How Current Physical Education Teacher Education Programs Prepare Pre-Service Teachers for Comprehensive School Physical Activity Programs (CSPAP)

by

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ABSTRACT

Since the field of Physical Education carries a broader role of physical activity promotion, it is important for Physical Educators to take leadership roles in Comprehensive School Physical Activity Programs (CSPAP) in schools. Hence, it has been emphasized that Physical Education Teacher Education (PETE) programs may need to prepare PETE majors adequately to promote physical activity beyond quality Physical Education programs in schools. The purpose of this study was to explore the current extent of CSPAP preparation in PETE programs (e.g., curricula and practices).

The first phase of this study comprised a nationwide survey study on PETE programs' curriculum and experiences for CSPAP implementation. A total of 144 programs completed the online survey about curriculum and learning experiences for the CSPAP components. Descriptive statistics, frequency analysis, chi-square statistics, and analysis of variance were used to analyze data. Findings indicated that 107 of 144 PETE programs (74.3%) had no learning experiences for CSPAP. The prevalent type of learning experiences was incorporating CSPAP components in the existing courses. Field experiences were not frequently used for CSPAP preparation. PETE personnel expressed the utility of field experiences as an ideal CSPAP learning experience.

The second phase of this study addressed PETE majors' perceptions and learning experiences related to CSPAP in PETE programs. Fourteen PETE students from six programs participated in this study and shared their experiences in PETE programs. Data were collected through a short survey, one formal interview, field images, document gathering, and a follow-up survey. Descriptive statistics, constant comparison, and analytic induction techniques were used to analyze the data. Evidence from interviews,

photos, and documents revealed three common themes: a) introducing CSPAP through courses, (b) lacking programmatic experiences in CSPAP implementation (i.e., practice doing it), and (c) interpersonal skills (e.g., communication or cooperation) as a key for CSPAP but limited preparation. Participants' perception of the role of Physical Educators as physical activity directors evolved during their training.

Expanding existing courses for CSPAP preparation would be a feasible way to introduce CSPAP framework. Additional efforts to include hands-on learning experiences for all CSPAP components in PETE programs should be made.

DEDICATION

This dissertation is dedicated to my parents, Il Kwon and Dalyong Lee whose unconditional love and support have allowed me to pursue my dreams. I also dedicate this project to my husband, Joon Young Kim who has been a constant source of support and encouragement during the challenges of graduate school and life. I could not forget my beautiful and precious kids, Julia Yejin and Jayden Yoonjae, for bringing me endless happiness, smile, great joy, and beauty to my life.
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Chapter 1: INTRODUCTION

Given the increased risk of health issues like childhood obesity and pediatric diabetes, schools may want to take a leadership role in promoting physical activity and better nutrition for students and staff (National Association for Sport and Physical Education [NASPE] and the American Heart Association [AHA] 2012; Pate et al., 2006). For children and adolescents, the U.S. Department of Health and Human Services (Department of Health and Human Services [USDHHS], 2008) recommends at least 60 minutes of moderate to vigorous aerobic activity every day. Despite the well-known benefits of physical activity (i.e., promotes health and fitness, and reduces risk for chronic disease), many children and adolescents do not meet the recommended physical activity guidelines (Centers for Disease Control and Prevention [CDC], 2010; NASPE & AHA, 2012; Troiano et al., 2008).

Part of the issue is that many schools fail to provide opportunities for regular physical activity. For example, only four percent of elementary schools, eight percent of middle schools, and two percent of high schools provide daily Physical Education (NASPE & AHA, 2012). Considering the time children and adolescents spend in school, these organizations have the potential to promote physical activity more effectively (CDC, 2013).

Comprehensive School Physical Activity Program

In order to extend the promotion of physical activity in schools, a Comprehensive School Physical Activity Program (CSPAP) was introduced for all K-12 schools by NASPE in 2008, along with a guide to implementing CSPAP (CDC, 2013). A CSPAP includes five components: (a) Physical Education, (b) physical activity during school, (c)

physical activity before and after school, (d) staff involvement, and (e) family and community engagement.

The evidence for the beneficial outcomes of CSPAP has been continuously growing. First, higher levels of health-enhancing PA (as a part of CSPAP) is associated with improved children's health, cognitive function, and academic performance (Bailey, 2006; Carlson et al., 2008; CDC, 2010; Coe, Pivarnik, Womack, Reeves, & Malina, 2006; Datar & Strum, 2004; Trost & van der Mars, 2010), other physical activity opportunities during the school day (i.e., physical activity breaks or classroom lessons incorporated with physical activities) (Castelli & Ward, 2012; CDC, 2010; Donnelly & Lambourne, 2011; Wadsworth, Robinson, Beckham, & Webster, 2012), and before and after school physical activity programs (Beets, Beighle, Erwin, & Huberty, 2009; Beighle & Moore, 2012; CDC, 2010).

Considering the benefits of the CSPAP components and the role of schools in promoting physical activity participation, it is expected that schools will become more involved as leaders for promoting physical activity (SHAPE America, 2013). In order to implement CSPAP successfully in schools, Beighle, Erwin, Castelli, and Ernst (2009) asked an important question, "Who leads the leader?" In other words, how will Physical Activity Leaders (PAL) be trained and how will Physical Education teachers be trained for CSPAP and potentially for PAL positions?

A PAL plays a key role in leading CSPAP, accomplished by organizing the program, supporting and training teachers and staff, as well as marketing the program (Beighle & Moore, 2012). Many experts have emphasized the role of physical educators as expanding to PALs (Beighle et al., 2009; Castelli & Beighle, 2007). Within the

CSPAP, certified physical educators are essential not only to teach quality Physical Education lessons, but also to promote physical activity both within and beyond the regular school day as PALs in their schools (Beighle et al., 2009; Sallis & McKenzie, 1991).

Castelli and Beighle (2007) pointed out that physical educators are best suited to take on the role of PALs for CSPAP because they are prepared to work with students on aspects of physical activity in their schools. As the field of Physical Education begins to expand to adopt a broader role of physical activity promotion, it is important for physical educators to take leadership roles in CSPAPs. In order to do this, Physical Education Teacher Education (PETE) programs will need to prepare future Physical Education teachers differently.

Physical Education Teacher Education (PETE) Programs

There are over 450 PETE programs in the U.S. and they provide academic courses for future Physical Education teachers to gain pedagogical and content knowledge as well as field experience to prepare them for teaching (Ayers & Housner, 2008). NASPE (2007) addressed the role of PETE programs as "facilitating pre-service teachers' progress toward being deemed 'highly qualified' upon entrance into the profession" (p. 1). PETE programs should prepare teacher candidates to become competent physical educators who are passionate about health and promoting lifelong physical activity through a standards-based curriculum.

Research on PETE programs. O'Sullivan (1990) listed the characteristics of effective PETE programs as having clear program outcomes, rigorous curricula, high expectations, and an interdisciplinary approach. Understanding the current status and

content of PETE programs in the U.S. is important in enhancing the preparation for physical educators (Lavay, Henderson, French, & Guthrie, 2012). Researchers have examined how PETE programs have met the national standards for beginning teachers (e.g., Ayers & Housner, 2008) through the views of pre-service teachers, faculty members, or in-service teachers (e.g., Hill & Brodin, 2004; Robinson & Melnychuk, 2009).

There are similarities in course requirements and teaching experiences among PETE programs. Most PETE programs require general or liberal education courses during the first two years of university education. In the remaining two years, pre-service teachers take coursework comprised of content knowledge in sports and Physical Education, discipline courses across Kinesiology (e.g., biomechanics, exercise physiology, exercise psychology, motor behavior etc.), and pedagogical/methodological courses (Ayers & Housner, 2008; Bahneman, 1996; Hetland & Strand, 2010; O'Sullivan, 1990; Strand, 1992). In addition, many PETE programs provide early and extensive field-based experiences including peer teaching and observations with teacher candidates spending roughly 8 to 16 weeks per level (elementary and secondary) in field experiences and the student teaching experiences. In addition to required courses and field experiences, Heidorn (2014) suggested the initial preparation of pre-service Physical Education teachers include quality academic advisement and professional development such as joining professional organizations, attending professional conferences as well as other experiences related to job preparation (e.g., mock interviews).

PETE programs and CSPAP. Given the increased attention on the expanded role of physical educators within the CSPAP framework, it has been emphasized that

PETE programs and teacher educators should prepare pre-service teachers adequately for the role for physical activity promotion beyond quality physical education programs in schools (AIESEP, 2014; Ayers & Housner, 2008; Beighle et al., 2009; Bulger, Mohr, Carson, & Wiegand, 2001; Heidorn, 2014; Karp, Scruggs, Brown, & Kelder, 2014; McKenzie, 2007, Webster et al., in press). Pre-service Physical Education teachers should develop critical skills and knowledge in leadership, cooperation, policy analysis, strategic program planning, implementation, and evaluation for CSPAP. These necessary skills can be developed by the courses content, field experiences, and other meaningful learning experience throughout their PETE programs (Beighle et al., 2009; Beighle & Moore, 2012; Kelder, Karp, Scruggs, & Brown, 2014, McMullen, van der Mars, & Jahn, 2014). Common suggestions to improve PETE programs and prepare PALs were to: (a) modify existing courses with a diversity of field experiences, and (b) provide additional authentic opportunities/assignment not only how to integrate physical activity into the classroom but also to develop advocacy and "politicking" skills for implementing CSPAP in schools (Beighle et al., 2009; Bulger et al., 2001; Corbin & McKenzie, 2008; McKenzie, 2007, Kelder et al., 2014; Webster et al., 2015).

Although practical suggestions for PETE programs have been made to prepare pre-service teachers for a broader role to serve as PALs and administer CSPAP's, the currently process to prepare pre-service teachers for CSPAP in PETE programs has not yet been systemically investigated (Beighle et al., 2009, Webster et al., in press). It is important to investigate how, and to what extent, PETE programs support majors to implement CSPAP (Kelder et al., 2014). One example program of a department-wide effort to prepare teachers for teaching CSPAP is at the University of Idaho. In this PETE

program, faculty developed program content to familiarize all majors with healthy and active lifestyles across six programs (e.g., health, recreation, and pedagogy). Teacher educators provided relevant core coursework and applied learning experiences in schools and community settings. This initiative resulted in students developing critical skills in policy analysis, leadership and advocacy, as well as strategic program planning skills (Karp et al., 2014; Kelder et al., 2014). In another example of a PETE program that included training in the CSPAP model, McMullen et al. (2014) found that the pre-service teachers had a difficult time developing materials and implementing a before-school program due to their existing beliefs about the traditional roles of physical educators. In a study of PETE faculty's perception of CSPAP preparation (Webster et al., in press), faculty members reported that they perceived their current PETE programs prepared pre-service teachers effectively for creating quality Physical Education programs. However, they rated their programs lower in preparing PETE student for implementing other CSPAP components.

Since teacher education programs reinforce the development of various teaching identities, beliefs of pre-service teachers (Hammerness, Darling-Hammond, & Bransford, 2005), and self-efficacy beliefs (Matanin & Collier, 2003), it is important to understand how an individual interprets what he or she is learning about teaching and how individuals' perceived the effectiveness of their teacher training programs. Several studies in general education teacher education emphasized early and authentic field experiences (Clift & Brady, 2005; Gallego, 2001) and school partnership models (Cochran-Smith & Zeichner, 2005; Gallego, 2001), that are beneficial to provide pre-service teachers with a variety of genuine learning opportunities leading the development

of pre-service teachers' efficacy levels and teaching skills. Woolfolk-Hoy (2000) showed that throughout their coursework pre-service teachers developed strong efficacy beliefs of teaching. However, due to the complexity of practical experiences, student teaching experiences led to decreases in their efficacy beliefs of teaching. Robinson and Melnychuk (2009) found that the PETE students felt that field experiences were the most enjoyable and helpful experiences of the PETE program, although their current field experience in Physical Education settings were not enough to learn all aspects of teaching in practice. This suggests the necessity of enhanced content knowledge and experiences for diverse learners and across contexts.

Taken together, it is important to ensure that the current PETE programs equip pre-service teachers with the necessary knowledge and skills for CSPAP planning and implementation. Furthermore, pre-service teachers' successful learning experience within the PETE program plays a key role in the future success of CSPAP implementation in schools (McMullen et al., 2014). The purpose of this study was to explore the current extent of CSPAP preparation in PETE programs (e.g., curricula and practices) from a nationwide survey as well as from pre-service teachers' perspectives. In order to learn more about CSPAP preparation in PETE programs, multiple methods were used. Mixed methods research is a synthesis of ideas from qualitative and quantitative research to produce more complete knowledge to inform theory and practice (Johnson & Onwuegbuzie, 2004; Johnson, Onwuegbuzie, & Turner, 2007). The multiple approaches (mixed methods) to learn more about CSPAP preparation in PETE programs allowed for a more holistic and in-depth understanding of PETE student training in the US. In order to understand the general scope of CSPAP preparation, a nationwide survey of PETE

programs was used. PETE students also completed a short survey and interview in order to understand more about their experiences and perceptions of their training.

Research Questions

1. How do PETE programs prepare their pre-service teachers in general and related to the CSPAP framework based on a quantitative research approach?
2. How do PETE pre-service teachers perceive the role of PETE programs in preparing graduates to adopt the CSPAP framework based on a qualitative research approach?

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Chapter 2: LITERATURE REVIEW

Regular physical activity can play a powerful role in preventing chronic diseases, such as heart disease, cancer, and type 2 diabetes, and in promoting mental health including reducing anxiety and depression (USDHHS, 2008). In addition to the physical and mental benefits of physical activity, regular physical activity provides opportunities for youth to establish healthy lifestyles for their future (CDC, 2013).

Despite national guidelines for physical activity (USDHHS, 2008), and the benefit of regular physical activity, available evidence suggests that many children and adolescents fail to meet the national physical activity guidelines. The CDC (2011) reported that only 29% of high school students had participated in at least 60 minutes of daily physical activity and only 31% had attended daily Physical Education classes. Although schools have been considered as ideal places to promote physical activity (NASPE, 2008; Pate et al., 2006), the majority of schools do not provide opportunities to support youth in achieving national physical activity guidelines. For example, only four percent of elementary schools, eight percent of middle schools, and two percent of high schools provide daily Physical Education (NASPE & the American Heart Association [AHA], 2012). Lee, Burgeson, Fulton, and Spain (2007) reported that only 44% of elementary schools, 67% of middle schools, and 22% of high schools had dedicated time for students to participate in regular free-time physical activity during the school day. Considering the time children and adolescents spend in schools, these organizations have the potential to promote physical activity effectively. Schools can provide time for organized and free-time physical activity for youth through a multi-component approach (CDC, 2011; NASPE, 2008).

School-wide approaches for the promotion of physical activity come under the title Comprehensive School Physical Activity Programs (CSPAP) (Institutes of Medicine [IOM], 2013; NASPE, 2008). This approach targets promoting physical activity by providing various opportunities for PA in schools. Students can accumulate the recommended amount of physical activity (i.e., 60 minutes per day) as well as develop the knowledge, skills, and confidence to be physically active for a lifetime (CDC, 2011; NASPE, 2008; USDHHS, 2012). In the current study, the CSPAP model serves a conceptual framework to guide the investigation of Physical Education Teacher Education (PETE) programs and the training in CSPAP for PETE students. A brief explanation of CSPAP and the five components of the model are presented below.

Comprehensive School Physical Activity Program

The goal of a CSPAP is to provide opportunities for students to be physically active and to develop a school culture that promotes lifelong physical activity (Erwin, Beighle, Carson, & Castelli, 2013; Shape America, 2013). In addition, a CSPAP will educate students about knowledge and skills needed for a lifetime of physical activity (CDC, 2011; NASPE, 2008; USDHHS, 2012). Students can accumulate the recommended amount of physical activity across components of a CSPAP during the school day (CDC, 2013; IOM, 2013).

Five components of a Comprehensive School Physical Activity Program. A CSPAP includes the following components: (a) Physical Education, (b) physical activity during school, (c) before and after school physical activity, (d) staff involvement, and (e) family and community engagement. A CSPAP reflects strong coordination and synergy across all of the components (CDC, 2013; NASPE, 2008).

Physical Education. Physical Education serves as the foundation of the model, by providing the opportunity for students to learn knowledge, skills, and dispositions for their physically active lifestyles (CDC, 2013; Rink, Hall, & Williams, 2010). Quality Physical Education (QPE) programs play a crucial role in the CSPAP. First, QPE provides instruction with meaningful content and opportunities to learn in order for children to be educated in and practiced about (any types of) physical activities (NASPE, 2008). Second, Physical Education provides children regular time to engage in Moderate to Vigorous Physical Activity (MVPA) (NASPE & AHA, 2012). Experience, knowledge, skills, and dispositions learned from QPE lead to active participation across school-based, physically active opportunities and beyond the school day.

Physical activity during school. Schools can promote physical activity during the school day by offering a variety of programming. Recess and physical activity in the classroom (e.g., physical activity breaks) are the most common opportunities for students to participate in physical activity during the school day (CDC, 2013; Erwin et al., 2013).

Recess. Recess is a scheduled break time for students from academics. Recess offer an excellent opportunity for students to engage in physical activity during the school day and to apply skills learned in Physical Education (CDC, 2013). NASPE (2006) suggests that recess should be provided daily for a minimum of 20 minutes of unstructured playtime. Recess can provide students and staff opportunities to participate in physical activity as well (Castelli & Beighle, 2007). Some successful strategies for implementing recess to promote physical activity participation include providing age-appropriate equipment and semi-structured activities (e.g., stations) for students with adult supervisors (CDC, 2013).

Classroom physical activity. Physical activity opportunities in classrooms may take the form of a physical activity break or as physical activity integrated into academic lessons. The goal of these activities is to provide students a break from academic tasks or to teach content through movement (Erwin et al., 2013). These breaks can occur at any time during the school day. Typically, integrating physical activity within classrooms is a part of planned lessons that teach academic subjects. This can increase students' overall physical activity and improve time-on-task and attentiveness through physical movement (CDC, 2013).

Before and after school physical activity. Various opportunities may be available for students to engage in physical activity in before and after school programs (Beighle & Moore, 2012). The benefits of physical activity before and after school are to practice what they have learned in Physical Education and to identify activities that students enjoy and might engage in over the long term (USDHHS, 2012), as well as to accumulate physical activity participation (Stylianou et al., 2015).

Common types of before and after school physical activity programs are active commuting to school programs, physical activity clubs (i.e., running club) and intramural programs (Erwin et al., 2013). Integrating physical activity with homework in afterschool programs, and interscholastic sports are additional possible forms of physical activity before and after school (CDC, 2013). In addition, afterschool programming may be coordinated with community-based organizations (e.g., YMCAs).

Staff involvement and wellness. Physical activity programs for school staff are designed to be an integral part of a school's CSPAP. Teachers and other school staff members can play a key role in integrating physical activity into the classroom, leading

breaks, and supporting recess and other physical activity opportunities. In addition, school employees can be positive role models for their students by demonstrating an active lifestyle (Heidorn & Centeio, 2012; NASPE, 2010).

Beyond offering assistance with the planning and supervision of CSPAP activities, staff should participate in physical activities for their own health. Certainly, school employees' health is just as important as students' health in a CSPAP. Physical activity opportunities for school staff are beneficial for individual health, reducing adult physical inactivity patterns, and problems with overweight/obesity (Kolbe et al., 2005).

Since there are barriers such as not enough time during the workday, it would be effective to have routine physical activity at work for staff such as taking the stairs, walking breaks, or actively engaging with students (CDC, 2013). Support from administrators is also crucial to implement physical activity programs for staff in school (Heidorn & Centeio, 2012).

Family and community engagement. Support from parents/guardians and siblings for CSPAP influences children's participation in physical activity (CDC, 2012; Lee et al., 2010). Positive role models and support from parents/guardians is necessary for children to maintain a physically activity lifestyle (Gustafson & Rhodes, 2006). There can be substantial benefits to build effective partnerships between families and schools for children's academic performance as well as health-related behaviors including increases in physical activity participation (van Sluijs, McMinn, & Griffin, 2007). Parents/guardians may support a CSPAP by participating in special physical activity events or by serving as physical activity volunteers (CDC, 2013).

In addition to the relationship between families and schools, the collaborative work of schools and communities is essential to CSPAP. The community may provide a valuable resource (i.e., expertise, funding, volunteers, facilities, or trainings, etc.) for programs and events. Cipriani, Richardson, and Roberts (2012) have pointed out that increased family and community engagement can be achieved by increased communication (e.g., using school newsletters or parent-teacher conferences), hosting active events, and establishing partnerships. It is very important for school personnel and families to be conscious of available physical activity opportunities and resources in the surrounding communities and for community members to be aware of physical activity opportunities at schools.

