifying RBSE factor scores as a dependent variable of the three identified factors further improved model fit. As indicated in Table 4.3 the structural model (Model 4) had a very good fit to the data.

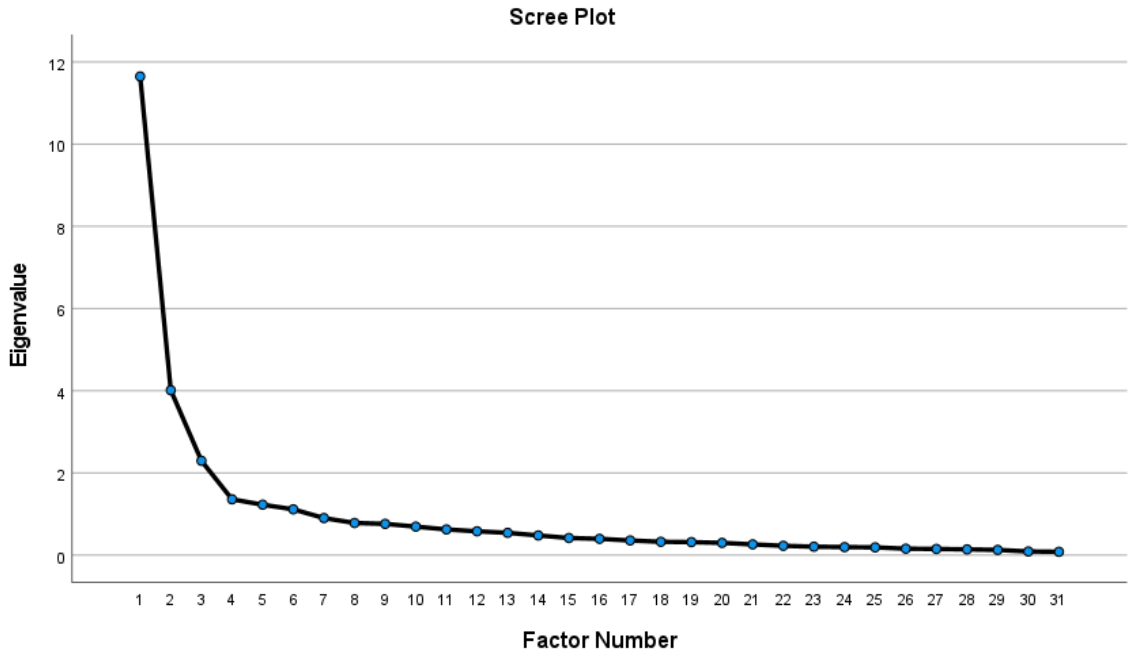

Figure 4.1 Scree plot.

Table 4.3 Model fit indices.

	Model 1 (4 factors)	Model 2 (3 factors)	Model 3 (3 factors, simple structure)	Model 4 (structural model)
χ^2	1047.940	1215.710	939.252	1009.118
df	347	375	322	348
p-Value	0.000	0.000	0.000	0.000
χ^2/df	3.020	3.241	2.916	2.899
RMSEA (90% C.I.)	0.060 (0.054 - 0.066)	0.076 (0.070 - 0.082)	0.048 (0.042 - 0.054)	0.044 (0.038 - 0.050)
CFI	0.947	0.946	0.967	0.967
TLI	0.964	0.952	0.971	0.981
SRMR	0.043	0.050	0.040	0.040

AC items. The first socialization factor included five items measuring AC. Loadings on this factor ranged between 0.405 and 0.722. The item with the highest loading was *"As a K-12 student, at least one of my physical education teachers was considered the physical activity leader for the school (e.g., organized physical activity opportunities for students outside the classroom, promoted physical activity to students;"* A1_1; 0.722). In addition, the second highest loading item was *"As a K-12 student, at least one of my physical education teachers implemented a physical education program that included: standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity;*" A1_2; 0.538). Cronbach's coefficient α was 0.728 for the AC factor.

Participant responses to the AC open-ended question revealed that most respondents did not have many opportunities to experience CSPAP-related activities, or were limited to special events (e.g., school fun run, field day). Due to the lack of opportunities available as a K-12 student, physical educators were motivated to lead these types of programs as an in-service teacher, as Cindy wrote, "There were very few opportunities [in] my school district. I hope to change that at my school." Although respondents expressed there were not many CSPAP related opportunities as a K-12 student, many teachers conveyed their physical education teacher was a PAL (i.e., quality physical education, promoted PA), "I had many opportunities to engage in vigorous activity and learn and practice motor skills in physical education. Activity outside of school was encouraged and promoted" (Rodney). These results support the quantitative results as highest item factor loadings revolved around their teacher being a PAL and receiving a strong physical education program, but items focused on expanded CSPAP components regarding PA opportunities available for students, staff/faculty, and community members had lower item factor scores (i.e., A2, 0.481; A5, 0.405).

PS items. The second socialization factor included twelve items measuring PS. Items in this factor had loadings between 0.515 and 0.887. The two items with the highest loading were *"My teacher certification program prepared me to develop additional physical activity opportunities before and/or after school (e.g., active transportation to school, intramurals, walk/run-a-thons, physical activity clubs, open gym;"* PS1_2; 0.877) and *"My teacher certification program prepared me to develop physical activity initiatives for school*

staff/faculty (e.g., fitness programs/events for teachers, health screening for teachers, staff training for physical activity promotion;" PS1_5; 0.887). In addition, another item with a significant factor loading was "*My teacher certification program prepared me to implement CSPAP as a future in-service teacher"* (PS2_6; 0.806). Cronbach's coefficient α for the PS factor was 0.955.

The open-ended question responses to the PS factor supported the item factor loading significance. As indicated in item factor scores, physical educators discussed in open-ended question responses their training experiences for expanded PA opportunities before/or after school. In addition to experiences with expanded PA opportunities for students, physical educators mentioned experiences with staff/faculty involvement within practicum coursework or student teaching. As Ted explained, "My coordinating teacher and I led several after school fitness classes for staff." The degree of physical educators' training experiences for CSPAP were mixed (i.e., no training, very little training incorporated throughout coursework). For instance, some physical educators discussed their program did not formally train for CSPAP, however their training had a major focus on school wide PA promotion, which is one of the underlying goals of a CSPAP. As Peter wrote, "CSPAP wasn't a thing when I went to school [teacher certification], but school wide PA promotion was…finding different avenues to promote PA to the community through newsletters, events, posters." In addition, based upon PS experiences, many physical education teachers felt prepared to implement CSPAP, "My teacher certification program has their stuff together…I am so much better prepared and educated to implement these programs [CSPAP]" (Violet). The salient points support the PS factor item loading scores.

OS items. The third socialization factor included twelve items measuring OS. Items in this factor had loadings between 0.362 and 0.872. The two items with the highest loadings were *"Teachers/faculty expect me to implement CSPAP"* (OS5_5; 0.872) and *"Teachers/faculty positively influence my current CSPAP involvement"* (OS5_6; 0.815). Cronbach's α was 0.907 for the OC factor. Responses from teachers in the OS open-ended question expand on these item factor scores. Physical education teachers acknowledged that their students and school faculty are positive influencers to lead CSPAP in their schools. For example, one teacher wrote, "Students love participating in PA which influences my desire to organize these events [CSPAP]" (Ted). In addition, low factor scores for the item, *"Indoor*

and outdoor physical activity facilities/resources (e.g., gym space, weight room, outdoor green space) positively influence my CSPAP involvement" (OS4_2; 0.404) was reaffirmed by qualitative responses. For example, many physical education teachers felt a lack of resources, such as support (i.e., administrative, faculty) and/or funding, impacted their CSPAP involvement and implementation success, "The environment at my school is negative, and I have found that when I do events after school for families, they are not well attended." Based upon the open-ended responses, we feel the salient points complement the OS item factor scores.

RBSE items. The three items included in the RBSE factor had loadings between 0.756 and 0.920. The item with the highest loading was *"I feel confident implementing multiple components of CSPAP (e.g., before/after school physical activity, staff involvement;"* RBSE_1_3; 0.920). The item with the second highest loading was *"I feel confident implementing physical education program that includes standards-based instruction, assessment of student learning, opportunities for moderate-to-vigorous physical activity"* (RBSE_1_2; 0.870). Cronbach's α for the RBSE factor was 0.835.