The role of Physical Education teachers in CSPAP. Considering the benefits of CSPAP and the role of schools in promoting physical activity participation, it is expected that schools will become more involved as leaders in promoting and delivering CSPAP. Erwin et al. (2013) pointed out that in order to implement CSPAP successfully in schools, CSPAP should be coordinated by qualified PALs. Many experts have emphasized the role of physical educators as expanding to PALs (Beighle et al., 2009; Carson, 2012; Castelli & Beighle, 2007; McKenzie, 2007). Within the CSPAP, certified physical educators are important not only to teach quality Physical Education lessons, but also to promote daily physical activity as PALs in their schools (Beighle et al., 2009). Carson (2012) and Castelli and Beighle (2007) point out that physical educators may be the only faculty member who has been prepared and professionally trained to work with students on physical activity. Other school personnel who are also interested in creating healthy and active schools can also be trained as PALs to assist the Physical Education teacher or

when the Physical Education teacher is not available to serve as a PAL for a school (e.g., perhaps they hold a traveling teacher role).

Beighle and Moore (2012) listed a wide range of roles for PALs including: (a) organizing the programs and committees, (b) training and supporting staff to manage, motivate students and provide physical activities, (c) marketing programs, (d) educating parents/guardians about the program and family physical activity opportunities, and (e) implementing the programs. All of these roles of PALs are to ensure that CSPAP programs reach their potential in promoting physical activities for all students. In addition, PALs should facilitate all of the efforts from staff members, faculty members, and community members through their knowledge, experience, skills, and strategies to create and run CSPAP's. In order to achieve this, Beighle et al. (2009) and Beighle and Moore (2012) described requisite skills and knowledge for PALs. Skills include: (a) the ability to implement a quality Physical Education program, (b) the ability to lead, organize, and administrate a wellness committee as well as programs, (c) foundation knowledge of public health and the benefits of physical activity, and (d) advocacy knowledge and skills.

Physical Education Teacher Education (PETE) Programs

There are over 450 PETE programs that are nationally recognized in the U.S (NCATE, n.d.). They provide academic courses for future Physical Education teachers to gain pedagogical and content knowledge, as well as field experiences to prepare them for teaching and developing their professional dispositions (Ayers & Housner, 2008; Napper-Owen et al, 2008). NASPE (2007) described the role of PETE programs as "facilitating pre-service teachers' progress toward being deemed 'highly qualified' upon entrance into the profession" (p. 1). The PETE program should prepare teacher candidates to become

competent physical educators with a deep knowledge of the subject area and a set of reflective, pedagogical, and didactic skills as well as passionate dispositions about health and promoting lifelong physical activity through a standards-based curriculum (AICEP, 2014; Chen, 2009; McCullick, 2000; Metzler & Tjeerdsma, 2000). O'Sullivan (1990) characterized effective PETE programs as programs with measureable outcomes, rigorous curricula, used interdisciplinary approaches that have high expectations for graduates. O'Sullivan (1990) also suggested that cohort groups can lead to effective PETE programs, describing the three components of PETE students' education as having the following: (a) general or liberal education courses, (b) pedagogical coursework leading to pedagogical content knowledge, and (c) subject matter coursework in Physical Education. Hill and Brodin (2004) have pointed out five general components that most PETE programs include: (a) required liberal arts courses, (b) learning skills and knowledge in sports and fitness activities, scientific foundations, and health-related fitness concepts, (c) pedagogical knowledge (d) early field experience and observation and (e) a teaching internship/student teaching under the supervision of qualified staff.

Research on PETE programs. Many PETE program follow the national standards or a university PETE program curriculum. Research on PETE programs reinforces that it is important to better understand the current status and content of PETE programs in the U.S. in order to enhance the preparation of physical educators (Lavay, Henderson, French, & Guthrie, 2012). Two different approaches have been used in order to better understand PETE programs. First, assessments of PETE programs have been conducted by examining how PETE programs met the national standards for beginning teachers (e.g., Ayers & Housner, 2008). Second, the views of pre-service teachers,

faculty members, or in-service teachers have been used to better understand PETE programs (e.g., Hill & Brodin, 2004; Robinson & Melnychuk, 2009). Gathering the perspectives, experience, and observations of pre-service teachers or faculty members on PETE programs is important to improve programs (Robinson & Melnychuk, 2009).

Assessment of PETE programs. Metzler and Tjeerdsma (1998) introduced the program assessment model for PETE programs. In order to improve PETE programs, it is crucial to determine if the program is having its intended impact. They defined the program assessment as a series of activities for gathering, analyzing, interpreting, and using information for improving PETE programs. The model they proposed includes three stages: (a) development stage, (b) research stage, and (c) improvement stage. The development stage involves preliminary analyses to understand the context, philosophy, and goals of PETE programs. The main focus of this stage is to provide a thorough description of the programs. In the research stage, quality data collection related to their program is performed. This stage should address critical questions about "how effective is the current program in meeting our expressed outcomes? (p. 479)" Overall aspects of data collection such as types of evidence, selection of data collection techniques, or timelines are specific to the PETE program and the program goals. The combined work in the development and research stages provides critical information for making decisions to maintain or improve the program. A PETE program should be held accountable for its impact on student learning and data should be reviewed and decisions made during the improvement stage. Systematic program assessments are needed to establish accountability within a program as well as to examine the program effectiveness.

Strand (1992) investigated common practices in the preparation of Physical Education teacher education majors. A total of 131 institutions completed a 21-item survey. The survey asked PETE faculty about skill courses, pre-student teaching experiences, and student teaching experiences at her/his institution. This study revealed that many PETE programs required fundamentals of skill/activity courses (i.e., volleyball, basketball, soccer, softball, football) early in their programs and almost half of the respondents indicated required coaching credits or coaching field experience. Physical Education majors in the responding institutions in this study received a mean number of 7.9 peer-teaching experiences (in skill and pedagogy courses) prior to student teaching. On average, pre-service teachers spent 82 hours in observation and pre-student teaching experiences prior to student teaching. College supervisors visited and observed student teachers an average of 5.2 times during their student teaching experience and 42% of the observations included the use of systemic observation tools.

Bahneman (1996) examined undergraduate PETE program requirements within institutions which also offered a doctoral degree in Physical Education. Bahneman (1996) studied twenty-nine institutions and found that there were more similarities than differences among PETE programs where the universities also offered a doctoral degree in Physical Education. The majority of the responding programs reported four critical elements regarding a professional foundation in programs: (a) Introduction to Physical Education, (b) Sport Behavior, (c) Organization and Administration, and (d) Principles of Coaching. A course related to scientific foundations was identified as a crucial component in the programs (with an average of 3 credits). The most frequent skill-related courses offerings were basketball, volleyball, track/field, and rhythmic activities. The

least frequent skill-related course offerings were bowling and speedball. All of responding institutions provided peer-teaching experiences prior to student teaching experiences.

Ayers and Housner (2008) also investigated the nature of undergraduate PETE program. To identify programs, they used a list of NASPE/NCATE–accredited PETE institutions and the College and University Administrators Council Listserve list. Respondents were asked questions about the structure of their PETE programs including program demographics, institutional demographics, programmatic requirements, and curricula. Sixty-six percent of respondents' PETE programs were located in a College of Education. On average, 3.8 full-time and 3.1 part-time employees taught in PETE programs. Over half of the respondents reported the employment of three or fewer full-time PETE faculty members. Requirements for bachelor degree programs in the area of Physical Education were described using four umbrella terms including: (a) sport and Physical Education, (b) pedagogical studies, (c) sport skills and physical activities, and (d) professional issues. Among an average of 55 credits hours in the major, only 9.6 credits were about what teachers are expected to teach in K-12 programs (that is content or pedagogy courses). Multiculturalism and diversity coursework was commonly included in programs emphases in courses and/or practicum experiences. Overall, 75% of PETE programs provided early (i.e., first or second year) field-based experiences involving observation and/or minimal teacher support roles. Teacher candidates spent roughly 9 weeks in field experiences in the following settings: elementary, middle, and high school.

In 2010, Hetland and Strand further investigated the general practices of undergraduate PETE programs among colleges and universities located within the nine

states in the SHAPE America Central District (e.g., Colorado, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, and Wyoming). Of 72 potential PETE programs, program personnel from 44 universities completed the 61-item survey. The survey included program demographics, student enrollment, items addressing the curricula taught, as well as the student teaching experiences. Results showed that undergraduate Physical Education students were required to complete an average of 122 credits including 8.93 credits for professional activity courses. Nearly 46 percent of the programs required students to pass skill tests. Twenty percent of the PETE programs required students to pass fitness tests in courses. On average, Physical Education majors spent 17-24 hours at each level (elementary/secondary) of education for their observations/field experiences while they spent 14 weeks in their students teaching experiences. Many topics were incorporated into PETE programs. Frequently reported topics included: (a) Physical Education national standards (86%), curriculum models taught (79%), and preparation to teach conceptual knowledge in fitness and wellness (75%). Some topics were delivered as separate courses (e.g., exercise physiology, administration, and biomechanics), or imbedded in a course (e.g., behavior management, technology, or fitness education), or infused across all content courses (assessment, curriculum design/methods).

Lavay, Henderson, French, and Guthrie (2012) also described the instructional behavior management practices and content taught in PETE programs. They used a directory of NCATE-accredited colleges and universities and a list of the colleges and universities with PETE programs recorded on the US College Search website in order to identify programs along with a PETE Program Coordinator, a faculty member within the

PETE program, or the department chair or the dean of the school associated with the PETE programs to contact. The majority of the participants (*N*=134) reported that their PETE programs included a behavior management unit within one or more Physical Education method courses, while six of the programs offered a course in behavior management. Even though all participants perceived behavior management instruction in teacher preparation programs was important, they also reported that the time to teach behavior management to PETE majors was limited.

Robinson and Melnychuk (2009) surveyed 57 PETE students and interviewed nine of these students in a focus group format. The PETE student participants in this study discussed the need for more knowledge of diverse learners and contexts. Interviews with the participants revealed that their field experiences were the most enjoyable and helpful experiences in their PETE program. The majority of the PETE students felt insufficiently prepared to teach based on their PETE program course work and field experiences. Authors recommended that PETE program personnel consider adding course work including diversity education courses and various types of field experiences (e.g., earlier and longer field experiences) to enhance teacher candidates' learning experiences.

Comprehensive School Physical Activity Program & Physical Education Teacher Education Programs

Given the increased emphasis on the new role of Physical Education teachers to promote physical activity in CSPAP frameworks, PETE programs and teacher educators have been charged with preparing pre-service teachers to take on the role of promoting physical activity beyond quality Physical Education programs in schools (AIESEP, 2014; Ayers & Housner, 2008; Beighle et al., 2009; McKenzie, 2007). PETE program

personnel might need to consider how they train, prepare, and effectively equip PETE students for the expanded role of the Physical Education teacher as the CSPAP leader or PAL (Karp, Scruggs, Brown, & Kelder, 2014). Courses, experiences and instructional methods may not inadequately prepare Physical Education majors for physical activity promotion across the school day as well as for taking on a leadership role as Physical Activity Leader at her/his school (Barnett & Merriman, 1994; Bulger, Mohr, Carson, & Wiegand, 2001; Sallis & McKenzie, 1991; Sallis et al., 2012; Miller & Housner, 1998).

A number of authors have suggested the PETE programs be revised in order to include the necessary skills, knowledge, and belief systems needed to prepare majors for physical activity promotion in schools (Beighle et al., 2009; Bulger & Housner, 2009; Bulger, Housner, & Lee, 2009; Corbin & McKenzie, 2008; McKenzie, 2007). Pre-service Physical Education teachers may need to develop critical thinking skills and knowledge in leadership, cooperation, policy analysis, strategic program planning, implementation and evaluation (Beighle et al., 2009; Beighle & Moore, 2012; Kelder, Karp, Scruggs, & Brown, 2014). Those skills and knowledge can be developed through content knowledge and experiences in courses, as well as in field experiences in physical activity promotion. This can be done through teaching in quality Physical Education programs as well as teaching in other physical activity programming in school settings. However, PETE programs may need to modify existing courses and experiences to provide additional authentic opportunities not only to integrate physical activity during the school day, and before and after school programming, but also to develop student advocacy and politicking skills (Beighle et al., 2009; Kelder et al, 2014; McKenzie, 2007). Beighle et al. (2009) suggested that course assignments that were aligned with field experiences and

facilitated learning CSPAP skills. Examples of course assignments included developing strategies for increasing recess activity, implementing short activity breaks, creating physical activity promotion plans and signage, and generating strategies for communicating with administrators and parents/guardians. PETE students gaining the requisite skills and knowledge may change their belief systems about implementing CSPAP were reported at Arizona State University (McMullen, van der Mars, & Jahn, 2014). McMullen, and colleagues (2014) examined the experiences of PETE majors about promoting and facilitating a before-school physical activity program. Five participants from an internship course were observed and interviewed. They found that the pre-service teachers had a hard time developing and implementing a before-school program due to their existing belief systems about the traditional role of the physical educators as well as their views of early programmatic success from their experiences. Authors suggested that PETE training should provide the learning opportunities to develop and implement CSPAP.

Another example of a PETE program preparing teachers for CSPAP has been reported at the University of Idaho (Karp et al., 2014; Kelder et al., 2014). The PETE program has six options across majors (e.g., health, recreation, and pedagogy). The PETE program faculty developed CSPAP program content, outreach and implementation, and evaluation systems to help all students in their department become familiar with healthy and active lifestyle concepts and the CSPAP model for schools. The University of Idaho program provides relevant common core coursework such as foundation skills related to epidemiological knowledge about physical activity and health. Majors also take applied courses related to pedagogy, CSPAP programming, and leadership skills with authentic

learning experiences in schools and community settings. Finally, students are evaluated by school supervisors about their progress implementing CSPAP programs. From this initiative, students develop critical skills in policy analysis, leadership and advocacy, along with strategic program planning skills (Karp et al., 2014; Kelder et al., 2014).

Although Heidorn's (2014) paper in JOPERD was not based on an empirical research study, he suggested essential ingredients for a PETE program to prepare the next generation of Physical Education teachers. In addition to the common content in PETE programs (e.g., pedagogical methods, curriculum and assessment, skill development, technology, etc.), he proposed that quality academic advisement is also critical throughout a PETE program. Teacher candidates should receive an overview of the profession as well as guidance about the program requirements. Heidorn (2014) suggested that faculty should use the Physical Education National Standards (NASPE, 2009) as a foundation for programs as well as include capstone experiences (e.g., student teaching placements that allow students to use the knowledge and skills learned in their PETE programs), experiences with professional organizations to promote continued professional development and advocacy efforts (e.g., attendance/presentation at conferences or reading/writing journal articles), as well as job preparations (e.g., how to work in a school). Heidorn (2014) discusses the importance of PETE programs providing teacher candidates with the content and experiences they should know about CSPAP programs and have multiple opportunities to administer components of CSPAP programs during their training. Despite increased attention to the role of PETE program in successfully preparing teachers, little is known about the experience of PETE students or

the perception of faculty members regarding how PETE programs can adequately majors to implement CSPAP (Karp et al., 2014).

Another study at the University of South Carolina, (Webster et al., in press) examined the perceptions of PETE faculty members regarding the preparation of PETE students for CSPAP. One hundred seventy-five faculty members completed an online survey. Results indicated that respondents' perceived that their current PETE programs prepared pre-service teachers effectively for teaching quality Physical Education (M=3.63, SD=.49) but did not prepare them well for the other CSPAP components (M=2.58, SD=.56) on a scale of 1-5 with 5 being totally agreed. There was a general agreement that PETE programs should be preparing pre-service teachers for quality Physical Education, while there was less of a consensus among faculty about the role of PETE programs to prepare majors for other components of CSPAP, especially school employee wellness and involvement.

Since there has been only been a few studies that have addressed preparing pre-service teachers for implementing CSPAP in schools (Webster et al., in press), little information is currently available to inform PETE programs faculty and program development. Previous studies have not provided evidence regarding how PETE programs support students in implementing components of CSPAP, such as course requirement for CSPAP or detailed descriptions of field experience related to CSPAP (McMullen et al., 2014).

The current study aimed to build on the initial knowledge base from the previous studies by investigating practices in PETE programs nation-wide, in general and related

to CSPAP. The current study also investigated PETE students' perceptions of PETE programs and their training in general and specifically related to CSPAP.

Research Questions

1. How do PETE programs prepare their pre-service teachers in general and related to the CSPAP framework based on a quantitative research approach?
2. How do PETE pre-service teachers perceive the role of PETE programs in preparing graduates to adopt the CSPAP framework based on a qualitative research approach?

Overview of Methods for Entire Project

In order to fully understand CSPAP preparation in PETE programs, the researcher adopted pragmatism and a mixed methods research approach. Dialectical pragmatism provides a supportive philosophy for mixed methods research (Feilzer, 2010; Johnson, & Gray, 2010). Mixed method research provides stronger and rich evidence for a conclusion. In Phase 1, the researcher used a nationwide survey of PETE programs as a quantitative approach in order to understand the general scope of CSPAP preparation in PETE programs. In Phase 2, the researcher used a qualitative data including an interview, photographs, and a short survey in order to more deeply understand about preservice students' experiences and perceptions of their training in early adopter PETE programs where the faculty have taken an initiative to incorporate CSPAP concepts in their teacher training curriculum.

Pragmatism and mixed methods research. Pragmatism is "a philosophical tradition that promotes the development of theory directly from practice (praxis), a process where theory is extracted from actions, and applied back to practice in an

iterative process (Christ, 2013, p.111).” Goldkuhl (2012) suggested that one of the foundational ideas within pragmatism is that the meaning of an idea or a concept is the practical consequences of the idea/concept. A key idea of inquiry is thus to create knowledge in the interest of change and improvement. While there are multiple versions of pragmatism, in this current study, dialectical pragmatism (Johnson & Greene, 2011) was adopted. Dialectical pragmatism relies on multiple perspectives that can be combined in a single study based on the research questions, needs, and goals (Johnson & Greene, 2011). Dialectical pragmatism provides a supportive philosophy for mixed methods research (Feilzer, 2010; Johnson, & Gray, 2010). It combines a dialectical approach in mixed methods research (Greene, 2007) and the philosophy of pragmatism. Dialectical pragmatism allows the researcher to be more flexible in the research method or techniques used (Onwuegbuzie & Leech, 2005). Pragmatist can put together insights and procedures from both quantitative and qualitative approaches in order to seek the best way to answer research questions (Johnson & Onwuegbuzie, 2004).

Johnson, Onwuegbuzie, and Turner (2007) defined ‘Mixed Methods’ after reviewing the various definitions used in the previous studies;

> The type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration. (p. 123)

Mixed methods research studies allow researchers to provide stronger evidence for a conclusion or to add insights and understanding that might be missed when only a single method is used (Johnson & Onwuegbuzie, 2004). Greene, Caracelli, and Graham (1989) defined the broad purposes of mixed methods research study as: (a) triangulation

(i.e. seeking convergence and corroboration of results from different methods studying the same phenomenon); (b) complementarity (i.e. seeking elaboration, enhancement, illustration and clarification of the results from one method with results from the other method); (c) development (i.e. using the results from one method to help inform the other method); (d) initiation (i.e. discovering paradoxes and contradictions that lead to a re-framing of the research question); and (e) expansion (i.e. seeking to expand the breadth and range of inquiry by using different methods for different inquiry components). In this study, the purpose of mixed methods research was to used for triangulation and to seek convergence as well as to expand the range of inquiry from different methods in the same study.

Data collection. The first phase of this study comprised a nationwide survey study on PETE programs' curriculum for CSPAP implementation. After developing an online survey about curriculum and learning experiences for the CSPAP components, the researcher sent an email invitation to 480 PETE programs and a total of 144 programs completed the online survey. In the second phase of this study, the researcher used qualitative data collection methods to learn more about PETE majors' perceptions and learning experiences related to CSPAP in their PETE programs. Fourteen PETE students from six programs shared their experiences through a short survey, one formal interview, field images, document gathering, and a follow-up survey. The use of quantitative data and qualitative data within the same study is beneficial to provide more in-depth and comprehensive understanding of CSPAP preparation in PETE programs.