Open-ended questions expanded on these strong RBSE item factor loadings, as teachers noted they felt overwhelmingly capable and confident to implement CSPAP in their schools. Although, teachers mentioned confidence to implement, they expressed reluctance to do so because of barriers related to time, support from school peers, or compensation. Brian states, "Confidence and time to do it are two different things…I won't work for free. The before and after school programming takes time from my family time. It's not worth it to me." Additional points of reluctance included a feeling of isolation to organize and lead a CSPAP and/or not having support from school administers and faculty, although teachers expressed high levels of confidence to implement.

Based upon the review of participants' responses to each open-ended question and identifying salient points through the phases of thematic analysis, researchers felt that qualitative responses provided contextual value and further clarified quantitative data results. Table 4.4 lists the items included in each factor, and reports the factor loadings, standard errors, *t* statistics, *p* values. In addition, open-ended questions accompanied by significant quotes to augment quantitative data are included within their corresponding factor.

Table 4.4 ESEM results.

Variable	Item	Estimate	SE	Estimate/SE	Two-tailed p value
Acculturation (AC)					
As a K-12 student, at least one of my physical education teachers…					
A1_1	Was considered the physical activity leader for the school (e.g., organized physical activity opportunities for students outside the classroom, promoted physical activity to staff).	0.722	0.087	8.270	0.000
A1_2	Implemented a physical education program that included: standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity).	0.538	0.074	7.307	0.000
A4	Organized physical activity opportunities before/after school for all students (e.g., intramurals, physical activity clubs).	0.527	0.075	7.035	0.000
A2	Organized physical activity opportunities for school staff/faculty (e.g., staff wellness programming, walking/jogging groups, staff training for physical activity promotion).	0.481	0.091	5.279	0.000

A5	Organized physical activity opportunities during school for all students (e.g., classroom-based physical activity, structured recess, open-gyms).	0.405	0.081	5.020	0.000
Please tell us more about your CSPAP-related participation experiences as a K-12 student.		"*I didn't have much participation, so it motivates me to give my students more opportunities*" *(Henery)* *"There were very few opportunities through my school district. I hope to change that at my school" (Ann)*			
Professional Socialization (PS) My teacher certification program prepared me to…					
PS1_5	Develop physical activity initiatives for school staff/faculty (e.g., fitness programs/events for teachers, health screening for teachers, staff training for physical activity promotion).	0.887	0.051	17.310	0.000
PS2_2	Evaluate current physical activity offerings in K-12 school environments (e.g., before/after school, during school, facilities, equipment resources).	0.885	0.052	16.950	0.000
PS1_2	Develop additional physical activity opportunities before and/or after school (e.g., active transportation to school, intramurals, walk/run-	0.877	0.056	15.703	0.000

	a-thons, physical activity clubs, open gym).				
PS2_1	Establish partnerships with school/community stakeholders for physical activity initiatives (e.g., school administrators/faculty, universities, YMCAs, health department, parks and recreation, Boys and Girls Club).	0.866	0.052	16.549	0.000
PS2_5	Market/promote physical activity initiatives.	0.862	0.055	15.537	0.000
PS1_4	Develop physical activity initiatives involving family/community engagement (e.g., 5K events, family fitness nights at school, health fair).	0.850	0.052	16.510	0.000
PS2_4	Train school personnel on physical activity integration during school.	0.832	0.053	15.576	0.000
PS2_6	Implement CSPAP as a future in-service teacher.	0.806	0.053	15.281	0.000
PS1	Based upon the survey definition of CSPAP (i.e., Physical Education plus one or more components), my teacher certification program trained me to implement CSPAP as an in-service teacher.	0.736	0.058	12.804	0.000

My teacher certification program prepared me to…					
PS1_3	Develop physical activity initiatives during school (e.g., classroom-based physical activity, structured recess).	0.735	0.058	12.624	0.000
PS2_3	Develop joint use agreements for facility usage of physical activity initiatives.	0.728	0.055	13.232	0.000
PS110	Develop a physical education program that includes: standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity.	0.516	0.070	7.329	0.000
Please tell us more about your training experiences with PA promotion (e.g., CSPAP).		"*An entire semester was devoted to the development of CSPAP at my school and in my community" (Bill)* *"During my certification program at [concealed], I created a staff wellness program. In addition, in my graduate program I wrote an article for SHAPE America dissecting aspects of community relations & resources to be used as part of a WSCC or CSPAP model" (Sarah)*			
Organizational Socialization (OS)					
OS5_5	Teachers/faculty expect me to implement CSPAP.	0.872	0.060	14.557	0.000
OS5_6	Teachers/faculty positively influence my current CSPAP involvement.	0.815	0.058	14.021	0.000
OS5_2	Administrators expect me to implement CSPAP.	0.775	0.059	13.237	0.000

OS6_2	Family/community members expect me to implement CSPAP.	0.742	0.061	12.167	0.000
OS6_3	Families/community positively influence my current CSPAP involvement.	0.720	0.060	12.067	0.000
OS2_8	My school provides physical activity events for family and community members to participate.	0.669	0.062	10.709	0.000
OS6_5	Students positively influence my CSPAP involvement.	0.652	0.065	10.059	0.000
OS2_6	Most students in my school get more than one recess per day.	0.471	0.069	6.781	0.000
OS2_9	My school provides physical activity classes/programs for faculty and/or staff. (e.g., walking/jogging, aerobics, yoga, basketball).	0.464	0.068	6.826	0.000
OS2_4	My school promotes and/or supports active transport activities. (e.g., walking, cycling).	0.450	0.067	6.669	0.000
OS4_2	Indoor and outdoor physical activity facilities/resources (e.g., gym space, weight room, outdoor green space) positively influence my CSPAP involvement.	0.404	0.068	5.929	0.000
OS2_7	Community organized physical activity programs are available for all students on	0.362	0.068	5.310	0.000

	school grounds outside of the normal school day (e.g., YMCA/YWCA).				
Please tell us about how where you teach influences your current CSPAP involvement.		*"I have great support from administration and teachers to implement CSPAP. Any idea I have they support and are willing to participate or volunteer" (Elaine)*			
Role Breadth Self-Efficacy (RBSE)					
RBSE_1_3	I feel confident implementing multiple components of CSPAP (e.g., before/after school physical activity, staff involvement).	0.920	0.021	44.331	0.000
RBSE_1_2	I feel confident implementing physical education program that includes standards-based instruction, assessment of student learning, opportunities for moderate-to-vigorous physical activity.	0.870	0.026	33.955	0.000
RBSE_1_1	I feel confident being a physical activity leader for my school(s) (e.g., organize physical activity opportunities for students outside the classroom, promote physical activity to staff and families/community).	0.756	0.027	27.569	0.000
Please tell us more about the factors that influence your beliefs and confidence to implement CSPAP.		*"Confidence isn't a problem; I only get paid to teach physical education and health during school hours" (Lois)*			

Path Coefficients					
	AC -> RBSE	-0.005	0.065	-0.081	0.935
	PS -> RBSE	0.246	0.058	4.246	0.000
	OS -> RBSE	0.353	0.061	5.839	0.000
Covariances					
	PS – AC	0.119	0.115	1.040	0.298
	OS – AC	0.142	0.108	1.312	0.190
	OS – PS	0.470	0.058	8.039	0.000

The ESEM results showed that the PS (estimate=0.246, p<.001) and OS (estimate=0.353, p<.001) factors were significant predictors of RBSE factor scores, whereas the AC factor was not a significant predictor of RBSE factor scores. The open-ended qualitative responses from physical education teachers support PS and OS predictors of RBSE factor scores. For example, teachers noted their PS training experiences for CSPAP implementation afforded them the confidence to implement CSPAP as an in-service teacher, as Scott explains, "In my field experiences I implemented components of CSPAP in a real school setting, which prepared me to fully promote CSPAP." As it relates to OS, teachers discussed the important influence their school environment (i.e., policy, support, resources) is toward implementation. Jon emphasizes this point, "Administrative support and students positively influence my CSPAP facilitation and implementation." In addition, responses in the open-ended responses confirm the low AC significance scores to be a predictor of RBSE factor scores. For example, physical educators expressed a lack of CSPAP opportunities and participation as a K-12 student, or they didn't remember their AC experiences. Violet explains, "I don't have any recollection of physical education…physical education programs were in place, but CSPAP was not established." Additionally, the relationship between OS and PS was statistically significant (estimate=0.470, p<.001), whereas the relationships PS – AC and OS – AC were not statistically significant (Table 4.4).