Data analysis. In this study, the researcher used both statistical (quantitative) and inductive (qualitative) data analysis techniques to produce multiple understandings of the

same issues from various data sources. The researcher conducted statistical data analysis using descriptive statistics and frequency analysis to explore the current extent of CSPAP-related curriculum in PETE programs. In addition, in order to detect significant differences among university characteristics, the researcher used chi-square statistics and analysis of variance. For the inductive data analysis, by applying constructivism, the researcher focused on understanding the views of Physical Education teacher candidates constructed through their experiences about their preparedness for implementing CSPAP in schools. The research team coded the qualitative data using multiple coding schemes (e.g., open coding, axial coding, and selective coding) and discussed common themes from multiple data sources. In this study, the focus of the quantitative research approach (phase 1) was to produce general tendency information about CSPAP preparation at the PETE program level while the researcher focused on specific learning experiences in relation to CSPAP implementation in PETE programs at the student level in the qualitative research approach (phase 2).

Validity. In general, validity is an indication of how sound the research study is and if is affected by different kinds of factors (Seilger & Shohamy, 1989). Validity consists of understanding of threats to the validity in a research study and the strategies that can be used to deal with the threats (Maxwell, 2013). In phase 1 of this study, the researcher aimed to enhance content validity of the survey through two separate reviews. Two different sets of reviewers (who have knowledge about CSPAP) assessed the appropriateness of the questionnaire the in the survey development process. Although the use of incentives for participation in this study aimed to increase survey responses, it may

have been a threat to validity if respondents answered the questionnaire in a favorable way or responded to receive the incentive.

In phase 2 of this study, the researcher tested internal consistency reliability using Cronbach's α coefficients for the introductory survey data since a Likert-type scale was used to attempt to measure PETE students' perceptions about CSPAP preparation. In qualitative research, Koro-Ljungberg (2008) defined validity as "as a process of validation, and evaluation of trustworthiness taking place within a human community." The validity in qualitative research often refers to credibility, which is the trustworthiness, and plausibility of the research findings (Whittemore, Chase, & Mandle, 2001). In this study, the researcher focused on the connection between findings and reality as well as the openness of knowledge construction (Koro-Ljungberg (2008) to enhance the validity of the study. In terms of validation strategies, the researcher employed triangulation, articulated the data collection and analysis process, searched discrepant evidence and negative cases, and used quasi-member checking (Maxwell, 2013; Tracy, 2010; Whittemore et al., 2001).

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Chapter 3: PHASE 1. PHYSICAL EDUCATION TEACHER EDUCATION PROGRAMS FOR THE INCLUSION OF CONTENT RELATED TO COMPREHENSIVE SCHOOL PHYSICAL ACTIVITY PROGRAMS

Introduction

Schools are important places to promote physical activity and better nutrition. (e.g., IOM, 2013; NASPE, 2008; Pate et al., 2006). Given the well-known benefits of physical activity (i.e., promotes health and fitness, and reduces risk for chronic disease), the U.S. Department of Health and Human Services (USDHHS, 2008) and Centers for Disease Control and Prevention (CDC) (2011) recommends at least 60 minutes of aerobic activity every day for children and adolescents. However, many children and adolescents do not meet the recommended physical activity guidelines (CDC, 2003; NASPE & AHA, 2012; Troiano et al., 2008) and many schools fail to promote regular physical activity (NASPE & AHA, 2012). Considering the time children and adolescents spend in school, these organizations have the potential to provide various opportunities for physical activity effectively (Pate et al., 2006; World Health Organization, 2008).

Comprehensive School Physical Activity Programs

NASPE (2008) and the CDC (2013) have created a model to promote physical activity in schools, the Comprehensive School Physical Activity Program (CSPAP), recommended for all K-12 schools. A CSPAP includes five components: (a) Physical Education, (b) physical activity during school, (c) physical activity before and after school, (d) staff involvement, and (e) family and community engagement.

There is growing evidence on the beneficial outcomes of each component of CSPAP. Quality Physical Education (e.g., Bailey, 2006; Carlson et al., 2008; CDC, 2010;

Coe, Pivarnik, Womack, Reeves, & Malina, 2006; Datar & Strum, 2004; Trost & van der Mars, 2010; Ward, 2011), other physical activity opportunities during the school day (i.e., physical activity breaks) (e.g., Castelli & Ward, 2012; CDC, 2010; Donnelly & Lambourne, 2011; Wadsworth, Robinson, Beckham, & Webster, 2012), and before and after school physical activity programs have shown effectiveness in improving children's health, in-class on-task behavior, cognitive functioning and academic performance (e.g., Beets, Beighle, Erwin, & Huberty, 2009; Beighle & Moore, 2012; CDC, 2010; Stylianou, et al, in press; 2015). There is a smaller research base supporting the critical role of families/communities (Lee et al., 2010) and staff wellness programs for schools (Carson, Baumgartner, Matthews, & Tsouloupas, 2010; Heidorn & Centeio, 2012).

Considering the benefits of CSPAP and the role of schools in promoting physical activity, it is expected that schools will become more involved in promoting physical activity (SHAPE America, 2013). In order to implement CSPAP successfully in schools, many experts have emphasized the role of Physical Educators as expanding to PALs to promote the CSPAP model in schools (e.g., Beighle, Erwin, Castelli, & Ernst, 2009; Castelli & Beighle, 2007). Because Physical Educators are prepared to work with students and promote physical activity in their schools, they are best suited not only to teach quality Physical Education lessons, but also to take on the role of PALs of the CSPAP (Beighle et al., 2009; Castelli & Beighle, 2007); although this role can also be held by a different teacher in the school.

Physical Education Teacher Education (PETE) Programs

In the U.S., over 450 PETE programs provide academic courses for Physical Education teacher candidates to prepare them for teaching with pedagogical and content

knowledge and field experiences (Ayers & Housner, 2008). The role of PETE programs is "facilitating pre-service teachers' progress toward being deemed 'highly qualified' upon entrance into the profession" (NASPE, 2007, p. 1). Teacher preparation plays a substantial role in preparing pre-service teachers with content knowledge, pedagogical skills, and dispositions necessary to promote quality teaching (e.g., Chen, 2009; McCullick, 2000; Metzler & Tjeerdsma, 2000). PETE programs should prepare teacher candidates to become competent physical educators with adequate knowledge and skills and who are passionate about helping all students adopt lifelong physical activity and healthy behaviors.

There are similarities in course requirements and teaching experience among PETE programs (Ayers & Housner, 2008; Bahneman, 1996; Strand, 1992). Common practices in PETE programs are PETE-specific courses in pedagogical knowledge (e.g., methods or curriculum), content knowledge/activity courses (e.g., basketball or yoga), professional issues (e.g., introductory course or multicultural course), as well as field-based experiences including early peer teaching, field-based observations, and student teaching. Hill and Brodin (2004) found that physical education teachers valued the sports skills/knowledge, student teaching, and methods courses (including classroom organization and management, lesson planning, teaching methods). Robinson and Melnychuk (2009) found that PETE students considered field experience the most enjoyable and helpful experience of the PETE program even though they also reported that current field experience were not adequate to prepare them for all aspects of the teaching practice (e.g., diverse learner and contexts). However, little is also known about learning experiences (e.g., courses or field experiences) provided in PETE programs to

prepare physical education pre-service teachers to take on an expanded role as a PAL as conceptualized in the CSPAP model.

Comprehensive School Physical Activity Programs (CSPAP) & PETE Programs

With regard to the increased attention to the important role of physical education in the public health field (Sallis et al., 2012) and the CSPAP model, it is necessary to reassess professional preparation programs for pre-service physical education teachers. Along with introducing the CSPAP framework, PETE faculty and researchers have suggested that PETE programs should prepare pre-service teachers for a broader role in promoting physical activity at schools (Beighle et al., 2009; Brusseau, Bulger, Elliott, Hannon, & Jones, 2015; McKenzie, 2007; Webster et al., 2015). McKenzie (2007) suggested that PETE programs devote a considerable amount of the content/experiences in the programs toward promoting physical activity and the public health agenda. PETE programs should consider how they train, prepare, and effectively equip pre-service students for the expanded role of the physical education teacher as the Physical Activity Leader (Karp, Scruggs, Brown, & Kelder, 2014). There are now recommendations for PETE programs to prepare future physical education teachers to be physical activity leaders at their schools who promote physical activity across the school day (Beighle et al., 2009; Corbin & McKenzie, 2008; McKenzie, 2007; Webster et al., 2015). However, it is unclear whether or not current PETE programs sufficiently have made the needed programmatic changes in structure and content (e.g., McMullen, van der Mars, & Jahn, 2014; Webster et al., 2015),

Recommendations for CSPAP in PETE programs. McKenzie (2007) suggested that PETE programs should modify courses by increasing the diversity of field

experiences and to promote the development of advocacy and politicking skills (McKenzie, 2007). As a part of restructuring PETE programs, Corbin and McKenzie (2008) posited the importance of disciplinary classes that include physical activity promotion and healthy behavior changes. They suggested that classes might be devoted for teaching substantial skills to promote physical activity in and out of schools (i.e., activities in physical education classes, self-management skills, and collaboration skills to work with parents/guardians, communities and others). Beighle et al. (2009) suggested that PETE programs should teach requisite skills and conceptual knowledge for PALs (i.e., organization, public health, advocacy, and physical activity) by modifying their courses and providing meaningful learning experience (i.e., assignments or field experience). According to a systemic review of the literature related to public health-aligned recommendations for PETE programs (Webster et al., 2015), it was found that many of the recommendations focused on adding content within existing coursework or expanding the curriculum with new courses for physical activity promotion. Although there are practical recommendations for PETE programs to prepare pre-service teachers for a broader role as to serve as PALs (e.g., Beighle et al., 2009), little research has investigated the way teacher education programs have been training pre-service physical education teachers for CSPAP implementation (Webster et al., 2015).

PETE faculty views of CSPAP content. Webster et al. (2014; in press) examined PETE faculty members' perception on how PETE programs prepared pre-service teachers for CSPAP framework. They found that PETE faculty members perceived that their programs effectively prepare pre-service teachers in terms of teaching Physical Education. However, PETE faculty in the study expressed skepticism regarding

the need to prepare students to implement CSPAP components. Even though this study provided a blueprint of CSPAP preparations in PETE programs, the study was limited to a small sample of faculty and their perceptions. The study lacked other types of data on what had been done in PETE programs.

Taken together, there is no evidence as yet on what is currently done in U.S. PETE programs for CSPAP preparation. Therefore, the purpose of this study was to investigate the extent to which PETE programs are preparing teacher candidates for CSPAP roles and to examine whether the CSPAP preparation differ by university's characteristics (e.g., Carnegie categories or region). The following are the research questions guiding this study:

1. How do PETE programs' **curricula** prepare their pre-service teachers related to the delivery of the CSPAPs?
2. How do PETE programs' **field experiences** prepare their pre-service teachers related to the CSPAP framework?
3. Are there any differences in the extent of CSPAP preparation by university characteristics?
4. According to faculty, what will be the future changes of PETE programs for CSPAP preparation?
5. According to faculty, what are ideal ways to implement CSPAP into PETE program?

Methods

Recruitment and Participants

Recruitment. In order to recruit PETE programs for the current study, the

researcher used three lists of PETE programs to compile a master list of PETE programs at four-year institutions. The following resources were combined to form a master list: (a) *The Directory of PETE program* (Ayers, Housner, & Kim, 2004), (b) a list of Physical Education Teacher Education programs that are nationally recognized/accredited from The Council for the Accreditation of Educator Preparation website (http://www.ncate.org/tabid/165/Default.aspx), and (c) a list of colleges/universities that have a Physical Education degree program from College Board which promotes college-readiness and provides resources, tools and services to students (https://bigfuture.collegeboard.org/college-search). The researcher employed an Internet search to verify the information for each program (e.g., contact information, programs offered, etc.) on the compiled list. Programs that could not be verified or no longer existed on the compiled list were deleted.

PETE program participants. The final list included 446 programs. The researcher contacted the director/coordinator of PETE programs from the final list via email to invite his/her participation in this study with a link to the survey including the purpose of this study and Informed Consent form. The director/coordinator of PETE programs was sent four follow-up reminder emails over a three-week span in order to maximize opportunities for her/his response.

Total of 144 programs completed the survey with usable data. The overall response rate (32.3%) is similar to the previous study (Webster et al, in press). Cook, Heath, and Thompson (2000) reported similar response rates as typical from online surveys from a meta-analysis study.

***Program classifications*.** Among 144 programs with PETE faculty participating

in this study, 130 programs provided their institution name. The researcher retrieved general information about the universities from the Carnegie Classification of Institutions of Higher Education (http://carnegieclassifications.iu.edu/). Seventy-four programs (56.9%) were public and 56 programs (43.1%) were private not-for-profit. The mean student population for the institutions was 10,807.8 ± 11784.022 and ranged from 431 to 58,322. Basic classification was reported most frequently for Master's Colleges & Universities: Larger Programs (*n*=38, 29.2%), followed by Baccalaureate Colleges: Diverse Fields (*n*=23, 17.7%), Master's Colleges & Universities: Medium Programs (*n*=19, 14.6%), Doctoral Universities: Highest Research Activity (*n*=14, 10.9%), Doctoral Universities: Higher Research Activity (*n*=14, 10.8%), Master's Colleges & Universities: Small Programs (*n*=8, 6.2%), Doctoral Universities: Moderate Research Activity (*n*=6, 4.6%), Baccalaureate Colleges: Arts & Sciences Focus (*n*=6, 4.6%), Baccalaureate/Associate's Colleges: Mixed (*n*=1, 0.8%) and Special Focus Four-Year: Business & Management Schools (*n*=1, 0.8%).

Geographic locations. Participating PETE programs were from various geographical locations and divided into six regions based on the Society of Health and Physical Educators state affiliate categories (http://www.shapeamerica.org/about/districts/). Fifty-five programs (42.0%) in the Southern region (13 states) had the most participants in this study, followed by the Midwest region (6 states, n=34, 26.0%), the Central region (7 states, *n*=15, 11.5%), the Eastern region (7 states, *n*=14, 10.7%), the Southwest region (4 states, *n*=10, 7.6%), the Northwest region (3 states, *n*=3, 2.3%). The States with the most participating PETE programs were: (a) Texas (*n*=10, 6.9%), (b) Illinois (*n*=9, 6.3%) and (c) Ohio (*n*=8, 5.6%)

and (d) Indiana (*n*=8, 5.6%). Ten states did not have any participating PETE programs in this study.

Data Collection Procedures

Instrument. The researcher developed the questionnaire used in this study based on the CSPAP framework (CDC, 2013) and the recommendations for PETE programs (Beighle et al. 2009; Webster et al., 2015). It has four sections related to the following: (a) requirements for the program (e.g., number of credit hours required in general and in relation to CSPAP), (b) separate courses for CSPAP (c) infused courses for CSPAP and (d) field experiences related to CSPAP. All of items were related to specific information reported by participants about their program. Multiple responses to questions were acceptable. Throughout the entire process of the data collection (including developing, validating, and administrating a questionnaire), the researcher used an online survey on Surveymonkey.com to increase the accessibility for experts and participants.

Expert validation phase 1. After developing the initial questions and a draft of the questionnaire, five Assistant Professors and four Associate/Full Professors reviewed the questionnaire in order to assess the applicability of the questions to the CSPAP model in PETE programs at colleges/universities and to indicate where clarity of the wording or other changes were needed in phase one of the expert validation. The researcher used a convenience sample of experts/faculty in Sport Pedagogy who had published in the area of PETE programs and CSPAP. Based on the experts' feedback, the researcher revised the questionnaire in terms of format and length of the questionnaire and wording of several items. In order to provide respondents opportunities to write examples/additional comments for their answers, the researcher added short written response items. Two

open-ended questions were also added for participants to provide their views on future changes in their curriculum related to CSPAP preparation as well as to their views on an ideal PETE program designed to prepare CSPAP programs in schools.

Expert validation phase 2. After developing the preliminary version of the questionnaire, the researcher contacted 20 early adopters (i.e., PETE faculty members who have a vested interest in CSPAP) for the second phase of the instrument validation. The criteria for early adopters included the following: (a) had published articles related to CSPAP, (b) had presentations at regional or national conferences in related to CSPAP, and (c) had provided suggestions in the literature for PETE programs, Physical Education teachers, Physical Educator preparations, policy related to CSPAP. Early adopters were asked to rate questionnaire items to determine the appropriateness of item's content and clarity along with their written comments regarding the items. Fourteen PETE faculty members completed the second phase of instrument validation, and the overall percent agreement among the experts was 84%, with agreement on the items ranging from 57% to 100%. Upon review of the PETE faculty members' responses, the main reason for the disagreement was the difficulty for some programs to differentiate specific credit hours for CSPAP. For example, one PETE faculty member wrote, "This is a difficult question. We do not have a specific course related to CSPAP, but certainly include CSPAP content in a few different courses. This question might not garner the responses you truly want." Based on the feedback from the early adopters, some items were deleted, combined into one question, or reworded. The directions at the beginning of the instrument were also revised based on the comments.

Pilot study. A pilot investigation took place with 40 PETE faculty members with the revised survey (after expert changes had been made) for clarity, readability, and feasibility of the instrument. Based on their feedback, the researcher added skip functions to the online survey to reduce the time if the items were not relevant to the PETE program.

Final instrument. The final questionnaire is available in Appendix B. The final questionnaire included six sections: (1) Overall program requirements (six items), (2) separate courses in relation to CSPAP offered in PETE program (one to twelve items depending on the applicability of questions), (3) infused courses in relation to CSPAP offered in PETE program (one to fifteen items depending on the applicability of questions), (4) field experiences in relation to CSPAP (one to seven items depending on the applicability of questions), (5) open-ended questions for future changes for CSPAP preparation and ideal preparations for CSPAP implementations (two items), and (6) demographic information of PETE programs (five items). In section one, respondents were asked to answer the credit hours required for graduation. They were also asked which components of CSPAP were taught in which curricula categories. At the beginning of each section two, three, and four, one primary question asked whether the PETE program had separate courses (section two), infused courses (section three), or field experiences (section four) for CSPAP preparation. If they answered that any of the components were taught in each type of course, they proceeded to the items regarding the courses or experiences. In order to provide adequate opportunities to answer, multiple options were available. At the same time, in order to save time for those who did not have relevant learning experiences in their PETE programs, respondents were moved to the

next section if they answered 'None' or 'Not applicable.' In section five, two open-ended items were provided. One item asked for future changes or plans in relation to CSPAP preparation in their PETE programs. Another item asked their opinion of ideal preparations for CSPAP implementations in PETE program. In section six, demographic information regarding the PETE program (including university name) were requested and an email address was requested in order to retrieve institutional information for the PETE programs online and for follow up, and sending gift cards.

Procedures. The researcher sent a recruitment letter and link to the online survey electronically via email to all identified PETE program directors/coordinators. The recruitment letter included the purpose of the study and request for participation, contact information for the principal investigator, and the online survey link. The online survey included an Informed Consent form as the front page and a questionnaire about their PETE programs. Before potential respondents proceeded to the survey, they were asked to click on the "Yes" button on the front page to give his/her informed consent to participate in this study. Participants were asked to complete the online survey about their program in general and specific items regarding their CSPAP programming. After participants completed the online survey, the researcher gathered additional information provided on their website and the information on Carnegie Classification website (http://carnegieclassifications.iu.edu/). To increase response rates, four separate e-mails were sent again over a three-week span. To maximize participation, the researcher provided a $10 gift card to the participants. Prior to the data collection, the University Institutional Review Board (IRB) reviewed and approved the study (See Appendix A).

Data Analysis

Descriptive statistics including mean, percentages, and frequencies were calculated for all items. The researcher used the multiple response frequency analysis to summarize items for which a respondent could "check more than one response." In order to examine the differences in CSPAP preparation by the PETE programs' characteristics (e.g., Carnegie categories and by region), the researcher employed chi-square statistics with categorical variables (e.g., the existence of separate courses, infused courses, or field experiences for CSPAP preparation, required PAL training, or multiple responses for CSPAP components in their programs). Analysis of variance was used for continuous variables (e.g., total number of student population at the university or college, overall credit hours required or credit hours required by each category of curriculum). For analytical purposes, the researcher combined Carnegie classification categories into three groups based on the basic classification of Carnegie Classification of Institutions of Higher Education (Shulman, 2001); (a) Baccalaureate colleges (n=30), (b) Master's College and Universities (n=64), and (c) Research Universities (n=35). SPSS version 21.0 was used for all statistical analyses. The researcher examined the differences in distribution of the universities' regions and universities' classifications between the 446 population data and 130 sample data in this study using chi-square statistics. Despite slight tendencies of overrepresentation (e.g., the Midwest, the Southern regions, or Baccalaureate colleges) or underrepresentation (e.g., the Central, the Northwest, or Research Universities), there were no statistically significant differences observed (regions, $\chi^2(5)=7.04$, p=.21; Classifications, $\chi^2(2)=2.00$, p=.37). Statistical evidence for chi-squired test is present in Appendix C. In addition, when the researcher examined

mean differences between the 446 population data and 130 sample data using an independent *t*-test, student enrollment in the participating institution was higher across participants than those who did not participate in this study (10,807.8 ± 11,784.0 vs. 8737.8 ± 10557.2, respectively) and this difference was approached the borderline of significance ($t(573) = 1.91$, $p = 0.056$).

Information for separate or infused courses (e.g., name of the course, year taken, assessment, or components covered etc.) and field experience (e.g., year taken, assessment, or components covered etc.) were summarized and categorized by each component of CSPAP. The two open-ended questions were summarized to identify and extract common answers regarding planned future changes for CSPAP preparation as well as the ideal preparation for CSPAP in PETE programs.

Results

Descriptive Results

Of 144 programs, 132 programs reported they have Physical Education undergraduate programs and 11 programs indicated that they have dual major programs for Physical Education and Health Education. Five programs reported that they have graduate programs for Physical Education teacher certificates. The average credit hours required for Physical Education undergraduate programs is 127.2 ± 12.5 with a range from 114 to 196 while the double major with Health Education required an average of 136.6 ± 10.8 credit hours. The five graduate programs reported an average of 39.6 ± 7.3 credit hours for their graduation requirement. Among the five categories of courses, general education was the highest in credit hours with an average of 45.7 ± 13.2. Within courses in relation to Physical Education, disciplinary knowledge (e.g., anatomy or

exercise physiology) was assigned higher credit hours as 21.3 ± 11.0 followed by 18.4 ± 9.4 credit hours in pedagogical knowledge (e.g., methods or curriculum), 13.3 ± 5.8 credit hours in field experiences (including internship or student teaching), 12.0 ± 8.7 credit hours in content knowledge/activity courses (e.g., basketball or yoga) and 10.0 ± 8.2 credit hours in professional issues. Fifty-six programs reported other required courses for 18.4 ± 9.4 credit hours such as general elective courses, health education, first aid/CPR, and coaching, etc.

Descriptive findings related to CSPAP preparation combined with other program requirements. Overall, among 144 PETE programs, 37 programs (26%) provided one or more types of CSPAP related learning experiences while 107 PETE programs (74%) did not. Figure 1 shows the frequency of CSPAP components by type of experience. Related to CSPAP preparation in general, pedagogical knowledge courses (*n*=123, 25.9%) was the most frequent category for CSPAP preparation followed by field experiences (*n*=101, 21.3%), content knowledge/activity courses (*n*=90, 18.9%), and professional issues (*n*=79, 16.6%). This trend was consistent when it came to each component of CSPAP. Physical Education was the primary content taught in the PETE programs. Content designed to prepare PETE students to teach Physical Education included pedagogical knowledge (n=129, 24.1%), field experiences (n=118, 22.1%), and content knowledge (n=113, 21.3%). Beyond Physical Education, among a total of 216 responses for learning about administering physical activity programming in Before and After School Physical Activity experiences, students who experienced content in pedagogical knowledge courses (*n*=72, 33.6%) was the most frequent content field followed by field experiences (*n*=45, 21.0%). Physical Activity during the school day

(n=331) was taught the most in pedagogical knowledge courses (*n*=100, 30.2%) and field experiences (*n*=77, 23.3%). Among responses for Family and Community Engagement (*n*=224) and Staff Involvement (*n*=223), pedagogical knowledge (*n*=74, 33.0%, *n*=70, 31.4%, respectively) and field experiences (*n*=64, 28.6%, *n*=62, 27.8 %, respectively) was also where this content was taught the most. Among 144 programs, six programs (4.2%) required and 28 programs (19.7%) encouraged PAL training while over 71.5% of the programs (*n*=103) did not require the PAL training.

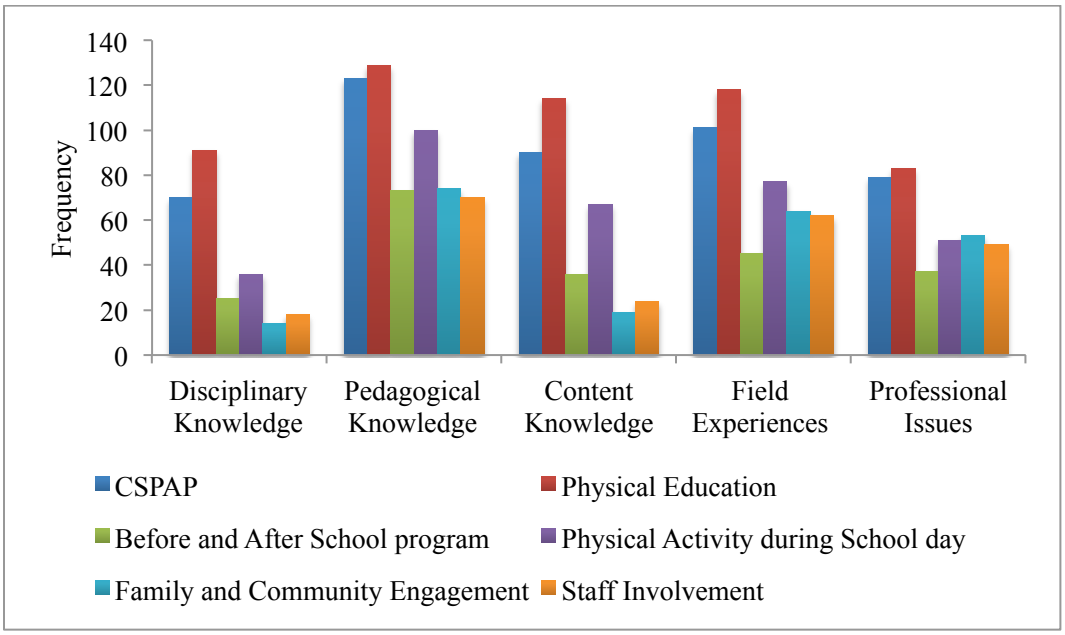

Figure 1. Frequency of CSPAP Components Taught in Categories of Courses

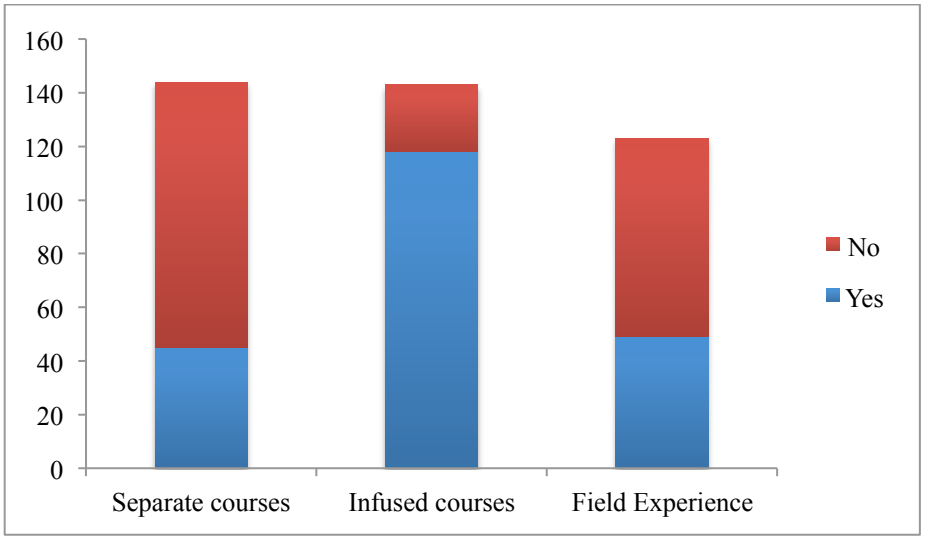

Figure 2. Frequency of Learning Experiences for CSPAP Preparation in PETE Programs

Separate courses related to CSPAP. Beyond the Physical Education component in the CSPAP framework, 99 programs (68.8%) indicated that they did not have any separate courses for other components of CSPAP (Figure 2). The separate courses that prepared students for all of the CSPAP components (beyond physical education) provided specific information regarding 12 courses by participants (8.3%). Two PETE programs offered more than one separate course for the CSPAP models. While various course names and descriptions were used for CSPAP courses, the most frequent content described was developing knowledge and skills in physical activity/wellness/health promotion in schools or fitness/health education.

Of these 12 CSPAP preparation courses, nine were required courses while three were elective. Credit hours varied from one to four credit hours, while three credit hours (n=5) and two credit hours (n=4) were dominant. Courses at the junior level were the most targeted (n=7) with content covered for both elementary and secondary schools

(*n*=10). Figure 3 shows the frequency of each CSPAP component offered in separate courses. Among the four CSPAP components (beyond physical education), multiple responses reported that before and after school Physical Activity (*n*=8) and Physical Activity during the school day (*n*=8) were the most frequent components in the separate courses followed by Family and Community Engagement (*n*=5) and Staff Involvement (*n*=4). Six courses focused only on knowledge about CSPAP components while four courses focused on knowledge, skill, and disposition about CSPAP components.

Courses infused with CSPAP content. In terms of infused courses in relation to CSPAP, 25 programs (10.2%) reported that they don't have any infused course related to CSPAP (Figure 2). Out of 95 programs that completed the open-ended questions for specific course information on infused course in relation to CSPAP, 32 courses were considered acceptable for the CSPAP related courses based on their brief course information. Six PETE programs offered more than one infused course for CSPAP components. Thirty-one courses were required and only one course was elective course. Despite the variations of title of the existing courses that addressed CSPAP components, more than half of the courses were method courses that instruct how to teach elementary or secondary physical education in schools (*n*=18). Six courses were about health or fitness education, and four courses were about curriculum of physical education.

Many courses required 3 credit hours (*n*=14) or 4 credit hours (*n*=13). Junior level was most targeted (*n*=24) followed by senior student (*n*=12). Most CSPAP components infused courses covered both elementary and secondary schools (*n*=21) followed by elementary only (*n*=6) and secondary only (*n*=5). Figure 3 shows the frequency of each CSPAP component in infused courses. Among four CSPAP components (except physical

education), Physical Activity during School day (*n*=23), Before and After school Physical Activity (*n*=22), and Family and Community Engagement (*n*=22) were frequently embedded in the existing courses. Out of 32 courses, multiple components of CSPAP were discussed in 25 courses while 12 courses covered all aspects of CSPAP. The way to teach CSPAP components was assignments (*n*=20), lessons (*n*=12), reading (*n*=6), peer teaching (*n*=6), or practical experiences including site visit (*n*=2). Most frequent assessing form of CSPAP preparation was as a part of written exams (*n*=15) and as assignments (*n*=14). The main focus of CSPAP preparation in the infused courses was the knowledge of implementing CSPAP (*n*=21) followed by skill of implementing CSPAP (*n*=15) and disposition toward CSPAP implementation (*n*=12).

Field experiences infused with CSPAP. Among 144 PETE programs, 48 programs (33.3%) had field experiences in relation to CSPAP while 74 programs (51.4%) did not. Thorough review identified 12 valid responses for the detailed information about CSPAP related field experiences. Two types of field experiences were included: (a) pre-student teaching/internship and (b) student teaching. Three PETE programs responded that they included CSPAP components in their pre-student teaching/internship. They worked with local schools. Students observed existing programs (e.g., recess, after school programs, classroom instruction), assisted within these programs, and create/provide new physical activity opportunities within these programs. Two programs provided CSPAP related internship juniors or seniors while one program targeted sophomores to seniors. The type of application included observation, presentation, and assignment. Two programs covered all aspects of CSPAP while one program focused on Family and Community Engagement.

Nine PETE programs provided detailed information about their student teaching experiences. Student teachers conducted observations, developed a plan for moving forward, and managed the specific components of a CSPAP with their cooperating teacher to incorporate some types of physical activity promotion project within the school. The types of application were diverse including observations (*n*=5), developing lesson plans (*n*=5), teaching (*n*=5) and assignments (*n*=3). Figure 3 shows the frequency of each CSPAP component in field experience. The CSPAP components integrated in student teaching were equivalent as Family and Community Engagement (*n*=6), Before and After School Physical Activity (*n*=6), Physical Activity during School day (*n*=5).

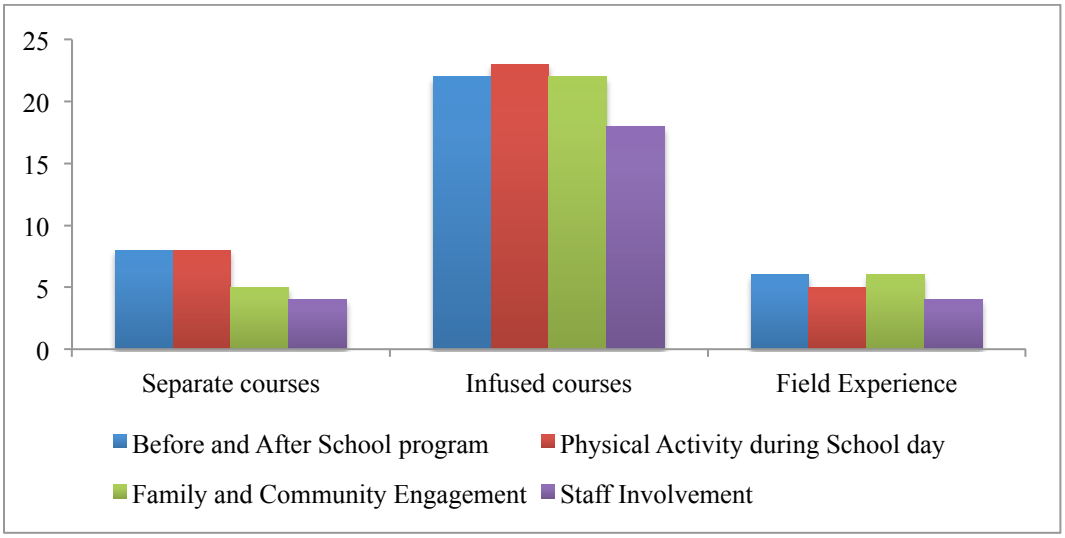

Figure 3. Frequency of Each CSPAP Component Taught in Separate Courses, Infused Courses, or Field Experiences

Future changes planned for PETE programs and CSPAP. Among 144 PETE programs, 100 programs answered the question about their future plan for changes in PETE programs for CSPAP preparation. Forty-nine percent of respondents (*n*=49) reported that they did not have any plans for future changes for CSPAP preparation in

their program. Among programs personnel who provided one or more types of CSPAP related learning experiences (*N*=36), 12 PETE programs reported that there was no expanded future plan for CSPAP implementation. Possible changes for CSPAP preparation in PETE programs reported by participants (*N*=51) were integrating CSPAP components into existing courses (*n*=16), adding CSPAP concepts to one of the required Field Experience (*n*=8) and collaborating with faculty members/instructors in their programs to introduce CSPAP ideas or to encourage them to include CSPAP ideas into their courses (*n*=4).

Ideal preparation for CSPAP in PETE programs. Among 144 PETE programs, 117 valid responses regarding their perception of ideal CSPAP preparation in PETE programs. Nine PETE personnel answered 'Not sure' about the ideal CSPAP preparation. The most frequent opinion about the best way to teach CSPAP in PETE programs was providing practical experiences during field experiences or student teaching (*n*=21, 17.9%). One respondent wrote:

> The ideal program would be designed and carried out in partnership with an existing school/community with a strong CSPAP so that teacher candidates could learn from model practices and be socialized into these professional roles, responsibilities, and expectations encompassing all components of the model.

Seventeen "ideal program" responses (14.5%) were about preparing PETE students to implement school-wide CSPAP programs. One respondent wrote "Incorporated throughout the curriculum so it is automatically addressed." Another respondent wrote:

> It should infuse information related to CSPAP throughout the four years, beginning with the first semester freshman year. There should be a greater concentration in the training in the junior and senior years as teacher candidates engage in more field experiences but some field experiences should be

incorporated in the freshman/sophomore years.

Fifteen (12.8%) participants answered that infusion of CSPAP into many different courses will be an ideal way to teach majors in PETE programs. Collaboration with local schools or communities was also discussed (n=13, 11.1%). For example, one participant indicated:

> The ideal program would be designed and carried out in partnership with an existing school/community with a strong CSPAP so that teacher candidates could learn from model practices and be socialized into these professional roles, responsibilities, and expectations encompassing all components of the model.

Differences in CSPAP Related Learning Experiences in PETE Programs

For the analyses by the three major Carnegie Classifications (i.e., Baccalaureate colleges, Master's College and Universities, and Research Universities), not surprisingly there was a significant difference in student population ($F(2, 126) = 61.75$, $p < 0.001$) while there were no differences in overall credit hours required for undergraduate degrees ($F(2, 117) = 0.849$, $p = 0.43$) and all sub categories of courses (Table 1).

Figure 4 shows the frequency comparison in CSPAP preparation experiences by three categories of Carnegie Classification of Institutions. Across all three categories, the clear tendency was that 70% of programs in each category offered infused courses while over half of the programs in each category did not have a separate course for CSPAP preparation beyond physical education. In graduate-focused and research-intensive universities, more than 60% of programs did not provide any CSPAP physical activity promotion related field experiences. Similarly, about half of the programs in the undergraduate-focused university category provided this experience as part of the field experiences. PAL training was rarely required for any type of university.

For the analyses by region (Table 2), there was a significant difference in the student population between the Southwest region and the Central region (19500.1 ± 14296.8 vs. 6589.1 ± 13047.6) The Northwest region required significantly higher credit hours for the undergraduate programs (166 ± 38.9) than the Southwest region.

Figure 5 shows the frequency of CSPAP preparation experiences by region. Except the Southwest region, the clear tendency was observed that for more than 60% of the programs in each region did not offer a separate course for CSPAP preparation beyond physical education. The majority of programs (over 70%) in each region offered infused courses for CSPAP preparation beyond physical education. About half of the programs in each region did not provide field experiences in relation to CSPAP physical activity promotion with exception of the Northwest region. PAL training was rarely required for any region. There was no significant difference observed in separate courses, infused courses, or field experiences in relation to CSPAP application between pubic universities and private non-profit universities.

Table 1.

Means and Standard Deviations for Student Population Data by Credit Hour and University Category

	Baccalaureate colleges (n=30)		Master's Universities (n=64)		Research Universities (n=35)	
	M	SD	M	SD	M	SD
Population	1640.3*#	881.2	8204.6*	7730.8	24252.1	12919.5
Credit hours						
Overall Undergraduate	126.0	6.8	129.1	15.7	126.0	11.5
General Education	46.9	8.0	47.8	15.4	40.8	13.6
Disciplinary Knowledge	24.7	13.5	19.3	10.1	21.6	10.7
Pedagogical Knowledge	21.8	10.5	17.1	9.3	18.0	7.9
Content Knowledge	8.6	8.9	12.5	8.8	13.7	8.3
Field Experiences	15.4	6.8	13.2	6.7	12.2	3.4
Professional Issues	9.9	9.9	10.5	8.9	9.7	5.9

Note $^{*}p<.05$ compared to Research Universities, $^{\#}p<.05$ compared to Master's Universities.