Discussion

The purpose of this study was to examine the association of physical education teachers' socialization experiences and confidence with respect to CSPAP implementation. This study adds to previous research on physical education teachers' perceptions related to CSPAP adoption (Webster et al., 2020b, 2020c) and builds on the theoretical basis for understanding physical education teachers' CSPAP involvement. Results from this study are valuable in filling the gaps in the CSPAP (Carson & Webster, 2020) and teacher socialization (Richards & Gaudreault, 2017; Richards et al., 2019) literature bases.

Psychometric analysis of the survey instrument identified a three-factor solution for the socialization items consistent with the three established phases of teacher socialization in the literature (i.e., AC, PS, OS). In addition, a single-factor solution framed around RBSE was found for the three items measuring confidence to be a PAL and implementor of CSPAP. Our data provided evidence of validity and internal consistency for the final items included in subsequent analyses to examine associations between teacher socialization and teacher confidence. The results of psychometric testing indicate that these measures can be used in future research investigating physical education teachers' socialization experiences and confidence with respect to being a PAL and implementing CSPAP.

Survey responses were well distributed (i.e., all areas of the country, distribution between gender, education levels). Our sample was drawn from a national sample of schools and social media with respondents having varying education levels and teaching experience in K-12, which increases our confidence in the generalizability of the study's results. Based upon our examination of the relationships between socialization factors and RBSE, we found that PS and OS to be significant predictors of RBSE, whereas AC was not. Previous AC research has found that pre-service and in-service teachers are highly influenced by their K-12 physical education teachers and their positive or negative experiences within physical education and sport (McCullick et al., 2012; Placek et al., 1995; Richards et al., 2019), but there has been a lack of research on AC factors related to PA promotion experiences (Richards & Gaudreault, 2017; Richards et al., 2019). Results from our study indicate respondents had K-12 physical educators they considered to be PALs and implemented quality physical education programs (e.g., standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity).

However, weaker associations were apparent for their physical education teacher organizing PA opportunities before/after/during school to all students, faculty, and community members. Previous research has indicated many physical education teachers' report the relative quality of their school physical education experience as positive (Templin & Richards, 2014), although they often they receive low quality physical education and expanded PA opportunity experiences (Curtner-Smith, 2009; Curtner-Smith et al., 2008; Stran & Curtner-Smith, 2009). In addition, AC literature has suggested physical educators' negative experiences within physical education and expanded PA opportunities serve as a motivator to become a physical education teacher and deliver quality program experiences (Stran & Curtner-Smith, 2009; Wright, 2001). Our research results support these claims; respondents indicated low scores related to participating in expanded PA opportunities and salient points referenced a lack of PA opportunities during AC served as a motivator to lead programs as an in-service teacher. Additionally, AC experiences were not a predictive factor of teacher confidence to be a PAL and an implementor of CSPAP.

The role of teacher education programs (PS) is to provide learning experiences for pre-service teachers based upon the professional ideals of the PETE faculty (Richards & Gaudreault, 2017). Although pre-service teachers are receiving PS experiences framed by their PETE program; they are also active agents in their own socialization and determine what elements of teacher education they will apply or ignore as K-12 teachers (Richards & Gaudreault, 2017; Zeichner & Gore, 1990). Furthermore, the degree of acceptance or resistance to the orientation of a teacher education program from pre-service teachers is dictated by the intensity of the encouragement of teacher educators (Schempp & Graber, 1992). Previous PS-related research on the effectiveness of training pre-service teachers in PETE programs to develop PAL skills (Egan et al., 2022) and implement CSPAP (Goh et al., 2019, 2020; Kwon et al., 2018; Merica et al., in press; Webster et al., 2017) suggest training experiences increase motivation and confidence to implement expanded PA opportunities and implement CSPAP as a future in-service teacher. Our results support and expand the PS literature as they indicate that when physical educators are trained in their PETE programs to deliver quality physical education and be PALs, they in return are confident to be leaders and implementors of CSPAP.

The degree of CSPAP training physical educators in our study had received in PETE was mixed; some teachers noted CSPAP was highly integrated within their training and others indicated it was largely absent in their training experiences. For pre-service teachers to adopt innovative practices (e.g., teaching models, PA promotion), the PS literature suggests consistency across a PETE program for effective socialization (Curtner-Smith, 1996; Richards & Templin, 2011). In other words, innovative teaching methods and non-traditional approaches to physical education need to be emphasized consistently throughout a PETE program for adoption to occur (Graber, 1998, Richards et al., 2014), and unfortunately, there is relatively limited CSPAP training occurring in PETE programs (Webster et al., 2016a). A plausible reason for the limited PAL and CSPAP training occurring in PETE programs is due to CSPAP being conceptualized within the previous 15 years and change across large swaths of PETE programs takes time and dedication from faculty. However, the demographic results of Study 2 (Table 4.1) are promising, as 20% of the respondents had first learned about CSPAP within their PETE program training.

Given that our results indicate that PETE training experiences increase confidence of physical educators to be a PAL and to implement CSPAP, PAL and CSPAP training in PETE may be a viable option for increasing CSPAP adoption in K-12 schools. However, connecting what is known in the PS literature and recommended training practices for PAL and CSPAP training in PETE (Dauenhauer et al., 2018; Webster et al., 2016b; Zhang et al., 2018), we recommend PETE programs incorporate CSPAP training across vast areas of their curriculums and be a part of the program culture to effectively develop pre-service physical educator knowledge, skills, and planning to be involved with CSPAP as an in-service teacher. Over a dozen pioneering PETE programs have highlighted their incorporation of PAL and CSPAP training across their curriculums (Carson et al., 2017; Castelli et al., 2017), although adoption of these training practices across large swaths of PETE programs are needed to see greater change in the field. Without widespread effort within a PETE program that includes commitment among faculty and reinforcement of major concepts across the curriculum related to being a PAL and implementor of CSPAP, the effectiveness and extent of CSPAP adoption in schools is at jeopardy (Carson & Webster, 2020; Dauenhauer et al., 2018; Richards & Templin, 2011; Zhang et al., 2018).

In addition to the positive relationship of PS and CSPAP involvement, OS factors were significant predictors of RBSE (i.e., confidence) to be a PAL and implementor of CSPAP. OS focuses on how a school environment and context (i.e., policy, administrator support, coworker beliefs/attitudes) impact teacher behavior (Lawson, 1983b). Physical educators in our study felt confident and believed they could implement CSPAP, but organizational socialization factors related to support from administrators and teachers were perceived as consequential to their involvement. Results from our investigation of OS factors are also well documented in the literature. The CSPAP literature has suggested the importance of developing partnerships with school leaders to help implement and sustain CSPAPs (Egan et al., 2018; Nam, et al., 2022; Webster et al., 2015c), along with fostering teacher and administrator support for effective CSPAP implementation (Carson et al., 2014; Deslatte & Carson, 2014; Durlak & DuPre, 2008; Egan et al., 2019; Orendorff et al., 2021, 2022; Webster et al., 2013b). For example, Doolittle and Rukavina (2014) found that the success of CSPAP implementation and sustainability were dependent upon support from school stakeholders (i.e., school personnel, parents). To add, Nam et al. (2022) investigated personnel perspectives' regarding CSPAP sustainment five years post implementation (Kulinna, 2016). Results from their study indicated building collaborative partnerships (i.e., linking schools, communities, and families; teacher and administrator buy-in) are needed to sustain CSPAPs in schools (Nam et al., 2022) and increase confidence in implementation (Egan et al., 2018; Webster, 2013).

In addition to administrator and teacher support, physical educators in our study reported facilities/resources (e.g., available space, equipment, funding) as barriers for current CSPAP involvement. These results are well supported in the CSPAP literature as physical educators have perceived limitations to implementation and sustainability of CSPAPs in schools due to: (a) lack of financial support (Egan et al., 2019; Nun et al., 2022), (b) limited facilities available before/after school because of a focus on athletics (Carson et al., 2014; Hunt and Metzler, 2017), and (c) extracurricular obligations of physical educators (i.e., coaching sport programs, family; Hunt & Metzler, 2017). To overcome barriers related to facilities/resources, the literature recommends program adopters acquire support and access to necessary facilities (i.e., fields, gymnasiums) through join-use agreements using channels of school organizational support (Carson et al., 2014; Hunt & Metzler, 2017; Yu et al., 2020),

and external organizational support (e.g., grants, community businesses, professional associations) to adequately fund CSPAP efforts (Nun et al., 2022). Based upon what is known in the OS and CSPAP literature and supported in our research results, physical educators are more confident to be a PAL and be involved with CSPAP if they can collaborate and forge connections inside and outside the school community. The balanced support from social-ecological levels (e.g., organizational, community) are necessary to successfully implement and sustain CSPAPs (Doolittle & Rukavina, 2014; Egan et al., 2018, 2019; Nam et al., 2022).