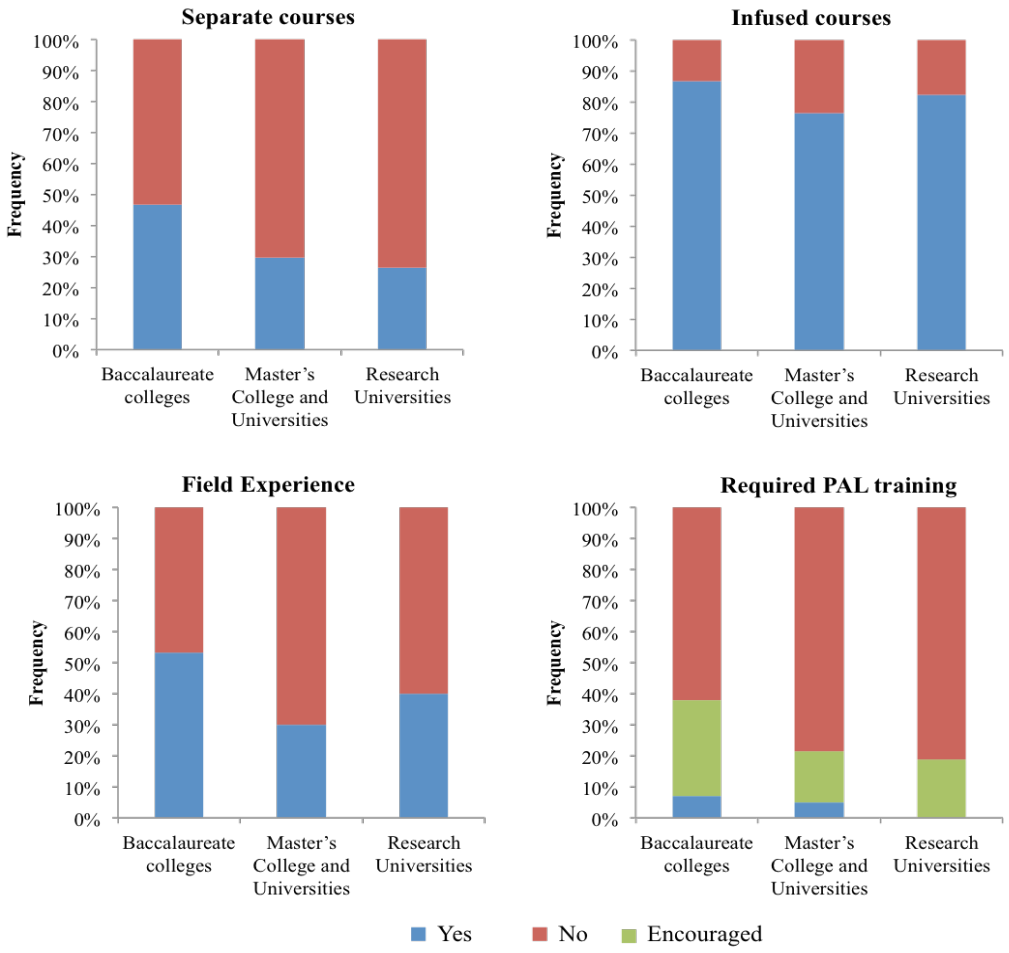

Figure 4. Frequency Comparison of CSPAP Preparation Experiences by University Type

Table 2

Means and Standard Deviations of Student Population and Credit Hours by Region

	Central (n=15)		Eastern (n=14)		Midwest (n=34)		Northwest (n=3)		Southern (n=55).		Southwest (n=10)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Population	6589.1*#	13047.6	6610.8*	5632.1	14018.1	15154.3	10937	4553.9	9838.4*	9506.2	19500.1	14296.8
Credit Hours												
Overall Undergraduate	126.8	8.5	123.8*	4	129.8	13.9	166.0*	38.9	123.9*	4	134.8	20.3
General Education	46.4	10.2	39.9	14.6	43.8	13.8	71.7*	36.1	46.1	10.7	49.6	15
Disciplinary Knowledge	23.1	13.6	21.1	10.1	17.7	10	22.7	6.8	22.6	11.8	21.5	10.2
Pedagogical Knowledge	20	10.7	17.3	10.6	18.4	9.6	21	8.2	17.4	8.5	22.4	10.1
Content Knowledge	9.1	5.6	14.1	8.7	15.9*	10.3	20.3*	7	10.1	8.1	8.1	5.4
Field Experiences	17.1*	6.8	13.1*	5.5	14.1*	5.5	14.3*	2.1	13.0*	5.8	7	4.2
Professional Issues	12.3	9.2	7.3	4.7	11.2	7.5	20	24	9.5	8.9	9.3	4.7

Note *p<.05 compared to the Southwest region, #p<.05 compared to the Midwest region.

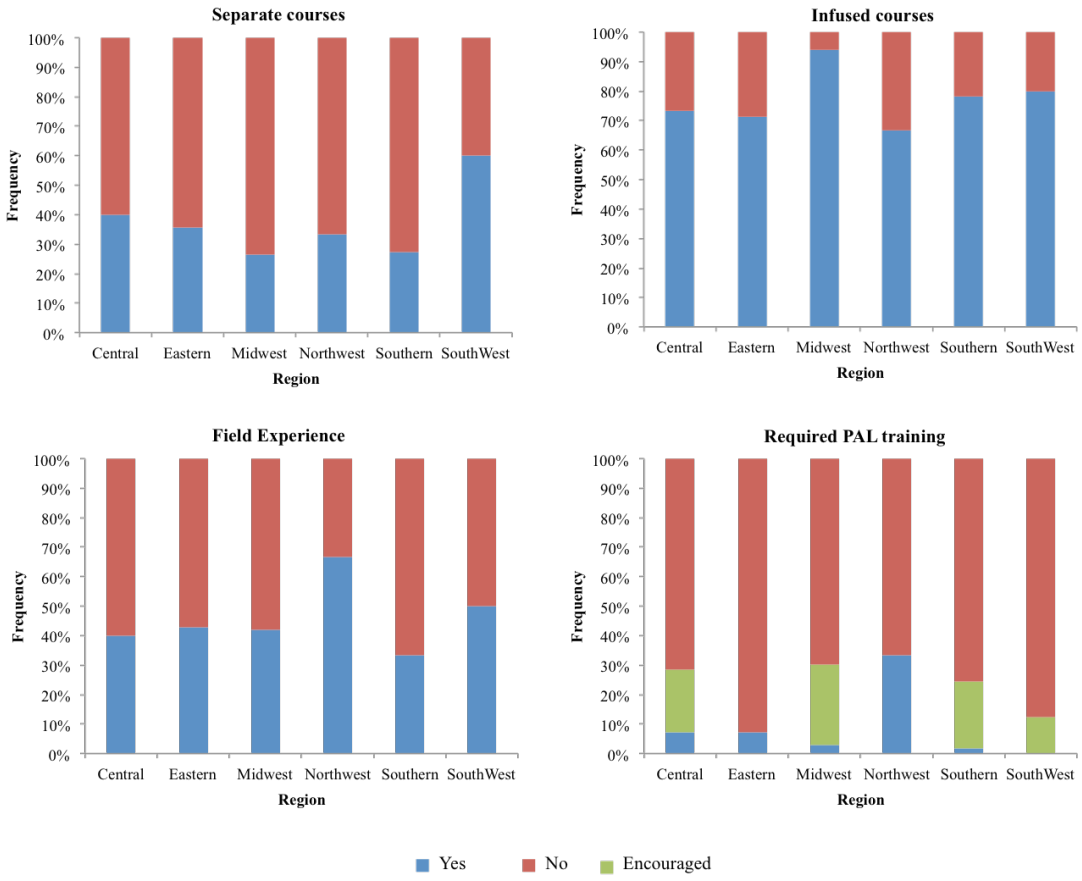

Figure 5. Frequency Comparison of CSPAP Preparation Experiences by Region

Discussion

This study examined the extent of CSPAP preparation in PETE programs. The common type of learning experiences for CSPAP incorporates CSPAP components in the existing courses (over 80% of programs) rather than teaching CSPAP in a separate course. Field experiences were not frequently used even though PETE personnel expressed the utility of field experiences as an ideal CSPAP learning experience. Similar tendencies were observed across university type and or region.

These findings are meaningful in light of the current actualities of PETE programs for CSPAP preparation. Despite unavoidably increased attention on the role of PETE programs to prepare future physical education teachers who can also administer CSPAP programs, and related PETE program recommendations (Beighle et al., 2009; McKenzie, 2007; Webster et al., 2015), the previous empirical research findings were limited to PETE faculty members' perceptions of the role of their PETE programs role in preparing teachers for CSPAP implementation (Webster et al., in press). This study is the first in which we explored the current realities of physical education teacher development by gathering programmatic data related to CSPAP preparation in PETE programs.

CSPAP Preparation Through Courses

PETE programs provided learning experiences for CSPAP in a limited number of separate courses but in several types of infused courses. The limited number of separate courses (only 12 valid courses across 144 programs) might be explained by the traditional curriculum of PETE programs. Given the primary purpose of the PETE programs of training physical education teachers, it is clear that quality physical education is the dominant focus in PETE programs (Webster et al., in press). In order to meet the national standards for initial teacher certification in physical education (NASPE, 2008), the PETE program curricula is optimized for developing knowledge and skills used for quality physical education programs and packed with course and experiential requirements. This was discussed by participants in the open-ended question responses about future plans and ideal programs. A few of the respondents wrote the reasons for no future plan for the CSPAP preparation in their PETE program as having too many requirements in their upper division courses/experiences in their programs as well as national/state teacher

certification standard to meet. Although there are a narrow range and small number of separate courses taught related to CSPAP, it is important to learn that CSPAP preparations might be placed in health education or wellness promotion courses as well. In other words, the content in the courses may relate to CSPAP preparation while the main focus of the course does not promote CSPAP components.

The programmatic information about the infused courses revealed that CSPAP information and experiences were more frequently taught using this format, rather than in separate courses in PETE programs. This is consistent with the previous study's findings. Using a systemic review of the literature, Webster et al. (2015) found that expanding traditional coursework for teacher candidates to include CSPAP training was frequently suggested. Incorporating CSPAP components in existing courses is also tied to the reported future plan for faculty for CSPAP preparation in PETE programs. Given the fully developed requirements and schedule in most PETE programs, as well as external requirements placed on PETE programs, adding content about CSPAP in existing courses may be a more viable option.

Field Experiences in relation to CSPAP

Participants in this study expressed the importance of practical experiences related to CSPAP preparation being included in field experiences (in open-ended questions). However, CSPAP components were infrequently reported as part of internship or student teaching experiences. Few PETE programs provided opportunities for observation, planning, or application of CSPAP in their teaching placement. Brusseau et al. (2015) pointed out that many PETE programs have not provided sufficient learning experiences to train pre-service teachers for CSPAP implementation. Interestingly, Family and

Community Engagement was frequently mentioned in the field experiences as advocacy efforts of physical education programs. Brusseau et al. (2015) demonstrated that community-engaged learning in relation to CSPAP was beneficial not only for accountability in improving the health and well-being of all stakeholders in schools but also for improving training for pre-service physical education teachers in physical activity promotion. However, there was a discrepancy with the previous study of Webster et al. (2014; in press) about the perception of Family and Community Engagement preparation. Authors reported that PETE faculty members expressed disagreement and less effectiveness for Family and Community Engagement preparation in their PETE programs. This result might be explained by the participants in this study perceiving the questions across a broader spectrum of the CSPAP model compared to the previous study. In the current study, a general description of CSPAP was provided but specific definitions or distinct examples were not mentioned. However, the Webster et al. (in press) survey included explicit instances in relation to family and community engagement within the CSPAP framework.

CSPAP Preparation Across the University Characteristics

This study examined the differences in learning experiences in relation to physical activity promotion by university's classification and regions. It was likely to have similar availabilities in curriculum in terms of separate courses or infused courses in relation to CSPAP components across the university categories and regions. This might be explained due to the lack of equal representation in the categories for university type. Even though applying two different versions of Carnegie Classifications, the proportion of Research and Master focused universities in this was similar with one recent study (Graber, Erwin,

Mays Woods, Rhoades, & Zhu, 2011) as 27.2% vs. 20.5%, 49.7% vs. 44.3%, respectively. The proportion of Baccalaureate colleges (23.3%) was lower in this study. In contrast, Ayers and Housner (2008) reported that relatively high proportion of both master's college/universities and doctoral/research universities (> 40.5%) while baccalaureate colleges was only 17.2% in their study. On the other hand, it might be possible that regardless of the university characteristics, the primary focus of the PETE programs is heavily focused on a quality physical education program (Webster et al., in press). In addition, Zeichner (2006) pointed out that an effective teacher education program is fundamental rather than whether they are universities or colleges or alternatives.

This study had several limitations. First, although the incentives were provided in order to increase survey responses, it might have posed a threat to the validity of the data. Respondents may have tried to answer questions in ways that they thought were desirable for the study purpose rather than factual information. In addition, participants may have participated in the survey in order to receive a gift card rather than having a genuine interest. Second, given three criteria for the recruitment, it might not be an inclusive population for PETE programs. Some PETE programs follow state accreditation instead of CEAP and not have been present on the other two lists, so there are programs that may not have been included in the list of PETE program personnel sent invitations to participate in this study. Third, since this study aimed to examine program-wide CSPAP preparation, it might not reflect individual instructor's efforts in teaching CSPAP in courses or including CSPAP in lab experiences. This might lead to an underestimation of the current PETE programs actively involved in CSPAP preparation. Fourth, although this project aimed to have national generalizability for PETE programs, generalizing

findings to specific PETE programs; however, must be done with caution due to slight tendencies of overrepresentation and underrepresentation of the PETE programs in the survey sample. Lastly, there were some conflicting findings reported by PETE program personnel and these were not reconciled since this was a one-time survey response and invalid/unclear information was excluded in the analysis. The limited conflicting findings might be due to some of the PETE program personnel participating in this study not fully understanding CSPAP.

In conclusion, from a nationwide survey, it was found that not many PETE programs offer CSPAP-related learning experiences. When it was present, the prevalent way to prepare PETE students for CSPAP implementation was infusing CSPAP concepts into current courses. The results of this study provide an overview of the current extent of CSPAP preparation in PETE programs. Based on the results, it is suggested that program-wide efforts (e.g., expanding courses works, CSPAP specific-field experiences, or hidden curriculum throughout the program, etc.) should be made more explicit for effective preparation for CSPAP framework. Many faculty and teachers in the field of Physical Education are advocates for CSPAP in schools, thus, teachers who are actual executors of CSPAP in schools, need to be adequately prepared for it. The role of PETE programs should evolve to embrace this expanded role of physical education teachers as well as the role of teacher preparation programs. Ultimately, for the PETE program changes, national/state standards should be flexible to support CSPAP in PETE programs as well as in schools.

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Chapter 4: PHASE 2. PRE-SERVICE TEACHERS PERCEPTIONS ABOUT PHYSICAL EDUCATION TEACHER EDUCATION PROGRAMS FOR COMPREHENSIVE SCHOOL PHYSICAL ACTIVITY PROGRAMS

Introduction

Over 450 Physical Education Teacher Education (PETE) programs in the U.S. offer academic courses and field experience for future Physical Education teachers to develop pedagogical and content knowledge to prepare them (Ayers & Housner, 2008). The role of PETE programs consists in "facilitating pre-service teachers' progress toward being deemed 'highly qualified' upon entrance into the profession" (National Association for Sport and Physical Education [NASPE], 2007, p. 1). Teacher preparation plays an important role in training pre-service teachers with content knowledge, pedagogical skills, and dispositions necessary for quality teaching (Chen, 2009; McCullick, 2000; Metzler & Tjeerdsma, 2000). Therefore, PETE programs should train teacher candidates to become competent physical educators with adequate knowledge, skills, and values needed to become passionate educators who prepare all children for a lifetime of physical activity. PETE programs provide similar course requirements and teaching experiences including a knowledge of sub-disciplines within Kinesiology (e.g., exercise physiology), content knowledge for Physical Education (e.g., basketball, dance, tennis), pedagogical knowledge and skills (e.g., methods, curriculum, skill analyses), as well as field-based experiences including early peer teaching, observations, and student teaching experiences (Ayers & Housner, 2008; Bahneman, 1996; Strand, 1992).

Learning Experiences in Teacher Education Programs

Several studies in general teacher education emphasized early and authentic field

experiences (Clift & Brady, 2005; Gallego, 2001) and school partnership models (Cochran-Smith & Zeichner, 2005; Gallego, 2001), that can help provide pre-service teachers with a variety of genuine learning opportunities, leading the development of pre-service teachers' self-efficacy related to teaching skills. Woolfolk-Hoy (2000) showed that pre-service teachers developed strong efficacy beliefs of teaching during their coursework due to the complexity of real-setting experiences and student teaching experiences.

In the field of physical education, Hill and Brodin (2004) found that Physical Education teachers highly valued the following components of their teacher education programs: student teaching, lesson planning, teaching methods, sports skills/knowledge, classroom/gym management, and organization. Robinson and Melnychuk (2009) further concluded that the PETE students considered field experience the most enjoyable and helpful experience of the PETE program, even though they did not feel totally prepared for all aspects of teaching practice after student teaching (e.g., they wanted more experiences with diverse learners and contexts). Gurvitch and Metzler (2009) compared the effect of laboratory-based and field-based teaching experience on pre-service teachers' efficacy levels. These authors suggested that challenging yet authentic learning experiences in the field prior to student teaching strengthen teaching.

Comprehensive School Physical Activity Programs and Teacher Training

Recently, the field of Physical Education has begun to adopt a broader role of physical activity promotion (beyond Physical Education classes) as a consequence of the general healthcare alert of severe health issues such as childhood obesity and pediatric diabetes (e.g., Beighle, Erwin, Castelli, & Ernst, 2009; Sallis & McKenzie, 1991; Sallis,

McKenzie, Beets, Beighle, & Erwin, 2012). Considering the time children and adolescents spend in school, these organizations (that is, schools) have the potential to promote physical activity effectively. School personnel may want to take on a leadership role in promoting physical activity and healthy behaviors for students and staff, using a Comprehensive School Physical Activity Program model (CSPAP, CDC, 2013; NASPE, 2008; SHAPE America, 2013) which includes five components: (a) Physical Education, (b) physical activity during school, (c) before/after school physical activity, (d) staff involvement, and (e) family/community engagement.

In order to implement CSPAP successfully in schools, PETE programs need to prepare Physical Education pre-service teachers differently (Beighle et al., 2009, McKenzie, 2007) by providing them with the necessary knowledge, skills, and disposition for CSPAP. Experts have emphasized that the role of Physical Educators should expand to that of Physical Activity Leaders (PAL) who can play a key role in leading CSPAP: organizing the program, supporting and training teachers and staff, and marketing the program (Beighle & Moore, 2012). Physical Educators are able not only to teach quality Physical Education lessons but to effectively promote physical activity during the school day as PALs (Beighle et al., 2009; Castelli & Beighle, 2007). Also Physical Educators may be the best people to become responsible for PALs of the CSPAP because they are trained to work with students and provide physical activity in their schools. However, it is unclear whether PETE programs using the CSPAP framework provide the necessary learning opportunities to pre-service physical educators (McMullan, van der Mars, & Jahn, 2014). If they are indeed present, are these learning

experiences effective in PETE students' development and do they promote their ability to facilitate implementing CSPAP components in schools?

Learning Experiences to Promote Physical Activity. In a study with a sample of pre-service classroom teachers, Webster, Langdon, and Cathey (2010) examined biographical variables that influenced pre-service classroom teachers' perceptions and attitudes about physical activity promotion in schools. Authors found that previous sport experiences and formal training in school-based physical activity promotion courses were associated with perceived competence in physical activity promotion. Future classroom teachers' perceived competence to promote physical activity was correlated with their attitudes toward the schools' physical activity promotion. In related studies, Webster (2011) and Webster, Erwin, and Parks (2013) examined changes in pre-service classroom teachers' attitudes and perceived competence related to school physical activity promotion after completing PA-focused coursework. Authors found that after a 16-week CSPAP course pre-service classroom teachers' collective efficacy beliefs about physical activity promotion were enhanced, while their perceived barriers decreased. Fletcher (2011) examined the perceptions of pre-service classroom teachers about their learning experiences after a Health and Physical Education (HPE) course. He found that the 12-hour HPE course in a teacher preparation program provided basic strategies for teaching elementary HPE with various types of practical learning experiences including observations and student teaching experiences. Pre-service teachers' perception of HPE was expanded, and they self-identified as classroom teachers who also teach HPE over the educational experiences.

However, research studies that focus on PETE majors are limited, particularly those related to training in CSPAP. McMullen and colleagues (2014) investigated the perceptions of PETE majors in an internship course promoting a before-school physical activity program. They found there were some challenges that hindered PETE interns in promoting physical activity such as perceived success in early stages of promotion, feelings of anxiety about working with high school students, and pre-existing perceptions of the role of Physical Education teachers. The authors did report, however, that, across the semester, student teachers' perceptions of the role of Physical Education teachers were broadened.

Although the above-mentioned studies provided insights into the role of CSPAP related courses in teacher education programs, those studies were limited to pre-service classroom teachers or narrow learning experiences related to CSPAP, for example, studies that addressed one component of CSPAP (e.g., before-school physical activity program, as in McMullen et al., 2014). Thus, knowledge about how existing teacher preparation programs prepare pre-service Physical Education teachers is still missing. In addition, it is important to understand the CSPAP preparation from pre-service teachers' perspective because they are key stakeholders who promote CSPAP in schools.

Constructivism

In this study a constructivist lens was adopted since its primary focus was to understand participants' perceptions of their experiences in PETE programs. According to Crotty (1998), "in the constructionist view, all meaningful reality is contingent upon human practices constructed in and out of interaction between humans and their world" (p. 42). In addition, Creswell (2003) stated that through constructivism, researchers could

focus on specific contexts in which people live and work in order to understand the cultural settings of the participants and to make sense of (or interpret) the meanings that they constructed from their experiences. Using the constructivist lens, the researcher in the current study aimed to understand the views of teacher candidates in PETE programs about their preparedness to implement CSPAP in schools constructed through their experiences.

The purpose of this study was to understand the role of PETE programs specifically related to CSPAP through pre-service teachers' perspectives and experiences. The following are the specific research questions which guided this study:

1. Which learning experiences were provided to teacher candidates for learning CSPAP?
2. What learning experiences do pre-service teachers want to participate in later related to CSPAP?
3. How do pre-service teachers perceive their roles as Physical Education teachers in relation to CSPAP? How did their perceptions change over time during their PETE program?

Methods

Recruitment and Participants

The researcher contacted faculty members from 10 PETE programs in order to recruit teacher candidates. By using purposive sampling techniques, the researcher selected faculty members from early adopters PETE programs (i.e., who have a vested interest in CSPAP) that include CSPAP with the following criteria: (a) publication or presentation record for CSPAP and (b) participation in the symposium titled "Integrating

CSPAP in PETE programs: Sharing insights and identifying strategies," presented at the 2015 Society for Health and Physical Educators Annual Conference. Each faculty member was contacted via email along with a brief explanation about the purpose of this study and asked to suggest four students in his or her program. In order to ensure that student participants have had a range of experiences in their program (e.g., courses, field experiences, or professional development, etc.), they were limited to the juniors and seniors. Among 10 faculty members, two declined to participate in this study because their program currently had insufficient learning experiences with CSPAP. One faculty member was not able to find volunteers for this study in his/her program.

The researcher sent an invitation along with a short description of their potential involvement to four student teachers from each of the six PETE programs to request their participation in this study. Fourteen student participants from six PETE programs agreed to participate in this study to discuss their experiences in the PETE program with research team members. The researcher provided a $10 Amazon gift card to all participants as an incentive after completing data collection. The University Institutional Review Board (IRB) reviewed and approved the study prior to the data collection (Appendix A).

Participants' profiles are presented in Table 3. According to the Carnegie Classification, University B belonged to the category of the Doctoral Universities - Higher Research Activity while other five universities were the Doctoral Universities - Highest Research Activity. The participating PETE programs were from diverse regions: three Southern, one Southwest, one Midwest, and one Northwest. Among the 14 participants, ten were female and four were male. All participants reported their ethnic

background as Caucasian. Seven of the participants were juniors, five were seniors and two were graduate students.

Table 3

Participants' Profiles

University	Classification	Region	Pseudonym	Year of programs	Gender
University A	Doctoral-Highest Research Activity	Midwest	Olivia	4th	Female
			Stacy	3rd	Female
			Kristin	3rd	Female
University B	Doctoral-Higher Research Activity	Northwest	Sarah	5th	Female
			Max	4th	Male
			Anne	5th	Female
University C	Doctoral-Highest Research Activity	Southern	Chloe	3rd	Female
University D	Doctoral-Highest Research Activity	Southwest	Sydnie	Grad	Female
			Amanda	Grad	Female
University E	Doctoral-Highest Research Activity	Southern	Jack	4th	Male
University F	Doctoral-Highest Research Activity	Southern	Kate	3rd	Female
			Charlie	3rd	Male
			Elliot	3rd	Male
			Abigaile	3rd	Female

Pilot Study.

The researcher conducted a pilot study with two students from one convenience PETE program (not included in the full study). Briefly, the PETE program in the pilot study expected students in their internship/student teaching experiences to take on specific responsibility for implementing CSPAP components in teaching placements. The faculty arranged the location, schedule, and tasks as assignments/responsibility for the

PETE students in CSPAP programs in K-12 schools. This PETE program exclusively focused on supervising lunchtime or before/after school physical activity programs and marketing/advertising the programs. Two PETE students in this program reported that hands-on experiences from their internship/field experiences were a great way to get ideas about how CSPAP can be done in schools. During the process of the pilot study, the researcher recognized the wide range of student perceptions regarding CSPAP preparation in his/her PETE program. For example, even though one student reported that he learned CSPAP a lot from coursework and field experiences, he perceived that the primary focus of PETE programs should be on how to teach quality physical education. Based on this pilot study, the researcher moved questions related to the role of PETE programs to the beginning of the interview, in order to allow students to speak freely on this topic prior to answering more questions about CSPAP training in their teacher education program. In addition, the researcher added one question "Do you think your program is preparing those keys enough? Why/Why not?" in order to make connections to students' perceived preparedness for CSPAP implementation. Lastly, more prompts were added in the interview guide.

Data Collection Procedures

The researcher used five data collection methods: a short survey, one formal interview, field images, document gathering (e.g., syllabus, assignments etc.) related to PETE programs, and one follow-up open-ended survey. The primary data source was interview data and the secondary data sources were photographs, document gathering, a short survey, and an open-ended follow up survey. This approach was used in order to maximize the data collection related to CSPAP implementation in PETE programs.

Interview. The primary source of data in this study was interviews since interview data can be an efficient and valuable way to understand someone's perspective. In addition, interviews may be the best way to understand experiences or events that took place in the past. Because participants were located at PETE programs in seven states, the researcher used virtual meeting interviews (e.g., Skype) for this phase. Interviews were recorded with a digital voice recorder and transcribed verbatim. In order to allow commonality as well as flexibility of the interview questions, the researcher adopted an interview guide with a semi-structured format for the interviews. According to the participants' preferences, interviews were scheduled and conducted from April to September of 2015. Each interview took between 30 to 60 minutes.

In order to examine teacher candidates' perceptions of their learning experiences related to CSPAP, the researcher developed the interview guide based on each component of CSPAP (CDC, 2013; NASPE, 2008; SHAPE America, 2013) and possible learning experiences in PETE programs. The interview guide (presented in Appendix E) was divided into six sections. In the first two sections, participants answered questions about their background information (e.g., the reason for becoming Physical Education teachers or the primary role of Physical Education teachers) and their perceptions of the role of PETE programs. Questions in the third section were related to their background knowledge of CSPAP (e.g., what they know about CSPAP and the role of Physical Education teachers in CSPAP, etc.). The forth section of the interview guide focused on learning experiences that their program provided for CSPAP preparation for each component (i.e., "Please discuss your experiences in your PETE programs related to learning about CSPAP"). Participants were asked to discuss the ideal way to teach

CSPAP in PETE programs in the fifth section. The last section concerned the photos related to CSPAP and PETE programs that participants took and gave to the researcher in advance of the interview. This provided participants an opportunity to elaborate on each photo and to reflect on what they learned about taking photos during the interviews.

Introductory survey. The researcher used an introductory survey as a secondary source to help inform the interviews. Once PETE students agreed to participate, they received a short survey including the informed consent form, demographic information (e.g., gender, university, year of programs, ethnic background), along with five items about their perception about Physical Education and CSPAP. All survey questions are presented in Appendix D. Participants were asked to respond to an item in relation to their familiarity with CSPAP using a five point Likert-like scale, ranging from 1 to 5, with 5 for "extremely familiar" to 1 for "unfamiliar." Regarding their perceived competence in implementing CSPAP, they were asked to respond about each of the five components of CSPAP using a five point Likert-like scale ranging from 1 to 5, with 5 for "extremely confident." In terms of their CSPAP related learning experiences, they were asked to check any applicable options (e.g., courses, assignment, reading, peer teaching, pre-student teaching experiences, and student teaching experiences) for each component of CSPAP. Their perceptions of the Physical Education teachers' responsibilities in implementing CSPAP were ascertained by including one item using a five point Likert-like scale, ranging from 1 to 5, with 5 for "totally agree," and one open-ended question to elaborate their opinion. At the end of the survey, participants were also asked about their preferred days/times for an interview.

Photographs. Because participants were from six different PETE programs, the researcher decided to request field images in lieu of observations or field notes. The purpose of using photographs was to catch different aspects of CSPAP related learning experiences. It helped to broaden the range of learning experiences discussed between the participants and the researcher. Participants were asked to take field images in order for the researcher to learn more about their PETE program and the role of CSPAP in their PETE program preparation as well as PETE students' learning context. Collier (1986) pointed out that participants' involvement in photography could develop their self-awareness of the situation, and the researcher could utilize these changes for new insights from participants. Thus, the pictures also prompted individualized interview questions.

In advance of the first interview, participants were asked to take and provide ten pictures to the researcher to represent practices related to teaching CSPAP in their programs. These photos could include pictures in classroom-based courses, courses that meet in a gymnasium on the university campus, and pictures from observations or field experiences or any other activities related to CSPAP in schools. A short description was also requested for each picture. Participants received specific instructions for photo images (see Appendix F). Instructions addressed issues related to confidentiality of other PETE students, teachers, and K-12 students. Photos related to CSPAP taken prior to this study (with descriptions and dates) were deemed acceptable.

Document gathering. Participants were asked to provide the documents related to their experiences with CSPAP in PETE programs (e.g., syllabus, lesson plans, assignments, reflections, observation criteria etc.). The purpose of using document gathering was to triangulate all data sources for consistency or abnormal cases. It

provided programmatic information about CSPAP related learning content in PETE program.

Follow-up open-ended survey. After completing their interviews, participants were re-contacted for follow-up questions. The purpose of using the follow-up survey was to complement the other data sources. While conducting a series of interviews and reading interview transcriptions, the researcher felt it necessary to ask PETE students additional questions in order to elaborate on and clarify the interview data. Therefore, the researcher developed 15 follow-up questions. The questions were related to support from their mentor teachers for CSPAP experiences during field experiences, requirements for participating in CSPAP components in field experiences, individual strengths and weaknesses of applying CSPAP in schools, major barriers for CSPAP execution in school, willingness to implement CSPAP in the future. Because of time constraints, open-ended written question format was used via online survey.

Data Analysis

Preliminary Survey. Since the researcher used a Likert-type scale to attempt to quantify participants' perceptions about CSPAP preparation in the preliminary survey, the researcher estimated Cronbach's α coefficients for internal consistency reliability (Table 4). Descriptive statistics were used to explore introductory survey data on participants' reported familiarity with CSPAP and perceived ability to implement CSPAP. The researcher also conducted correlational analysis to investigate relationships between items.

Interview data. Interview data and follow-up open-ended survey data were analyzed together using constant comparison and analytic induction techniques

(LeCompte & Preissle, 1993) to identify and extract common themes within the students' perceptions of their PETE programs and their PETE program training for CSPAP. Two researchers read through and looked at all of the data sources thoroughly and coded line by line to reflect the original meaning of the data. After open coding, researchers grouped coded data and thus coded by bigger ideas. For example, 'more exposures to actual CSPAP program,' 'successful examples' and 'more ideas' were grouped into one parent coding 'more successful ideas and actual examples.' Other example might be 'marketing' and 'communication skill' were combined into one parent coding 'communication to marketing.' Then, researchers also coded qualitative information by the types of learning experiences such as courses, field experiences as well as participants' perceptions about CSPAP implementation. The researchers' generated the initial overall themes from the bigger ideas of coding 'learning experience through courses', 'limited practical experiences', or 'students' perception changed'. The researchers then compared, discussed, and negotiated their initial themes.

Photographs. Image data and the short descriptions of images were analyzed by adopting Collier (1986)'s direct analysis technique for visual data. The specific procedures that guided the photographs analysis are described in a study by Covert and Koro-Ljungberg (2015). Researchers categorized the image and its description based on the types of learning experiences and the component of CSPAP. For example, researchers used 'equipment', 'practice during lesson as a course', 'peer teaching', 'volunteer event' etc. Next, the researchers carefully described the representation from each image and compared it with the short descriptions from participants. Then researchers compared the

photographs with other data sources to seek the similarities and differences for the initial themes across data sources.

Document analysis. Two researchers analyzed the documents gathered from participants regarding CSPAP and their PETE programs. Documents were categorized based on the type (e.g., syllabus, assignment, or lesson plan). Researchers applied the same code scheme from interview data to make specific notes about the content of the documents. For example, researcher used 'assignment for CSPAP', 'marketing experiences', or 'physical activity ideas.' Researchers compared evidence from documents to support or supplement the initial themes or refute the themes from the other data sources. After independent analysis, two discussion sessions were held to compare/negotiate categorizations and themes.

Validity. Although 'validity' is considered differently by different scholars, in qualitative research (Koro-Ljungberg, 2008; Maxwell, 2013), the general idea of validity can be how sound the study is, along with is it just, and is it well-founded (Whittemore, Chase, & Mandle, 2001). Maxwell (2013) pointed out that it is important to acknowledge alternative explanations or interpretations in a study and that the researcher should understand threats to validity in a study and the strategies used to help to overcome the threats. In this study, the researcher used multiple validation strategies in order to enhance the validity of data in this study by focusing on the connection between findings and reality and providing openness in the knowledge construction process (Koro-Ljungberg, 2008).

Validation strategies. First, the researcher used multiple data sources including introductory surveys, interviews, photographs, and documents in data triangulation to

ensure the trustworthiness of the data (Guion, Diehl, & McDonald, 2011; Krefting, 1991; Maxwell, 2013; Tracy, 2010). This strategy reduces the risk of systematic biases resulting from a specific method and allows a better assessment of the generality of the findings (Maxwell, 2013). Second, the researcher articulated the data collection and analysis process to enhance transparency. Tracy (2010) defined transparency as "being honest about the research process" (p. 842). In this study, the researcher justified the data sources and described the data analysis process and how the team reached the final findings. Third, two researchers searched discrepant evidence and negative cases. That is, the two researchers independently reviewed the qualitative data, searching for cases that disconfirmed the themes and for data that did not fit the classifications. In this study, the researcher reported discrepant data about participants' perceptions regarding the sufficiency of CSPAP preparation from their PETE programs. Finally, a quasi-member check was used to determine whether themes and interpretations of participants' statements were accurate. Due to physical distance barrier, the researcher sent an email to ask all the participants to confirm whether the researcher's interpretations of the data that they provided accurately represented their perspectives. One of the participant's responded that no changes were needed while others were silent about changes because they were told that no-response would imply agreement with no changes needed.

Results

Introductory Survey

Table 4 shows participants' perceived ability to implement CSPAP. The internal consistency reliability of the introductory survey was good based on Cronbach's α coefficients (α = 0.84, George & Mallery, 2003). Participants in this study were

moderately familiar with CSPAP and agreed that Physical Education teachers should play a key role in CSPAP. PETE students' reported that they were very confident in teaching Physical Education compared to other components in CSPAP. They were the least confident in implementing family/community engagement. Interestingly, according to correlation analyses, familiarity with CSPAP was related to PETE students' positive opinions about the leadership role of Physical Education teachers in CSPAP. Similarly, PETE students' positive perceived ability to implement staff programming was also significantly correlated with their perceived confidence in the ability to implement physical activity during school day and the ability to implement family/community programming. Finally, PETE students' perceived ability to implement the before/after school physical activity program was also positively related to their positive perceptions of the role of Physical Education teachers in CSPAP.

Table 4

Correlations among teacher candidates' perceived ability to implement CSPAP

	M	SD	1	2	3	4	5	6
1. Familiarity with CSPAP	3.50	.76						
2. Perceived Ability to teach Physical Education	4.14	.66	.31					
3. Perceived Ability to implement Before/After school program	3.36	.74	.07	.36				
4. Perceived Ability to implement Physical Activity during School day	3.43	.76	.40	.33	.12			
5. Perceived Ability to implement Family/Community engagement	2.93	.92	.28	.52	.27	.49		
6. Perceived Ability to implement Staff involvement	3.21	.80	***.69****	.52	.38	***.60****	***.55****	
7. Agreement of Physical Education teachers' role in CSPAP	4.36	.74	***.75****	.51	***.58****	.39	.38	***.63****

* n=14, Cronbach' α= 0.84, *p<0.05

PETE Students' Perceptions of Their Programs

Data analyses across all of the data sources (e.g., introductory survey, interview data, photographs, and document gathering) revealed three overarching themes for PETE students' understanding and experiences in CSPAP implementation. The first theme that emerged was "Introducing CSPAP through courses." Modifying existing courses was the predominant approach to teaching many ideas/concepts related to CSPAP implementation. The second theme was "Lacking programmatic experiences in CSPAP implementation." There was a lack of specific program-wide planned experiences in implementing components of CSPAP beyond Physical Education. Last theme was "Interpersonal skills (e.g., communication, team work, or cooperation) as a key to CSPAP implementation, but PETE programs were perceived to have limited preparation." PETE students' perceived the interpersonal aspects of CSPAP as key for successful implementation but did not feel prepared for working with other teachers, school staff, parents/guardians, or communities to facilitate CSPAP in schools.

Introducing CSPAP through courses. Existing courses were used as the predominant approach to share many ideas in CSPAP implementation. PETE programs have revised existing course content and experiences to include CSPAP content and experiences in CSPAP. PETE students in this study were exposed to CSPAP during their courses and taught about CSPAP components through discussion or in-class activities in existing courses. Jack, a senior in University E, perceived courses were beneficial to learn CSPAP, He shared a syllabus from one of his courses (see Figure 6) and mentioned:

> A lot from courses, whether it's assignments that have led me to read further into some of those ideas on my own, or apply assignments that were required from

courses. The course work has definitely got me engaged in most of that. . . .So this is all stuff I've learned in school since the last couple of years.

Physical Education in the Secondary Schools Spring 2015	
E University	
Assignments	
Physical Activity Promotional Plan & Advocacy Letter	For this assignment, you will create a physical activity promotion plan that will increase physical activity within your school community. Your target audience should be your students, but you must include teachers, staff, and/or different components of the surrounding community in your plan. Hint: Collaborating with members of the community will bring an important awareness about your physical education program. The more good things people know about your program, the better!! If you are interested in this assignment, please see me for details. **POINTS POSSIBLE: 50**

Figure 6. A Revised Part of an Assignment Description for Physical Activity Promotion Plan in a Syllabus.

PETE students had opportunities to discuss the model and how to implement it in schools in their courses. Max, a senior in University B, mentioned a discussion about CSPAP in methods classes. He stated:

> We talked about it a lot, but we never had one specific course. But we did talk, in my elementary methods and secondary methods. . . . We've been given a lot of resources to encourage classroom teachers, like what activities in that space they can do and still be active.

PETE faculty discussed CSPAP concepts in classes as well as shared ideas or resources for CSPAP implementation. While some discussion might be officially be placed in courses, individual PETE faculty's interests might also lead to additional CSPAP related discussion in courses.

In addition to discussions, in-class activities in courses provided mock situations for PETE students to practice implementing CSPAP components and see what implementing CSPAP components looks like in schools. Chloe, a junior in University C, described her in-class assignment about family/community engagement as follows:

> She (PETE professor in University C) had cards, and each card had a scenario. She'll just give us a card with a scenario on it, and based on what we get, we're given five minutes to research some things and try to get ideas, and then we just stand up, and we give an elevator talk, so a minute to two minutes presentation as if we were talking to this specific audience who we're supposed to be talking to.

This theme was similar was found in the interview data and photographs. Kristin, a junior from University A, shared photo of a in-class discussion from one of her courses (see Figure 7) and stated that:

> The drawing was, I think that was in that one class where we were discussing CSPAP, and that was when we broke up into our mini groups…. With my group, that's what we sort of came up with….ideas about how to increase physical activity throughout the day. We talked about possibly opening up a ... like having a weight room accessible or having like a walking club or a jogging club or opening up the track before and after school and having a teacher sort of monitor that. We also discussed possibly doing sort of like a community day where community members and faculty members and students could come.