Strengths and Limitations

To the author's knowledge, this study was the first of its kind to examine the association of all three phases of socialization and physical educators' CSPAP involvement. Underlying strengths of the study are the theoretical grounding within socialization and RBSE, administering an instrument with strong psychometric properties, and open-ended question responses with salient points to reinforce quantitative results. However, this study has several limitations. First, the response rate for completing the survey is lower than in previous studies surveying public school faculty about CSPAP (i.e., Webster et al., 2020c). The low response rate limits the generalizability of the results and could have been different had the rate of survey responses been higher. Moreover, although a national sample was used, there was a low response rate and, in an effort, to increase the response rate social media was used. Thus, the data is not nationally representative. However, survey respondents' demographics are well distributed. Future survey studies of physical education teachers should consider specific times of year to contact teachers for participation, which may elicit higher response rates. For this study, the sample of physical educators were contacted mid-to-late fall semester, which coincides with academic breaks (i.e., fall break and winter break) and end-of-the-semester school faculty obligations (e.g., parent-teacher conferences, coaching post-season athletics, course changes). It may be advantageous to contact teachers prior to the start of a semester and while under contract (i.e., early-August). Another study limitation was the length of the survey, which may have motivated participants to not complete it. The survey in its entirety contained 99 items, but due to a low response rate only 55 of those items were used for analysis. Furthermore, the training physical education teachers have received may provide biased responses (e.g., greater

number of teachers with CSPAP training in PETE). Future research using this instrument should investigate specific teacher populations (i.e., CSPAP trained versus untrained, graduates from specific PETE programs) to expand on our research results and continue the instrument validation process.

Conclusion

The results of this study provide an initial glimpse into the socialization factors associated with physical education teacher's CSPAP involvement. In-service physical education teachers who receive PS experiences with CSPAP training are confident to be a PAL in their school and implement CSPAP. In addition, OS factors related to support from faculty, administration, and available facilities and resources are associated physical educators' involvement and confidence with leading CSPAP initiatives. Based upon the results of this study, PETE programs should continue to focus on developing and incorporating training measures to develop pre-service teacher competencies and confidence to be a PAL and be implementors of CSPAP as in-service teachers. In addition, school leaders (i.e., administrators, faculty) should provide resources (i.e., equipment, compensation, facilities, faculty support) to increase physical educator confidence to implement CSPAP in K-12 schools.

Moving forward, future research regarding the association of socialization and CSPAP involvement of physical educators should consider a qualitative research design to allow for a deeper analysis of socialization factors due to the contextual nature of teacher socialization. Using a qualitative lens may help to build upon the results of this present study and provide a greater understanding into the lived experiences of physical educators related to their CSPAP involvement. In regard to continued research for each phase of socialization, future AC research should explore how positive and negative K-12 experiences within physical education and expanded PA opportunities influence in-service teachers' CSPAP involvement. The PS data from our study reinforces the importance of school-based PA promotion and CSPAP training in teacher certification programs, however, the degree and type of training PETE programs are providing to pre-service teachers to become PALs and implementors of CSPAP is worthy of investigation. To add, research investigating the role of PS in "highly effective PETE programs" (Webster et al., 2016b), which prepare pre-service teachers to implement CSPAP, and current CSPAP involvement of their PETE graduates as

in-service teachers is needed. Finally, continued OS research exploring the role of school leader support (i.e., principals, faculty, academic coaches) related to CSPAP implementation in schools, and the role of acquiring funding to assist CSPAP implementation and involvement of physical educators is recommended.

Ultimately, physical education teachers are confident to lead CSPAP and be an advocate of PA for their school if they are adequately trained for these roles and supported by school leaders. Based on our results, we believe pre-service training for CSPAP and support from all school contexts are necessary to improve CSPAP involvement of physical educators.

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Chapter 5: Discussion

The purpose of this dissertation was to examine the association of teacher socialization in physical education theory (socialization) and in-service physical education teachers' comprehensive school physical activity program (CSPAP) involvement. In Study 1, a new survey assessing the association of socialization and physical educator's self-reported CSPAP involvement was developed. A thorough instrument validation process was conducted and included: (a) review of CSPAP and socialization content and instrument development literature, (b) development of survey items and recoding of items from validated surveys, (c) instrument review from content experts using the Delphi method (Linstone & Turoff, 1975), (d) administering the survey to a pilot sample of physical educators, and (e) an evaluation of the instrument's psychometric properties. Pilot sample data exemplified quality measures of corresponding components and survey scales had high internal consistency coefficients.

In Study 2, the psychometric properties of the instrument were further examined and investigated in-service physical education teachers' CSPAP involvement from the perspective of socialization using a sample of physical education teachers in the United States. Based upon these results, the psychometric properties of the instrument developed in Study 1 were found to be sound, and a three-factor solution was determined to be best of fit, which aligned with the theoretical framework. Of the three factors, the professional socialization (PS) and organizational socialization (OS) factors were significantly associated with each other, and with the role breadth self-efficacy (RBSE) factor which severed as a dependent variable. In addition, acculturation (AC) factor scores did not associate with RBSE, PS, or OS factors. The research results suggest that PS and OS play an important role in physical educators' confidence to be a physical activity leader (PAL) and be involved with CSPAP.

This dissertation implies that many physical education teachers who are trained for CSPAP or school/community physical activity (PA) promotion in their physical education teacher education (PETE) program have higher RBSE (i.e., confidence) to implement CSPAP, deliver a quality physical education program, and be a PAL in their school. Based on these results, PETE programs can positively impact future in-service teacher CSPAP involvement through integration and preparation of these roles. Limited research on the

preparation of pre-service teachers in PETE for CSPAP is linked to positive dispositions and motivation to implement in the future (Egan et al., 2022; Goh et al., 2019, 2020; Kwon et al., 2018; Merica et al., in press; Webster et al., 2017). Results from this study contributes to the gap in the literature in regard to association of PETE training and in-service teacher RBSE. Continued research regarding PETE preparation of teachers for the roles of being a PAL and CSPAP implementor are needed.

In addition, this dissertation underscores the importance of OS related to school contexts (i.e., support, resources/facilities, compensation, policy) and CSPAP involvement of physical educators. The results indicate that physical education teachers are more likely to be involved with CSPAP if they feel supported by their administration, staff/faculty, and are compensated for their time. These results contribute to the existing literature base regarding facilitators (Carson et al., 2014; Cothran et al., 2010; Goh et al., 2017; Michael et al., 2019) and barriers (Cothran et al., 2010; Deslatte & Carson 2014; Jones et al., 2014; McMullen et al., 2014; Michael et al., 2019) for CSPAP implementation. To increase RBSE of physical educators, the data suggests administrators can be agents of change through their involvement, advocacy, and assistance with CSPAP and school PA promotion. Recent literature on the influence of principal involvement and CSPAP implementation in schools support these claims (Orendorff et al., 2021, 2022). To add, CSPAP implementation success and longevity is highly influenced by the balanced support from all social-ecological levels of a school community (i.e., organizational, community, policy; Doolittle & Rukavina, 2014; Durlak & DuPree, 2008; Egan et al., 2018, 2019; Nam et al., 2022). However, continued research is needed to explore how school contexts (i.e., support, facilities, policy) can positively impact and contribute to physical educator RBSE to be a PAL and involved with CSPAP.

Moreover, physical educators' experiences within the bounds of AC as a K-12 student with physical activity promotion and CSPAP were not significant predictors for RBSE. Physical educators indicated they had teachers who implemented quality physical education programs (e.g., standards-based instruction, assessment, development of motor skills) and were perceived as a PAL. Although, the data indicates that a lack of experiences in K-12 with expanded physical activity opportunities before/during/after school or opportunities that involved staff, faculty, parents, or their community was evident. However,

the salient points reported from open-ended questions suggest the lack of experiences during AC is a motivator for physical educators to implement CSPAP as an in-service teacher. This data is unique and fulfills major gaps in the CSPAP (Carson & Webster, 2020) and socialization (Richards et al., 2019) literature bases. Continued research investigating the role of physical education teacher's AC experiences with PA promotion related to their current involvement in CSPAP is highly recommended.

Finally, in regard to lessons learned from the research conducted for this dissertation. As a research team, the difficulties of recruiting in-service teachers to participate in survey research was discovered. The discovery is not novel, as other survey research conducted with school faculty (i.e., principals, Orendorff et al., 2021, 2022; physical education teachers; Webster et al., 2020a, 2020b) experienced similar struggles to gain modest response rates from individuals drawn from a national sample of schools. In addition, the nature of teacher socialization is highly contextual to an individual's experiences. Based upon the quantitative survey data there is confidence in the delineation of results, recommendations for the field, and suggestions moving forward with continued research. However, it is imperative that a rich investigation of the lived experience through a qualitative approach be implemented to confirm and refine the quantitative results. Continued exploration into the role of socialization and CSPAP involvement of physical educators is highly recommended. The surface has only been scratched exploring this phenomenon.

In conclusion, the results suggest PETE program training of pre-service teachers for the roles of a PAL and CSPAP implementor are associated with in-service teacher's RBSE. Continued efforts within PETE to prepare future teachers for these roles should be integrated and included into program curriculums. In addition, school contexts (i.e., support, facilities, resources) play a vital role in RBSE for CSPAP involvement. Specifically, administrators and other school leaders (i.e., support from students and faculty) are key to CSPAP success. Additional research is needed to investigate best practices for gaining school official support and involvement for CSPAP. Moreover, the lack of CSPAP and PA promotion experiences physical education teachers receive during their K-12 experiences may be an influencer to implement programs as an in-service teacher. Continued exploration into these results is recommended. The next era of research on CSPAP and socialization provides avenues of a continued focus on PS with PETE training effectiveness and the support of school contexts

within OS to increase rates of CSPAP implementation and sustain existing programs for future generations of K-12 students.

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Appendix A: Invitation Email to Content Experts

Subject Line:

Expertise Requested for a Content Validity Study: Teacher Socialization and CSPAP

Body:

Dear [Insert CSPAP or Socialization Researcher Name],

Greetings from the Physical Education Teacher Education program at the University of Idaho! Under the direction of my Ph.D. advisor, Dr. Cate Egan, I am developing a survey instrument to measure the association of teacher socialization and in-service physical educator CSPAP involvement. The survey is framed using the teacher socialization in physical education (socialization) theoretical framework.

As a [CSPAP/socialization] expert, we are inviting you to help us by participating in the content validity of the instrument development process. By clicking on the link to the Qualtrics survey below, you will first see an informed consent page, followed by the survey. We are asking that for each survey section you provide comments/feedback, particularly from a CSPAP perspective. We have also invited [CSPAP/socialization] experts to participate in a similar process to determine the appropriateness of the survey items from a socialization perspective.

We are asking that you complete this task by [Insert Date].

If you have any questions, please do not hesitate to email me directly at **cmerica@uidaho.edu.**

I greatly appreciate your time and consideration to participate as an expert researcher in the content validity process. Your participation will help continue my doctoral journey and expand the CSPAP literature base.

Respectfully,

Christopher Merica, M.Ed.
Physical Education Teacher Education Program
University of Idaho
E: cmerica@uidaho.edu
P: (208) 791-8176

Appendix B: Invitation Email to Physical Educators

Subject Line:

Physical Educator Experiences with Physical Activity Promotion

Body:

Dear [First Name] [Last Name],

We are inviting you to take this survey about your experiences with physical activity promotion. In this survey, physical activity promotion will be framed using the Comprehensive School Physical Activity Program (CSPAP) model. This survey aims to capture your lifetime experiences with CSPAP (i.e., physical activity promotion), as well as your current CSPAP involvement as a physical education teacher.

Those who complete the survey will be placed in a drawing for a **$50 Amazon gift card!**

Your participation will involve completing an online survey with the option to participate in a follow-up interview. The survey should take **about 20 minutes or less to complete**, and participation is voluntary. You may exit the survey at any time and return to the survey to complete your responses.

We are asking that you complete the survey by [Insert Date].

If you have any questions, please do not hesitate to email me directly at:

cmerica@uidaho.edu.

I greatly appreciate your time and consideration to participate. Your participation will help with my doctoral journey and expand the physical education literature base.

Follow the link to begin the survey: [Survey Link]

Respectfully,

Christopher Merica, M.Ed.
Physical Education Teacher Education Program
University of Idaho
E: cmerica@uidaho.edu
P: (208) 791-8176

Appendix C: Informed Consent

PRINCIPAL INVESTIGATOR: Cate Egan, Ph.D.
CO-PRINCIPAL INVESTIGATOR: Chris Merica, M.Ed.

DESCRIPTION OF STUDY PROCEDURES: Complete the online survey.

RISKS OF PARTICIPATION: There are no known risks associated with participating in this research except a slight risk of breach of confidentiality, which remains despite steps that will be taken to protect your privacy.
To minimize the risk of this occurring, your survey will be stored in a password protected database on a computer in the principal investigator's locked office at the University of Idaho and will not be shared with anyone other than other members of the research team. Your name will not be used in any reports of the study.

BENEFITS OF PARTICIPATION: This research may help us understand the factors associated with teacher socialization and physical educator CSPAP involvement. In addition, you will have the opportunity to win a $50 Amazon gift card from a randomized drawing. The odds for winning a gift card are 1 in 3,000. At the end of the survey, you will be given the opportunity to provide your contact information (i.e., name and email address) in order to receive compensation. This information will be kept entirely separate from the survey and your responses. Once the compensation is distributed, we will delete your contact information.

CONFIDENTIALITY OF RECORDS: All information gathered will remain confidential. Study information will be stored in the principal investigator's locked office and in password protected computer files at the University of Idaho. The results of the study may be published or presented at meetings, but your identity will not be revealed. While we will make every effort to protect your privacy, it cannot be absolutely guaranteed. In rare cases, a research study may be evaluated by an oversight agency, such as the University of Idaho Institutional Review Board or the U.S. Office for Human Research Protections.

CONTACT PERSONS: For more information concerning this research, you should contact Chris Merica at (208)791-8176 or email at meri1745@vandals.uidaho.edu. If you have any questions about your rights as a research participant, you may contact: Jennifer Neelon, Institutional Review Board Coordinator, University of Idaho, Moscow, ID; Phone: (208) 885-6340; E-Mail: irb@uidaho.edu

VOLUNTARY PARTICIPATION: Participation in this study is voluntary. You are free not to participate or to withdraw at any time, for whatever reason, without negative consequences. In the event that you do withdraw from this study, the information you have already provided will be kept confidential.

ELECTRONIC CONSENT: By clicking on the yellow button below indicates that:

- You voluntarily agree to participate
- You are 18 years of age or older

Thank you very much for your time and contributions to our research!

Appendix D: Survey

Introduction Letter:

Dear Physical Educator,

We are hoping to learn about your personal experiences with physical activity promotion during your time as a K-12 student, preservice teacher candidate, and professional in-service teacher. In this survey, physical activity promotion will be framed using the conceptual model known as a Comprehensive School Physical Activity Program (CSPAP).

You will be asked questions to:

- Determine the extent and nature of your CSPAP-related experiences over your lifetime
- Determine the ways in which you are, or could be, involved with a CSPAP at your school

Please respond to all items based upon your best recollection of past events and with the aforementioned definition of a CSPAP in mind.

In addition, please answer each question with consideration to a "normal" school year (i.e., non-COVID-19 school year) in which there are no limitations to in-person activities.

Participation in this study is voluntary. You are free withdraw at any time, and you may exit the survey at any time and return to the survey to complete your responses.

Physical education teachers who complete this survey will have the opportunity to be placed in a drawing to win a $50 Amazon gift card.

We appreciate your valuable time to participate in this important research!

Please click the yellow button below to begin the survey.

Survey:

Acculturation (AC): Section 1 of 5

In this section, the following statements will focus on your experiences with CSPAP-related opportunities as a K-12 student.

For the purposes of this study, a CSPAP is defined as providing ***PHYSICAL ACTIVITY O****PPORTUNITIES* for all students to participate in: (1) physical education **AND** (2) **ONE OR MORE** of the following components:

- **Physical Activity During School** (e.g., physical activity during regular classroom time, at recess, or during lunch)
- **Physical Activity Before & After School** (e.g., active transportation options to/from school, intramural sports, physical activity clubs)
- **Staff Involvement** (e.g., staff wellness programming, staff training for physical activity promotion, staff/administrator support for physical activity promotion)
- **Family and Community Engagement** (e.g., facility joint-use agreements with outside organizations, physical activity events for families, active homework)

Respond to all items based upon your best recollection of past events.