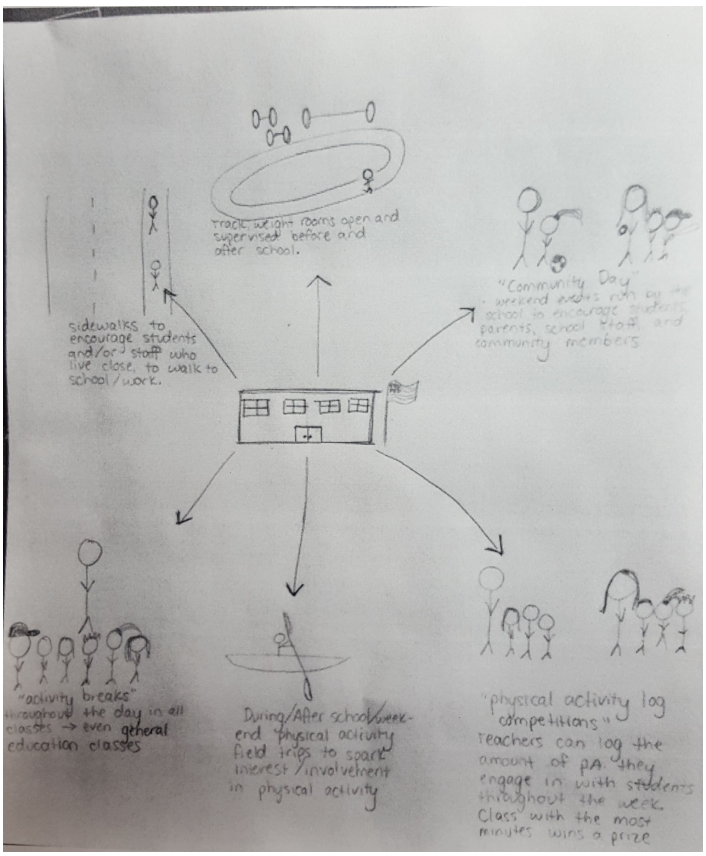


Figure 7. A Mini-groups discussion about CSPAP.

PETE professors also demonstrated examples of CSPAP implementation in their classes. Instructors' demonstration provided PETE students with a better understanding of what CSPAP implementation looked like and various ideas about how to apply CSPAP in schools. Jack, a senior in University E, stated that "as far as in our school day, the Physical Education professors at our school implement [physical activity breaks] those into our daily class just to give us ideas and ways that you could help cooperate with teachers." Kristin, a junior from University A, also talked about learning about implementing physical activity during school day in a course:

> We learned about physical activity breaks, and then my teacher actually had the same day physical activity breaks just to kind of [demonstrate what he was talking about]. . . he had a better understanding of what it looked like to incorporate physical activity breaks, and how easy it was or maybe how difficult it was. So yeah we did, I think, a couple of different examples, but it was just for that one day I believe.

Max, a senior at University B, commented on the benefits of instructor-demonstrations in classes. He stated:

> Seeing it done, the college professor being able to incorporate [CSPAP] into their lectures is always meaningful because they took time to plan physical activity during their lecture so it made it easier. I could do the same, so that's what was meaningful.

PETE faculty adopted movement breaks frequently to show how it can be done in actual K-12 school settings. It was helpful for students to get familiar with the ideas as well as to understand its benefits from their own experiences visiting schools.

Some PETE programs made arrangements at local schools for their students to observe CSPAP programs in action as well as provide opportunities for PETE students to implement CSPAP components in schools a part of course requirements. Sarah, a senior at University B, explained what she did as a course requirement:

> The health and wellness class. One of the instructors, she showed us how to use that. We took it into the classrooms and did brain breaks; it was the study group, but they were teaching health, and the teacher was a health teacher and a history teacher, so we used brain breaks to get the kids up.

Charlie, a junior at University F, also discussed his CSPAP experiences during a course and this was supported his picture of the implementation experiences (see Figure 8). He stated:

> We talked about CSPAP for about half the course. . . . We went to the after school programs. At the elementary school they actually have almost like a cross-country team for elementary school where they go outside and it's called run hard. They go outside, and they run, and they are training basically for a race that they are going to at the end of the year with all different schools. It's just a different way to get kids involved. . . . (as an assignment). We all came together, and we said, well, okay, let's come up with an activity where they could still be learning, but they are actually doing a physical activity. The activity we came up with was, we, basically, we were teaching them about their muscles and their bodies and incorporating those with multiples [in math]. . . . They did a great job, and it was cool to see even the teacher did it with us. I think it's key for that teacher to . . . not just when she promotes physical activity in the classroom that she doesn't just sit there.

Figure 8. Implementing Classroom Physical Activity Plan in Math Class.

Thus, utilizing courses to introduce CSPAP concepts was similar across the data sources of interview, photos, and documents. PETE programs have incorporated CSPAP-related learning experiences in existing courses in the form of discussions, in-class assignments, and professor and school demonstrations. From their courses, PETE students learned about CSPAP implementation (e.g., what it is, how to implement) and they were also provided resources and ideas about CSPAP programs. Some PETE program courses (*n*=2) also required PETE students to observe, contribute to, or implement CSPAP components in local schools.

Lacking programmatic experiences in CSPAP implementation. The second theme concerned the limited field experiences related to physical activity promotion in these PETE programs. Field experiences were limited to volunteer work and physical activity promotion in their teaching placements outside of PETE program requirements. PETE students discussed the lack of comprehensive experiences in implementing CSPAP components, as well as insufficient exposure to existing CSPAP programs.

PETE faculty from three PETE programs made an effort to arrange volunteer based hands-on experiences for PETE students. Olivia, a senior at University A, discussed her experiences in relation to a CSPAP event:

> "Let's Move AA County." The undergraduates who volunteered to go help were in charge of coming up with what to do for those (physical activity) and kind of leading those (physical activity). . . . It was around Halloween time, so one of the, at least the one that I led, we did the wave, and then we did that to the monster mash, so every time we got to a certain part in the song, they would do a different type of jumping jacks or something like that.

In addition to Olivia, Kristin, also a student at University A, shared a photo of the "Let's Move AA County" event (see Figure 9) and described it as follows:

That was not part of a physical education class. We, as a club, as a physical education majors club for my university, we went to AA County and worked with other faculty members. The faculty members went down to AA County and sort of set up this whole physical education program where they provided some of the schools down in that county with funding, and with that funding, the schools could do whatever they sort of wanted to do with that related to physical activity, and before/after school programs, and stuff like that. Some people did Zumba. These students did step-up boxes, and they created sort of one whole dance routine related to the step-up boxes.

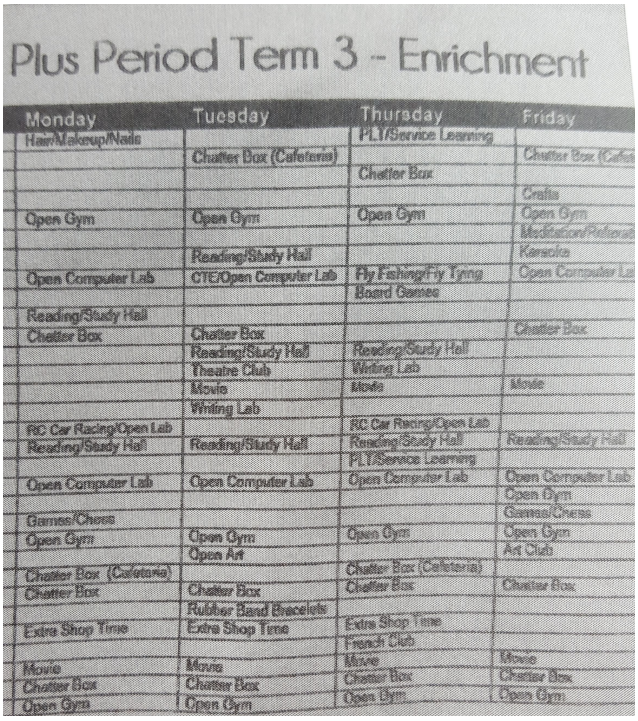
Figure 9. Students' step-up boxes at "Let's Move AA County" event.

Volunteer opportunities made available by PETE faculty were beneficial in learning about CSPAP implementation authentically. However, since PETE programs did not plan the learning experiences, not all students had a chance to learn through these types of CSPAP applications in actual school settings.

In some cases, teacher candidates were able to take advantage of the teaching placements where they had CSPAP related events or programs. Sydnie, a graduate student at University D, also described a before/after physical activity program at a school where she taught and shared a photo of the weekly schedule (see Figure 10).

We have these "plus period" times, and it allows students to come in for twenty-five minutes, and be active. Sometimes it's open gym. On some days, [we] literally roll out a basketball and, say, play elimination games or different games that we played in PE (From an interview).

On Monday, Tuesday, Thursday, and Friday we have a "plus period" – A 25 minute class that allows students who are struggling in classes extra time to work, and those with good grades and citizenship a time to do whatever they want for enrichment (From a photo).



Plus Period Term 3 - Enrichment

Monday	Tuesday	Thursday	Friday
Hair/Makeup/Nails		PLT/Service Learning	
	Chatter Box (Cafeteria)		Chatter Box (Cafe
		Chatter Box	
			Crafts
Open Gym	Open Gym	Open Gym	Open Gym
			Meditation/Relaxat
	Reading/Study Hall		Karaoke
Open Computer Lab	CTE/Open Computer Lab	Fly Fishing/Fly Tying	Open Computer La
		Board Games	
Reading/Study Hall			
Chatter Box	Chatter Box		Chatter Box
	Reading/Study Hall	Reading/Study Hall	
	Theatre Club	Writing Lab	
	Movie	Movie	Movie
	Writing Lab		
RC Car Racing/Open Lab		RC Car Racing/Open Lab	
Reading/Study Hall	Reading/Study Hall	Reading/Study Hall	Reading/Study Hall
		PLT/Service Learning	
Open Computer Lab	Open Computer Lab	Open Computer Lab	Open Computer Lab
			Open Gym
Games/Chess			Games/Chess
Open Gym	Open Gym	Open Gym	Open Gym
	Open Art		Art Club
Chatter Box (Cafeteria)		Chatter Box (Cafeteria)	
Chatter Box	Chatter Box	Chatter Box	Chatter Box
	Rubber Band Bracelets		
Extra Shop Time	Extra Shop Time	Extra Shop Time	
		French Club	
Movie	Movie	Movie	Movie
Chatter Box	Chatter Box	Chatter Box	Chatter Box
Open Gym	Open Gym	Open Gym	Open Gym

Figure 10. Example of schedule for before/after school program.

Anne, a senior at University B, also shared one example of before/after physical activity programs at a school where she taught (see Figure 11).

The picture shows a bulletin board I created for the Running Club. The running club is held at recess on Tuesdays and Thursdays. My mentor teacher and I set up a big loop with cones. The students each have a index type card that they use for running club. There are little runner symbols on the cards. There are 7 runners in a row, 7 laps meaning 1 mile. Once a student fills up an entire card meaning all of their runners got marked, they completed 5 miles and they get to write their name on the 5 mile club poster during PE. Students have really enjoyed this as it is completely optional. They can do running club whenever they want to (From a picture).

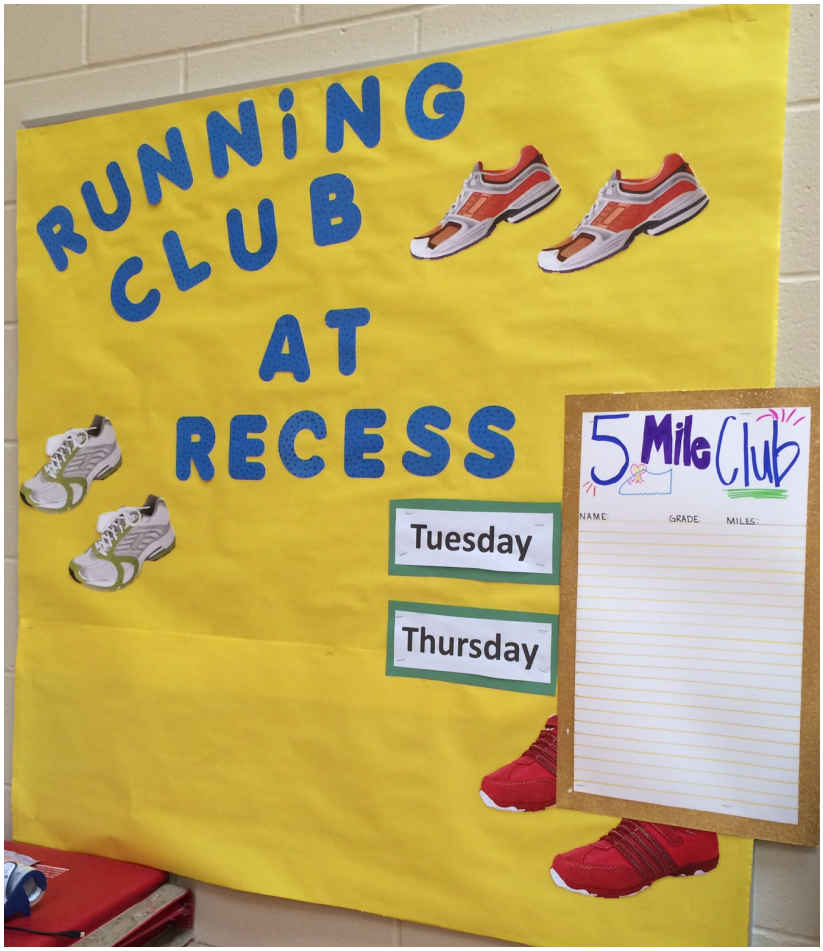


Figure 11. A Bulletin Board for the Running Club.

PETE student had opportunities to help mentor teachers to implement one or two physical activity programs in their teaching placement and it developed their understanding of CSPAP implementation and provided a better understanding of how it is done in actual settings. However, there were 5 PETE students that had a CSPAP programs at their teaching placement school and were not even aware of it (until later); even though the placement by PETE faculty members may have been related to the school having a CSPAP program in place.

Across CSPAP components, PETE students felt that there was a lack of hands-on experience for their preparation. Kristin, a junior at University A, wrote about her limited CSPAP experiences in response to an open-ended question in the follow-up survey: “I have not experienced any specific CSPAP-related field experiences or even CSPAP classes in which we explicitly discuss CSPAP in great detail. The current experiences I have had with CSPAP have been discussion-based.” In addition, Stacy, a junior at University A, told the researcher about the lack of physical activity during school day: “I haven't really been able to experience any of that (physical activity during school day) out here really.” Elliot, a junior at University F, also discussed his experience in before/after school physical activity programs: “We've talked about before school programs, but we never actually went out and saw one or really had to practice with one.” Sydnie, a graduate student at University D, also mentioned a lack of experiences in family/community engagement: “It's never been [about] getting the community involved. It's always been more [about] looking at how can we get our students who are active outside of classes.”

This perceived lack of practical experiences led the students to want additional hands-on learning experiences for CSPAP preparation in PETE programs. The participants expressed the need for more experiences/peer teaching/ and work with K-12 students to practice implementing CSPAP including planning, organizing, and marketing physical activity programs. Chloe, a junior at C University mentioned, “I think I need to be a part of the planning, like you said, and organizing and facilitating of it.” In addition, Charlie, a junior at University F, discussed one of his ideas for additional experiences he wanted:

> I think one experience would be. . . maybe have us go for more after school programs. Instead of just helping out with one, maybe observe a certain amount of time and then say that this day you are going to go out there and you are going to do it. No one is going to help you besides your classmates. Maybe you can go with your classmates, and you can all come up with after school programs, and then that way you can see this works and what doesn't actually work that well.

Some teacher candidates also articulated that they wanted to see actual programs in action in order to get more realistic ideas for implementation. Abigaile, a Junior at University F, shared additional ideas for experiences in different settings. She stated:

> I'd really love to see what different elementary schools are like because I've just heard from [the teacher at] the one I went to that more [schools] run "hard" programs are across the state. I would like to see how much the school programs or even high schools, how they implement the after school [program] and what [is] different they're [doing] or if they have something else besides run hard. Different options.

Lacking practical learning experiences for CSPAP implementation in PETE programs was consistent found across interview data and follow up survey results. PETE students were given limited practical learning experiences in applying CSPAP. From interview and photographs, the researcher found that PETE faculty's individual efforts to seek collaborating opportunities in K-12 schools were available to PETE students at some universities. PETE students sought to know more about how the actual CSPAP program is done in schools and to learn from the existing, successful programs. In addition, the students also sought more hands-on learning experiences in various situations to promote physical activity across the five CSPAP components.

Interpersonal skills as a key for CSPAP but limited preparation. PETE students in this study perceived that interpersonal skills such as communication, promotion, marketing, team work, and cooperation were fundamental for the successful implementation of CSPAP. Max, a senior at University B, mentioned the importance of

motivating people and good communication skills for CSPAP implementation at schools. He stated, “I guess [I need to] be a motivator. Be really good at motivating people and students and stuff. That would be one main skill. And being able to work well with others is another skill, and then good communication skills.” Kristin, who is a junior at University A, emphasized the importance of cooperation skills to implement CSPAP:

> I think a lot of cooperation goes in to that, not only with the students but also with other faculty members, in trying to set up something before school or after school or on the weekends or something like that. I do think it takes a lot of cooperation and teamwork.

As future Physical Educators, PETE students in this study described the primary role of Physical Education teachers as directors responsible for all physical activity in schools who should offer physical activity programs, have others on board, or help classroom teachers to promote physical activities in their classes. Charlie, a junior at University F, elaborated on the role of Physical Education Teachers:

> [The] Primary role of a physical education teacher is . . . I think a lot different than what a lot of people think it is. I think that a physical education teacher should be someone who tells kids or promotes a physical act of lifestyle for all kids. No matter what their skill level is or if they want to do it or not, they can find a way to make that time they have with them, and beyond that to promote a physically active lifestyle throughout the school and beyond (from Interview).

Elliot, a junior at University F, shared his perception of the Physical Education teachers’ roles in K-12 schools. He wrote:

> A Physical Education [teacher] should not only get students to want to be physically active in their lessons, but also include ways a student can live a healthy lifestyle and be active outside of the classroom. Whether it is before or after school programs, inside different subject area classrooms, at recess, or even at home and throughout the community. . . . It depends on the school, but sometimes we as Physical Education teachers may be the only ones in a school who even knows about this information. That's why it is very important to share the information with other staff members and try to get as many people involved

> throughout a school to help implement these tactics [physical activity promotion] to students. (From an introductory survey)

These PETE programs have been successful in creating a paradigm shift in PETE students' mentality about their roles. Most of the PETE students (*n*= 12) indicated that their PETE programs amplified their perceptions of Physical Education teachers' roles in schools to provide a bigger vision. PETE majors claimed that, in addition to teaching movement and sport skills, it is the Physical Education teachers' role to keep people physically active and to incorporate healthy behavior concepts. They stated that the learning experiences in PETE programs had broadened their views on the teachers' role and the importance of implementing the CSPAP model.

> Previously, we basically just thought about where our job was in our gym. Nothing else apart from that, and this semester we've found ways to help teachers get kids moving and to really focus on how we can do after school programs, weekend programs and stuff like that (Kate, a junior at University F).

> Originally, I thought that physical education teachers - we mainly just worked one on one with the students and everything like that. I think, overtime throughout my program, I really realized that physical education teachers do sort of have a responsibility to teach and be a spokesperson to their other faculty members and other people in the school that they do work with (Kristin, a junior at University A).

> After taking all of my PE and Health Education courses, I understand how important it is for everyone (not just the students) to be healthy and physically active. I am excited to go into schools and do my best to implement programs that aren't already in place or to assist with CSPAP model programs that may already be in place (Anne, a senior at University B, from an introductory survey).

It is worth pointing out that, when asked about the CSPAP preparation through their PETE programs, two participants were negative about receiving the needed knowledge and experience to implement CSPAP programs. One student told the

researcher that “Because ... I've had to do all of the research about it myself”. Half of the participants (*n*=7) agreed, though with some reservations, that their PETE programs adequately prepared them about implementing CSPAP programming. The main reason for the partial agreement about their adequate preparation was that their PETE programs were very successful in providing resources and exposing them to CSPAP in general; however, for the most part, they failed to cover how to implement all of the CSPAP components. Charlie, a junior at University F, articulated his perception of his preparation through his PETE program in the following remark:

> I don't think they do enough to implement CSPAP. To give us that solid foundation of what we can do. . . . because we have that one class, and they talk about it for half a semester really, and we do experience this, so I think they are preparing us for a little bit . . . of CSPAP for a few components of it, but those tougher components like staff involvement and family bit, we don't really touch on those as much.

Kristin, a junior at University A, wrote about her limited CSPAP preparation in response to the open-ended question in the follow-up survey, “Areas that are still problematic for myself in terms of implementing aspects of CSPAPs include generating support from other individuals in a school and also within the community.”