Please respond to the following statements related to **your physical education teacher(s)** as a K-12 student to the best of your abilities.	
Item	*Question Type*
As a K-12 student, at least one of my physical education teachers was considered the physical activity leader for the school (e.g., organized physical activity opportunities for students outside the classroom, promoted physical activity to staff)	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree / Don't Remember
As a K-12 student, at least one of my physical education teachers implemented a physical education program that included: standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree / Don't Remember

As a K-12 student, at least one of my physical education teachers organized physical activity opportunities for school staff/faculty (e.g., staff wellness programming, walking/jogging groups, staff training for physical activity promotion). If *Hardly Ever, Sometimes, Often, Very Often*, check all that apply: • Staff wellness programming (e.g., fitness programs/events for teachers, health screening for teachers) • Staff training for PA promotion • Group exercise classes • Walking/jogging groups • Aerobics • Yoga • Other, please specify:	Never / Hardly Ever / Sometimes / Often / Very Often / I Don't Know-Remember Checklist
As a K-12 student, at least one of my physical education teachers organized physical activity opportunities for my family/community (e.g., 5k events, family fitness nights at school, physical activity newsletters). If *Hardly Ever, Sometimes, Often, Very Often*, check all that apply: • PA programs/events for the family/community (e.g., 5K events, family fitness nights at school, health fair) • Promotion of PA to family/community (e.g., announcements, course website, PA/health newsletters) • PA promotion with community organizations (e.g., universities, YMCAs, health department, parks and recreation, Boys/Girls Club) • Other, please specify:	Never / Hardly Ever / Sometimes / Often / Very Often / I Don't Know-Remember Checklist

As a K-12 student, at least one of my physical education teachers organized physical activity opportunities before/after school for all students (e.g., intramurals, physical activity clubs). If *Hardly Ever, Sometimes, Often, Very Often*, check all that apply: • Active transportation programs/options (e.g., bike/walk to school promotion) • Intramurals • PA clubs • Facility access (e.g., open gym/weight room, green space access) • Field day • Other, please specify:	Never / Hardly Ever / Sometimes / Often / Very Often / I Don't Know-Remember Checklist
As a K-12 student, at least one of my physical education teachers organized physical activity opportunities during school for all students (e.g., classroom-based physical activity, structured recess, open-gyms). If *Hardly Ever, Sometimes, Often, Very Often*, check all that apply: • Classroom-based PA • Structured recess (e.g., recess attendant, equipment available, games encouraged) • PA assemblies • PA drop-in opportunities (e.g., keeping the gym open during lunch or special periods) • Field day • Other, please specify:	Never / Hardly Ever / Sometimes / Often / Very Often / I Don't Know-Remember Checklist

The CSPAP-related involvement of my K-12 physical education teacher(s) positively influence my ability/desire to facilitate CSPAP at my school as an in-service teacher.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree / Don't Remember
Please explain how your K-12 physical education teachers influence your current CSPAP involvement.	Open-ended question
Please respond to the following statements related to your **participation experiences** as an **elementary student** (i.e., grades K-5) with CSPAP-related opportunities to the best of your abilities.	
Item	*Question Type*
As an elementary student, I participated in school-organized physical activity opportunities before/after school (e.g., active transportation options to/from school, intramural sports, PA clubs).	Yes / No / I Don't Know-Remember
<u>If yes, check all that apply:</u> • Active transportation programs/options (e.g., bike/walk to school promotion) • Intramurals • Walk/Run-a-thons • Interscholastic sports • PA clubs • Other, please specify:	Checklist
As an elementary student, I participated in school-organized physical activity opportunities during school (e.g., organized physical activity during regular classroom time, structured recess, or physical activity during lunch).	Yes / No / I Don't Know-Remember
<u>If yes, check all that apply:</u> • Classroom-based PA	Checklist

• Structured recess (e.g., recess attendant, equipment available, games encouraged) • PA assemblies • PA drop-in opportunities (e.g., keeping the gym open during lunch or special periods) • Field day • Other, please specify:	
As an elementary student, I participated in school-organized physical activity opportunities involving my family/community (e.g., facility joint-use agreements with outside organizations, physical activity events for families, active homework).	Yes / No / I Don't Know-Remember
<u>If yes, check all that apply</u>: • PA programs and/or events for families (e.g., 5K events, family fitness nights at school, health fair) • Promotion of PA including my family and/or community (e.g., announcements, website, PA/health newsletters) • PA programs and/or events associated with community organizations (e.g., universities, YMCAs, health department, parks and recreation, Boys/Girls Club) • Active homework involving my family members and/or community • Other, please specify:	Checklist
As an elementary student, my experiences participating in physical education classes included the following <u>(check all that apply):</u> • Standards-based instruction • Assessment of student learning (e.g., cognitive, psychomotor, and/or affective) • Opportunities for moderate-to-vigorous PA	Checklist

<table>
<tr><td>

- Meaningful content (e.g., development of motor skills, lifetime activities)
- Promotion of PA outside of physical education (e.g., physical activity clubs and events, intramurals)
- None of the above
- I Don't Know/Remember

</td><td></td></tr>
<tr><td colspan="2">Please respond to the following statements related to your participation experiences as a middle school student (i.e., grades 6-8) with CSPAP-related opportunities to the best of your abilities.</td></tr>
<tr><td rowspan="2">As a middle school student, I participated in school-organized physical activity opportunities before/after school (e.g., active transportation options to/from school, intramural sports, physical activity clubs).

<u>If yes, check all that apply</u>:
• Active transportation programs/options (e.g., bike/walk to school promotion)
• Intramurals
• Walk/Run-a-thons
• PA clubs
• Other, please specify:</td><td>Yes / No / I Don't Know-Remember</td></tr>
<tr><td>Checklist</td></tr>
<tr><td rowspan="2">As a middle school student, I participated in school-organized physical activity opportunities during school (e.g., physical activity during regular classroom time, at recess, or during lunch).
<u>If yes, check all that apply</u>:
• Classroom-based PA
• Structured recess (e.g., recess attendant, equipment available, games encouraged)
• PA assemblies
• PA drop-in opportunities (e.g., keeping the gym open during lunch or special periods)
• Other, please specify:</td><td>Yes / No / I Don't Know-Remember</td></tr>
<tr><td>Checklist</td></tr>
</table>

As a middle school student, I participated in school-organized physical activity opportunities involving my family/community (e.g., facility joint-use agreements with outside organizations, physical activity events for families, active homework). <u>If yes, check all that apply</u>: • PA programs and/or events for families (e.g., 5K events, family fitness nights at school, health fair) • Promotion of PA including my family and/or family/community (e.g., announcements, website, PA/health newsletters) • PA programs and/or events associated with community organizations (e.g., universities, YMCAs, health department, parks and recreation, Boys/Girls Club) • Active homework involving my family members and/or community • Other, please specify:	Yes / No / I Don't Know-Remember Checklist
As a middle school student, my experiences participating in physical education classes included the following (check all that apply): • Standards-based instruction • Assessment of student learning (e.g., cognitive, psychomotor, and/or affective) • Opportunities for moderate-to-vigorous PA • Meaningful content (e.g., development of motor skills, lifetime activities) • Promotion of PA outside of physical education (e.g., physical activity clubs and events, intramurals) • None of the above • I Don't Know / Remember	Checklist

<table>
<tr><td colspan="2">Please respond to the following statements related to your participation experiences as a high school student (i.e., grades 9-12) with CSPAP-related opportunities to the best of your abilities.</td></tr>
<tr><td rowspan="2">As a high school student, I participated in school-organized physical activity opportunities before/after school (e.g., active transportation options to/from school, intramural sports, physical activity clubs).

<u>If yes, check all that apply</u>:
• Active transportation programs/options (e.g., bike/walk to school promotion)
• Intramurals
• Walk/Run-a-thons
• PA clubs
• Other, please specify:</td><td>Yes / No / I Don’t Know-Remember</td></tr>
<tr><td>Checklist</td></tr>
<tr><td rowspan="2">As a high school student, I participated in school-organized physical activity opportunities during school (e.g., physical activity during regular classroom time, open periods, or during lunch).

<u>If yes, check all that apply:</u>
• Classroom-based PA
• Structured recess (e.g., recess attendant, equipment available, games encouraged)
• PA assemblies
• PA drop-in opportunities (e.g., keeping the gym open during lunch or special periods)
• Other, please specify:</td><td>Yes / No / I Don’t Know-Remember</td></tr>
<tr><td>Checklist</td></tr>
<tr><td>As a high school student, I participated in school-organized physical activity opportunities involving my family/community (e.g., facility joint-use</td><td>Yes / No / I Don’t Know-Remember</td></tr>
</table>

agreements with outside organizations, physical activity events for families, active homework). <u>If yes, check all that apply</u>: • PA programs/events for families (e.g., 5K events, family fitness nights at school, health fair) • Promotion of PA including my family and/or community (e.g., announcements, website, PA/health newsletters) • PA programs and/or events associated with community organizations (e.g., universities, YMCAs, health department, parks and recreation, Boys/Girls Club • Active homework involving my family members and/or community • Other, please specify:	Checklist
As a high school student, my experiences participating in physical education classes included the following (check all that apply). • Standards-based instruction • Assessment of student learning (e.g., cognitive, psychomotor, and/or affective) • Opportunities for moderate-to-vigorous PA • Meaningful content (e.g., development of motor skills, lifetime activities) • Promotion of PA outside of physical education (e.g., physical activity clubs and events, intramurals) • None of the above • I Don't Know/Remember	Checklist

My CSPAP-related participation as a K-12 student positively influence my ability/desire to facilitate CSPAP at my school as an in-service teacher.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree / Don't Remember
The CSPAP-related opportunities I participated in as a K-12 student are similar to the ones I implement now as an in-service teacher.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree / Don't Remember
Please tell us more about your CSPAP-related participation experiences as a K-12 student.	Open-ended question

Professional Socialization (PS): Section 2 of 5

The following statements will focus on your formal preservice training experiences with CSPAP (e.g., physical activity promotion) in your **teacher certification program** (e.g., physical education teacher education [PETE] program).

Your preservice training experiences with CSPAP may include, but are not limited to:

- Learning and implementing strategies to advocate for physical education and physical activity within the school setting
- Being a primary planner and organizer for schoolwide physical activity and health events targeted for school staff/faculty, students, and/or families and community
- Learning to lead opportunities for physical activity during school, physical activity before or after school, and/or engaging staff, family and community members in physical activity promotion
- Learning how to create an active school culture
- Collaborating among school stakeholders (i.e., administration, community professionals) to implement physical activity events

Please respond to all items based upon your best recollection of past events.

Item	*Question Type*
Where did you receive your teacher certification training to become a physical education teacher? - University/College physical education teacher education (PETE) program - Alternative licensure (e.g., online certification program) - I did not receive formal training to become a physical education teacher	Multiple-choice

Please indicate the **name of the institution** (e.g., University of Idaho) where you received your teacher certification training to become a physical education teacher. If you did not receive certification training, please write "**N/A**"	Open-ended question
Please respond to the following statements related to **your formal training experiences** with CSPAP (e.g., physical activity promotion) in a teacher certification program (e.g., PETE program) to the best of your abilities. *** Please note** it is **NOT** considered CSPAP training if your teacher certification program only addressed Physical Education and **DID NOT** address one or more CSPAP components (i.e., before/after school physical activity, during school physical activity, staff involvement, family/community engagement) *****	
Based upon the survey definition of CSPAP training (i.e., Physical Education plus one or more components)**, my teacher certification program trained me to implement CSPAP as an in-service teacher.**	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Item Stem ***My teacher certification program prepared me to develop…***	
A physical education program that includes: standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Additional physical activity opportunities before and/or after school (e.g., active transportation to school, intramurals, walk/run-a-thons, physical activity clubs, open gym).	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree

Physical activity initiatives during school (e.g., classroom-based physical activity, structured recess, physical activity assemblies, open gym).	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Physical activity initiatives involving family/community engagement (e.g., 5K events, family fitness nights at school, health fair).	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Physical activity initiatives for school staff/faculty (e.g., fitness programs/events for teachers, health screening for teachers, staff training for physical activity promotion). (5)	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Item Stem ***My teacher certification program prepared me to…***	
Establish partnerships with school/community stakeholders for physical activity initiatives (e.g., school administrators/faculty, universities, YMCAs, health department, parks and recreation, Boys/Girls Club).	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Evaluate current physical activity offerings in K-12 school environments (e.g., before/after school, during school, facilities, equipment resources).	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Develop joint use agreements for facility usage of physical activity initiatives.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Train school personnel on physical activity integration during school.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree

Market/promote physical activity initiatives.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Implement CSPAP as a future in-service teacher.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree

Item	*Question Type*
During your teacher certification coursework, indicate the learning experiences you participated in (check all that apply): • Performing field observations of physical activity opportunities in K-12 schools • Conduct school physical activity needs assessments • Developing advocacy plans for school-wide physical activity • Identify community stakeholders for school-wide physical activity initiatives • Attend physical activity leadership certification workshops (e.g., professional development clinics) • Research experiences examining student, teacher, or school outcomes from physical activity program implementations (e.g., CSPAP) • Other, please specify: • None of the above	Checklist

During your teacher certification program coursework, indicate the CSPAP components you implemented during field experiences (e.g., teaching practicums, student teaching; check all that apply): • **Physical Education** (e.g., standards-based instruction, assessment of student learning, opportunities for moderate-to-vigorous physical activity during physical education lessons) • **Before/After school physical activity** (e.g., active transportation options to/from school, intramural sports, physical activity clubs) • **During school physical activity** (e.g., physical activity during regular classroom time, at recess, or during lunch) • **Family/Community engagement** (e.g., facility joint-use agreements with outside organizations, physical activity events for families, active homework) • **Staff involvement** (e.g., staff wellness programming, staff training for physical activity promotion, staff/administrator support for physical activity promotion) • **None of the above**	Checklist

Item Stem ***My teacher certification program positively influenced…***	
My value for school-wide physical activity initiatives	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
My perceived importance for school-wide physical activity promotion	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
My current CSPAP involvement as an in-service teacher (e.g., before/after school physical activity, during school physical activity, staff involvement, family/community engagement)	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Please tell us more about your training experiences with physical activity promotion (e.g., CSPAP).	Open ended response

Organizational Socialization (OS): Section 3 of 5

The following statements will focus on **your school organization and environmental factors** that influence your current CSPAP involvement.

Please remember, for the purposes of this study, a CSPAP is defined as providing ***PHYSICAL ACTIVITY OPPORTUNITIES*** for all students to participate in: (1) physical education **AND** (2) **ONE OR MORE** of the following components:

- **Physical Activity During School** (e.g., physical activity during regular classroom time, at recess, or during lunch)
- **Physical Activity Before, After School** (e.g., active transportation options to/from school, intramural sports, physical activity clubs)
- **Staff Involvement** (e.g., staff wellness programming, staff training for physical activity promotion, staff/administrator support for physical activity promotion)
- **Family and Community Engagement** (e.g., facility joint-use agreements with outside organizations, physical activity events for families, active homework)

Item	*Question Type*
Based upon the survey definition of CSPAP (i.e., PE+1 or more additional CSPAP components), indicate the following CSPAP component(s) **you are involved in** at your school(s). Involvement can include, but is not limited to, being a primary planner, organizer, assistant, or volunteer. Check all components that apply: - **Physical education** (e.g., standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity) - **Before/After school physical activity** (e.g., active transportation options to/from school, intramural sports, physical activity clubs)	Checklist

- **During school physical activity** (e.g., physical activity during regular classroom time, at recess, or during lunch) - **Staff involvement** (e.g., staff wellness programming, staff training for physical activity promotion, staff/administrator support for physical activity promotion) - **Community/Family engagement** (e.g., facility joint-use agreements with outside organizations, physical activity events for families, active homework) - **None of the above**	
Please respond to the following statements regarding **CSPAP opportunities available** at your school.	
Item	*Question Type*
Every student has the opportunity to participate in physical education every school term (i.e., semester, quarter).	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Every student has the opportunity to participate in a school intramural sports program.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
School sponsored physical activity opportunities are available to all students before or after the school day.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
My school promotes and/or supports active transport activities. (e.g., walking, cycling)	Strongly Disagree / Disagree / Somewhat

	Disagree / Somewhat Agree / Agree / Strongly Agree
Most teachers at my school provide activity breaks in the classroom, as a break, or as part of academic work.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Most students in my school get more than one recess per day.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Community organized physical activity programs are available for all students on school grounds outside of the normal school day (e.g., YMCA/YWCA).	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
My school provides physical activity events for family and community members to participate	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
My school provides physical activity classes/programs for faculty and/or staff. (e.g., walking/jogging, aerobics, yoga, basketball)	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Please respond to the following statements regarding your school(s) **physical education and physical activity policies** to effectively implement a CSPAP.	
Item	*Question Type*
Written policy at my school requires physical education be taught a specific number of minutes per week or a specific number of days per week.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree

Students at my school are required to take physical education for graduation or promotion to the next grade or school level.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
My school has a written policy or guideline that prohibits classroom teachers from withholding students from physical education as a punishment or for academic work.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
My school has a written policy or guideline that prohibits classroom teachers from withholding students from recess as a punishment or for academic work.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
My school's policies positively influence my CSPAP involvement (e.g., physical education requirements, student access to gyms/green spaces, allotted time for classroom physical activity integration).	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Please respond to the following statements regarding your **school(s) resources** to effectively implement a CSPAP. Read each item carefully before responding, some items are <u>negatively framed</u>.	
Indoor and outdoor physical activity facilities/resources (e.g., gym space, weight room, outdoor green space) **are open to students, their families, and the community outside of school hours.**	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Indoor and outdoor physical activity facilities/resources (e.g., gym space, weight room, outdoor green space) **positively influence my CSPAP involvement.** (3)	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Budgetary constraints prevent me from implementing a CSPAP.	Strongly Disagree / Disagree / Somewhat

	Disagree / Somewhat Agree / Agree / Strongly Agree
Please respond to the following statements regarding your school(s) **administrator and teacher support** to effectively implement a CSPAP. Read each item carefully before responding, some items are negatively framed.	
Administrator "buy-in" is a barrier to implement a CSPAP	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Administrators expect me to implement CSPAP.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Administrators positively influence my current CSPAP involvement.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Teachers/faculty "buy-in' is a barrier to implement a CSPAP.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Teachers/faculty expect me to implement CSPAP.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Teachers/faculty positively influence my current CSPAP involvement.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree

Please respond to the following statements regarding your school(s) **families/community and student** support to effectively implement a CSPAP. Read each item carefully before responding, some items are negatively framed.	
Families/community "buy-in" is a barrier to implement a CSPAP.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Family/community members expect me to implement CSPAP	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Families/community positively influence my current CSPAP involvement.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Student "buy-in" is a barrier to implement a CSPAP.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Students positively influence my current CSPAP involvement.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
My school has a **health and physical activity culture** that supports me implementing CSPAP.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
As a whole, the school(s) where I teach **positively influences** my ability/desire to facilitate CSPAP at my school.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree

Please tell us about how where you teach influences your current CSPAP involvement.	Open ended question

CSPAP Beliefs and Confidence: Section 4 of 5

The following statements will focus on your **beliefs and confidence** to implement CSPAP. Please remember, for the purposes of this study, a CSPAP is defined as providing ***PHYSICAL ACTIVITY OP***PORTUNITIES for all students to participate in: (1) physical education **AND** (2) **ONE OR MORE** of the following components:

- **Physical Activity During School** (e.g., physical activity during regular classroom time, at recess, or during lunch)
- **Physical Activity Before, After School** (e.g., active transportation options to/from school, intramural sports, physical activity clubs)
- **Staff Involvement** (e.g., staff wellness programming, staff training for physical activity promotion, staff/administrator support for physical activity promotion)
- **Family and Community Engagement** (e.g., facility joint-use agreements with outside organizations, physical activity events for families, active homework)

Please respond to the following statements regarding your beliefs and perceived competence to implement CSPAP at your school.	
Item	*Question Type*
I believe one of the roles of a physical educator in schools is to be a physical activity leader (e.g., organize physical activity opportunities for students outside the classroom, promote physical activity to staff and families/community).	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
I believe one of my roles as a physical educator is to form a group of stakeholders for CSPAP implementation (e.g., parents, faculty/staff, administrators)**.**	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
I believe one of my roles as a physical education teacher is to implement a CSPAP at my school(s).	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree

Please respond to the following statements regarding your **confidence** to implement CSPAP at your school.	
I feel confident being a physical activity leader for my school(s) (e.g., organize physical activity opportunities for students outside the classroom, promote physical activity to staff and families/community)	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
I feel confident implementing physical education program that includes: standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity.	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
I feel confident implementing multiple components of CSPAP (e.g., before/after school physical activity, staff involvement).	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
I can implement a CSPAP (i.e., PE +1 or more additional components).	Strongly Disagree / Disagree / Somewhat Disagree / Somewhat Agree / Agree / Strongly Agree
Please rate your **confidence** for implementation of each CSPAP component (1: least confident – 5: most confident).	
Physical Education (e.g., standards-based instruction, assessment of student learning, opportunities to learn, opportunities for moderate-to-vigorous physical activity)	1 – 5 Rating Options
Before/After school physical activity (e.g., active transportation options to/from school, intramural sports, physical activity clubs)	1 – 5 Rating Options

During school physical activity (e.g., physical activity during regular classroom time, at recess, or during lunch)	1 – 5 Rating Options
Family/Community engagement (e.g., facility joint-use agreements with outside organizations, physical activity events for families, active homework)	1 – 5 Rating Options
Staff involvement (e.g., staff wellness programming, staff training for physical activity promotion, staff/administrator support for physical activity promotion)	1 – 5 Rating Options
Please tell us more about the factors that influence your beliefs and confidence to implement a CSPAP.	Open ended question

Demographics: Section 5 of 5

1. What is your age? – *18-24 / 25-34 / 35-44 / 45-54 / 55-64 / 65 and over*
2. What is your gender? – *Female / Male / Transgender Female / Transgender Male / Gender Variant-Non-Conforming / Not Listed (Open Ended Response) / Prefer not to say*
3. Are you of Hispanic or Latino descent? *Yes / No*
4. Which of the following best describes your race? – *AI- American Indian / AN- Alaska Native / AA- African American or Black / A- Asian / NH- Native Hawaiian or Other Pacific Islander / W- White / M more than one race / Prefer not to say*
5. What is your highest level of education obtained? – *High School Diploma / Associates /* B*achelors / Masters / Masters Plus / Ph.D. / Ed.D. / Other - please specify*
6. Are you certified to teach physical education? – *Yes / No*
    - If *"Yes"* – What year did you become certified to teach physical education?
    - If *"No"* – What content area(s) are you certified to teach?
7. Are you a National Board-Certified teacher? – *Yes / No*
8. Which state do currently teach in? – *Select appropriate state from drop down menu*
9. Please indicate the number of years you have taught ***physical education*** at each education level: Elementary (Grades K-5) / Middle School (Grades 6-8) / High School (Grades 9-12) *Response options*: *1-5 / 6-10 / 11-15 / 16-20 / 21-25 / 26 or more*
10. What grade level(s) do you currently teach? *Response Scale - Checklist options for K-12*
11. What category best describes the area where you currently teach? – *Rural / Suburban / Urban*
12. Approximately what percentage of students at your school are a part of free or reduced lunch?
    < 10% / 10-20% / 20-30% / 30-40% / 40-50% / 60-70% / >70%
13. What is the approximate total student enrollment at the school you currently teach? – *0-500 / 501-1,000 / 1,001-1,500 / 1,501-2,000 / 2,001-2,500 / 2,500 or more students*

14. Where did you **first** learn about a CSPAP? *Response options:*
    - *National conference*
    - *Regional conference*
    - *State conference*
    - *Website*
    - *Physical education teacher at your school*
    - *Physical education teacher not at your school*
    - *Classroom teacher at your school who is not a physical education teacher*
    - *A principal or assistant principal*
    - *Instructional coaches*
    - *Someone who holds a position in district-level leadership*
    - *Formal learning experiences in your pre-service teacher education program (e.g., PETE program)*
    - *Formal learning experiences in an in-service professional development workshop/training*
    - *Informal learning experiences (e.g., reading professional literature on your own)*
    - *This survey*

15. Prior to starting this survey, how much did you know about CSPAP? – *Nothing / A little / Some / A fair amount / A lot*

END OF SURVEY

Thank you for your time and participation in our survey! We appreciate your efforts to help make our research study a success and contribute to the physical activity and physical education research field. For more information concerning this research, contact Chris Merica at (208)791-8176 or email at meri1745@vandals.uidaho.edu.	
If you would like to participate in a follow up interview to further discuss your CSPAP experiences, please provide your name and email address below (e.g., Jane Doe; janedoe@gmail.com). You may be contacted at a later date to schedule an interview. At that time, you can choose to accept the interview or decline.	Open ended response
To be entered in the drawing for a chance to win a $50 Amazon gift card, please provide your name and email address below (e.g., Jane Doe; janedoe@gmail.com)	Open ended response
Please click the yellow button below to submit your survey - Thank you!	