Only three PETE students answered that their PETE programs provided sufficient preparation to implement CSPAP. Max, a senior at University B, stated, “I think the program is teaching us enough about each part of the CSPAP and that we could actually incorporate it into [our programs] whenever we become physical educators.”

PETE students’ acknowledged the importance of comprehensive support to promote physical activity in schools from districts, teachers, administrators, school boards, and parents/guardians. The introductory survey and interview data supported that

PETE students viewed the role of Physical Education teachers as Physical Activity Leaders. Even though their perceptions of the role of Physical Educators had changed, they reported that they were not sufficiently prepared to implement CSPAP in schools due to their limited exposure to all of the CSPAP components (despite many resources) as well as limited experiences with programs in action.

Discussion

In this current study, adopting multiple data sources enabled the researcher to better understand pre-service teachers' perspectives on PETE programs preparation in relation to the CSPAP model (beyond the component of Physical Education). This study was guided by specific research questions about (a) learning experiences in relation to CSPAP, (b) components of CSPAP taught in PETE programs, (c) further learning experiences that PETE students wanted, and (d) changes in perceptions of Physical Education teachers' role in relation to CSPAP. Given the increased emphasis on the role of Physical Education teachers' in physical activity promotion, it is important to understand how and whether future Physical Education teachers are prepared for their expanded role in schools. Teacher candidates from PETE programs which had demonstrated CSPAP integration provided their insights regarding CSPAP integration in their programs.

CSPAP Learning Content and Experiences as a Part of Existing Courses

This researcher found that these PETE programs were successful in providing general ideas on CSPAP and how to implement it in schools through courses. Through systematic courses, PETE students have acquired foundation knowledge, ideas for implementation, and mock experiences as well as some school based experiences to

implement CSPAP components. By embedding CSPAP-related learning content in existing courses, PETE programs have introduced CSPAP components and shared general ideas of CSPAP. This finding is consistent with those of several previous studies. In order to provide background knowledge and necessary resources to teach CSPAP concepts in PETE programs, experts commonly suggested adding content to existing coursework or expanding the traditional courses (Beighle et al., 2009; McKenzie, 2007; Webster et al., 2015).

Practical Learning Experiences to Implement CSPAP

Although the experts' suggestions also included the recommendation to provide students with meaningful field experiences, so they could practice organizational skills and advocacy skills (Beighle et al., 2009; McKenzie, 2007; Webster et al., 2015), PETE students in this study often discussed the lack of program-wide hands-on experiences for CSPAP implementation beyond Physical Education. Even though three of six PETE programs offered some volunteer experiences, these were not planned by, organized by, or required by PETE programs. This finding can be explained by the primary focus of PETE programs, which is the development of proficient physical education teachers (NASPE, 2008; Webster et al, in press). Thus, PETE programs emphasized hands-on teaching experiences for quality Physical Education programs.

Beighle and colleagues (2009) observed that a field experience which would require applying the CSPAP model along with well-aligned coursework would improve learning experiences for CSPAP implementation. Given the extensive requirements of PETE programs, the findings of this study may help by providing PETE faculty with some feasible ways to offer meaningful, practical learning experiences to PETE students.

University A was an example of a PETE program that was agile and created adequate learning environments for pre-service teachers for CSPAP implementation. McKenzie (2007) also suggested that physical educators should seek numerous learning opportunities in community settings where physical activity promotion may take place. Therefore, PETE programs may want to coordinate with local schools where CSPAP components are in place, so that PETE students gain authentic learning experiences as well as realistic ideas through their teaching placements (due to the relationships with local schools and/or community organizations for the real-world experiences; Brusseau, Bulger, Elliott, Hannon, & Jones, 2015).

PETE students' Perceptions of PETE programs related to CSPAP Preparation

The collaborative aspect of CSPAP was considered key for successful CSPAP implementation in schools; however, PETE programs do not sufficiently prepare their students on the issues of family/community engagement and staff involvement, which need primarily interpersonal skills. The limited emphasis of the programs on interpersonal relationships and family/community or staff involvement was consistent with the previous studies. McKenzie (2007) stressed that, despite the written goals of PETE programs such as collaboration and communication skills, few PETE programs trained PETE majors about how to advocate for physical activity. He emphasized that, to be successful in public health roles, Physical Education teachers should have substantial collaborative skills and be prepared to communicate with others in written and verbal forms. Graber, Woods, and O'Connor (2012) also found that teacher educators spent little time to teach advocacy skills to pre-service teachers.

Webster et al. (2014, in press) reported that among CSPAP components, beyond a quality physical education, PETE faculty reported a higher perceived effectiveness in school wide physical activity promotion efforts (e.g., helping classroom teachers or organizing physical activity programs in schools) compared to school day and community and family/guardian-based physical activities or training after-school program staff as physical activity promoters. PETE faculty also disagreed that staff involvement should be a part of teacher preparation in their PETE programs.

Participants in the current study reported that their PETE programs had broadened their perceptions of the role of Physical Education teachers. This finding was also reported in other studies. Fletcher (2011) found that pre-service teachers' identities as teachers had expanded during a HPE course. McMullen and colleagues (2014) reported that student teachers' perceptions of the role of Physical Education teachers had also broadened during an internship course of the semester. The PETE students in this study expressed the need for the program to expand coursework or make explicit the hidden curriculum throughout the program as ideal ways for CSPAP preparation. This notion would be supported by the studies of Feiman-Nemser (2001) and Darling-Hammond (2012) who argued that highly impactful teacher education programs exhibited a coherent preparation for teaching that permeated all coursework and field experiences with a set of organizing themes and a clear vision for good teaching that were shared within teacher education programs. In addition, Darling-Hammond (2012) emphasized extended field experiences that were carefully selected to support ideas presented in course work.

Learning Experiences in Relation to Each of the CSPAP Components

When the researcher examined the data by each CSPAP component (beyond Physical Education), before/after school physical activity programs were present in some of the participants' current teaching placements (*n*=4), so that PETE students were able to experience them; however, these activity programs were not arranged by the PETE programs, instead there was a CSPAP program already in place. PETE students also practiced implementing physical activity during school day (e.g., physical activity break or recess physical activity) as a part of courses (e.g., instructor demonstration, peer teaching, or application in a classroom) in their PETE programs. Even though there were discussions about family/community engagement or staff involvement in PETE courses, PETE students had no actual experience in implementing these components. Staff involvement was the least focused on component of PETE programs, with few hands-on experiences, discussions, or assignments related to this CSPAP component. This finding might be due to the scope of what physical education teachers can do in schools. Implementing physical activity programs (e.g., running club or open gym for recess time, etc.) in schools might be initiated by Physical Education teachers' efforts and action while engaging others such as family/community or staff might need organizational decisions and support from administration and school staff. Therefore, PETE programs might focus on introducing CSPAP gradually with what they can do in a particular school at a particular time.

PETE students in this study expressed their need for each component of CSPAP differently. They wanted more real-setting experiences in before/after school physical activity programs and physical activity during school day while they wanted to know more about how to do marketing and promoting physical activities with

family/community involvement and staff involvement. It may be that PETE students' recognized the different role of Physical Education teachers for successful CSPAP implementation by each component. Physical Education teachers can be a leader when they lead physical activity programs (i.e., before/after school physical activity programs and physical activity during school day) while they can be a motivator when they engage others (i.e., family/community or staff involvement) in CSPAP.

Limitations

This study has several limitations. First, the results of this study are based only on personal experiences of PETE students from just six PETE programs and related resources. Since students in these PETE program reflected solely on their learning experiences, different students and different PETE programs representation may yield different findings. Doolittle, Dodds, and Placek (1993) stated that, despite consistent programmatic messages, PETE students can take different things from the programs due to their existing belief systems. Since the PETE programs in this study were recruited from a national conference symposium, other PETE programs which offer different learning experiences may exist. In addition, even though the photos taken by participants were meaningful in representing their CSPAP related learning experiences, they were limited to snapshots of a certain time point during a semester. Since their participation in the study was determined in the middle of a semester, it was hard to include a variety of aspects of learning experiences for CSPAP throughout a semester. Lastly, although the researcher requested PETE student participants provide documents related to learning experiences for CSPAP preparation, participants did not provide many documents or they provided irrelevant documents. This may have been because there were few documents

available. Future studies might examine the learning experiences of PETE students in relation to CSPAP with multiple data sources across more PETE programs, such as perspectives of faculty and pre-service teachers, observations, and more program-related documents (e.g., course syllabi and programs description). Future studies should investigate semester- or year-long learning experiences to embrace the comprehensive process of CSPAP integration in PETE programs.

In conclusion, early adopter PETE programs integrated CSPAP components in the existing courses to introduce CSPAP concepts to PETE students. There were lack of sufficient practice opportunities to learn CSPAP implementation even in the early adopter PETE programs. Despite participants' perceived confidence in implementing a couple of CSPAP components, participants' actual (i.e., hands-on) experience was very minimal and they felt that they were insufficiently prepared to implement CSPAP in schools. The majority of the PETE students wanted more practical CSPAP experiences build into the program. Physical Education pre-service teachers from leading PETE programs in this study provided an insight into their experiences CSPAP preparation in their PETE programs. Although the results of this study are limited to PETE programs who are "early adopters", this study suggests some achievable ways to prepare teacher candidates to implement the CSPAP framework in their future careers from the perspectives of pre-service teachers. If a PETE program values and wants to incorporate the CSPAP framework in their program, it should balance a series of coursework, practical experiences, and various successful ideas from K-12 schools, along with strong relationships with schools and communities and concrete program-wide consensus and efforts across the curriculum and faculty.

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Chapter 5: SUMMARY/CONCLUSION

In order to promote physical activity in schools throughout the school day, the National Association for Sport and Physical Education [NASPE] (2008) and the Centers for Disease Control and Prevention [CDC] (2013) have created a model for promoting physical activity in schools, that is, the Comprehensive School Physical Activity Program (CSPAP) for all K-12 schools. CSPAP includes five components: (a) Physical Education, (b) physical activity during school, (c) physical activity before and after school, (d) family and community engagement, and (e) staff involvement. Along with accumulating evidence for the physical and cognitive benefits of CSPAP, scholars have increasingly emphasized the role of Physical Educators as Physical Activity Leaders (PALs) to promote the CSPAP model in schools (e.g., Beighle, Erwin, Castelli, & Ernst, 2009; Castelli & Beighle, 2007). In addition, the importance of adequate preparation during PETE programs for the educators' broader role in promoting physical activity in schools has been emphasized (Beighle et al., 2009; Brusseu, Bulger, Elliott, Hannon, & Jones, 2015; McKenzie, 2007; Webster et al., 2015).

However, little is known about the learning experiences (e.g., courses or field experiences) provided in PETE programs to prepare physical education pre-service teachers to take on expanded roles as PALs for the CSPAP model. Although there are practical recommendations for PETE programs (e.g., modifying existing courses or providing practical learning experience to teach requisite skills and conceptual knowledge) on how to prepare pre-service teachers for CSPAP (Beighle et al., 2009; McKenzie, 2007; Webster et al., 2015), to date, very little is known about the way

Physical Education teacher education programs have been training pre-service Physical Education teachers for CSPAP implementation.

Therefore, the purpose of this study was to examine how current PETE programs (e.g., curricula and practices) prepare teacher candidates and develop their knowledge and skills for CSPAP implementation using mixed methods research. Data for this study were collected from two different methods: (a) quantitative data from a nationwide survey of PETE programs in U. S. and (b) qualitative data about pre-service teachers' perspectives from early adopter (in terms of covered of CSPAP concepts) PETE programs.

CSPAP Preparation Through Courses

The evidence from the survey revealed that PETE programs provided a limited number of separate courses for CSPAP information; however, they have commonly incorporated CSPAP learning content into the existing courses. Out of 144 PETE programs, 35 programs (24.3%) reported the relevant learning experiences in CSPAP implementation. This finding through quantitative survey data is supported by the multiple qualitative data sources. The evidence from student participants' interview data and photographs in this project both consistently showed that PETE programs use courses to introduce CSPAP. PETE students have mostly acquired basic knowledge, ideas for implementation, and had mock experiences implementing CSPAP components through their coursework (e.g., discussions or in-class assignment). This finding was consistent with the previous studies where the authors (e.g., Beighle et al., 2009; McKenzie, 2007) suggested that modifying courses was a good initial way to provide background knowledge and necessary resources on CSPAP in PETE programs. In addition, Webster

et al. (2015) found that embedding CSPAP related learning contents in the existing coursework was frequently suggested by authors in the literature.

Field Experiences related to CSPAP

The survey study data suggested that CSPAP components were rarely included as parts of an internship or student teaching experiences. A small number of PETE programs (*n*=2) provided opportunities for observation, planning, or application of CSPAP in their teaching placements (*n*=2). This finding from the quantitative survey data also aligned with the multiple qualitative data sources including student interviews, surveys, document data and photographs. PETE students in this study frequently mentioned the lack of program-wide hands-on experiences for CSPAP implementation beyond the Physical Education component. Brusseau et al. (2015) supported the finding that many PETE programs provide insufficient learning experiences to train pre-service teachers for CSPAP implementation. Nevertheless, students' interviews, photographs, and document data revealed that some faculty in PETE programs (*n*=3) had made an effort to arrange volunteer experiences for PETE students in various areas of CSPAP implementation in K-12 schools that were beyond the PETE programs' requirements.

The results of the study suggest that if PETE programs are not be able to provide programmatic learning experiences related to CSPAP implementation, faculty may want to coordinate with local schools or communities where CSPAP components are in place. This would be helpful for PETE students to gain practical learning experiences as well as realistic ideas for CSPAP implementation. McKenzie (2007) suggested that teacher educators should provide various learning opportunities in conjunction with local schools or communities where there are opportunities to work with existing youth physical

activity programs. Brusseau et al. (2015) also stressed the importance of close relationships with local schools or communities for real-world experiences to improve training for pre-service physical education teachers in physical activity promotion.
PETE students' perceptions of PETE program and their CSPAP Preparation

PETE students in this study recognized the central role of Physical Education teachers as physical activity leaders at schools as well as the importance of comprehensive efforts to promote physical activity across the school day from teachers, administrators, school boards, or parents/guardians. PETE colleagues consistently stress the collaboration/advocacy skills for successful CSPAP implantation (Beaulieu et al., 2012; Beighle et al., 2009; Bulger, Housner, & Lee, 2008; Lund, 2010). The PETE students in this study, however, felt there were deficiencies in their training in the area of interpersonal skills.

On the other hand, participants in this study also described their evolving and expanding perceptions of the role of Physical Education teachers across their PETE programs. This finding has also been supported by other studies. One study also showed that teachers' perception of the role of Physical Education teachers became broader during their internship courses (McMullen, van der Mars, & Jahn, 2014).

Ideal CSPAP Preparation in PETE program

Interview data from PETE students revealed that they felt that they were not sufficiently prepared to implement CSPAP in schools (particularly as concerns family/community connections and staff wellness) due to limited exposure to CSPAP components despite many resources provided by PETE faculty. This finding from the qualitative data sources was consistent with the survey data which indicated that the

elements of family/community and staff involvement were less emphasized by PETE programs. Webster et al. (2014; in press) found that staff involvement was the area that received the least attention in PETE programs. Authors also mentioned that PETE faculty expressed disagreement about the component of family/community and staff involvement as part of teacher preparation in their PETE programs.

When participants in this study were asked about the best way to teach CSPAP components in PETE program, both PETE programs personnel (from surveys) and PETE students (from interviews) cited having practical learning experiences with comprehensive models and in various settings/contexts. Many experts have suggested that modifying existing courses, creating a diversity of field experiences, and providing authentic opportunities to integrate physical activity in schools would contribute to the best way of teaching CSPAP (Beighle et al., 2009; Bulger et al., 2001; Corbin & McKenzie, 2008; McKenzie, 2007, Heidorn, 2014; Kelder et al., 2014; Webster et al., 2015). Interestingly, while PETE programs personnel focused more on the general types of learning experiences, PETE students emphasized practical experiences in a real setting with students.

Conclusion

In this study, a mixed methods research design enabled the researcher to study an overview of the current extent of CSPAP preparation in PETE programs as well as to gain an in-depth understanding of PETE students' CSPAP related learning experiences in highly recognized (for CSPAP) PETE programs. Multiple data sources through the mixed methods research provided stronger evidence for findings and broadened our understanding of the overall results. Through the quantitative nationwide survey data, the

researcher found that there was limited adoption of CSAP in PETE programs. When CSPAP was included in the preparation programs, faculty generally taught the content and provided experiences within existing courses in their programs. Through the multiple qualitative data sources from students at early adopter PETE programs, the researcher found that PETE students' highly valued an expanded role for Physical Educators; however, few felt adequately prepared to take on this expanded role. PETE students' craved more practical experiences with CSPAP in schools.

Collectively, incorporating CSPAP components into existing courses was a predominant approach for preparing PETE students to implement the CSPAP model while there was a notable lack of school-based programmed practical learning experiences for CSPAP implementation. Although the results of this study are limited to a survey of faculty (N=144) and a more detailed review of a small number of exemplary PETE programs (N=6), the results suggest that program-wide efforts should be made in PETE Programs to add explicit goals for the preparation of teachers in CSPAP. Results from the current study also suggest that if PETE program faculty are interested in incorporating the CSPAP model in their programs and training Physical Educators to also become physical activity leaders, they should consider adding balanced learning experiences (e.g., courses and field experiences) as well as covering all five components of the CSPAP model. PETE faculty may also want to seek authentic learning opportunities for PETE students in physical activity promotions in local schools and community beyond PETE programmatic requirements.

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APPENDIX A

IRB APPROVAL

ASU Knowledge Enterprise Development

EXEMPTION GRANTED

Pamela Kulinna
Division of Educational Leadership and Innovation - Polytechnic
480/727-1767
Pamela.Kulinna@asu.edu

Dear Pamela Kulinna:

On 12/4/2014 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	How The Current Physical Education Teacher Education Programs Are Capable To Prepare Pre-Service Teachers To Implement Comprehensive School Physical Activity Program?
Investigator:	Pamela Kulinna
IRB ID:	STUDY00001871
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• HRP-502c - CONSENT DOCUMENT -SHORT FORM_PETE_1201.pdf, Category: Consent Form; • HRP-502c - CONSENT DOCUMENT -SHORT FORM_Faculty&students_1201.pdf, Category: Consent Form; • HRP-503a - TEMPLATE PROTOCOLSOCIAL BEHAVIORAL_1204.docx, Category: IRB Protocol; • Sample questionnaire questions for PETE programs.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Interview guideline for faculty members and teacher candidates.pdf, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Instructions for Photo Images, Category: Participant materials (specific directions for them);

	• Recruitment letter_Perception.pdf, Category: Recruitment Materials; • Recruitment letter_PETE.pdf, Category: Recruitment Materials;

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 12/4/2014.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,

IRB Administrator

cc: Ja Youn Kwon
Ja Youn Kwon
Audrey Beardsley
Hans Van Der Mars
Mirka Koro-Ljungberg

APPENDIX B

FINAL SURVEY OF CSPAP RELATED CURRICULUM IN PETE PROGRAMS

Cover letter

Dear Physical Education Teacher Education Faculty:

Pamela Hodges Kulinna in Physical Education Pedagogy in the Mary Lou Fulton Teachers College at Arizona State University along with doctoral student Ja Youn Kwon, would like to request your participation in a study of Physical Education Teacher Education programs. The purpose of this study is to learn about the content covered as well as about any courses/experiences related to Comprehensive School Physical Activity Programs.

Your participation would involve completing an online survey to provide critical information regarding your Physical Education Teacher Education program (10 - 20 minutes). Please have your curriculum map or similar materials available for your use. Your participation in this study is voluntary. If you complete this survey with contact information, we will be able to send you a $10 gift card. If you choose not to participate or withdraw from the study, at any time, there will be no penalty. There are no foreseeable risks or discomforts to your participation.

This study will improve our understanding of the current training of Physical Education Teacher Education programs and will lead to suggestions for Physical Education Teacher Education programs so that we can all meet the needs of our K-16 students better.

Your responses will be kept confidential through the use of an assigned number rather than your program's name. The results of this study may be used in reports, presentations, or publications but your name and program name will not be used. Results from this project will only be shared in aggregate form.

If you have any questions concerning your participation in this study now or in the future, Dr. Pamela Hodges Kulinna can be reached at pkulinna@asu.edu, (480) 727-1767 or Ja Youn Kwon can be contacted at Jayoun.Kwon@asu.edu, (480) 259-8665. If you have questions regarding your rights as a research subject, contact the Research Integrity and Assurance Office at (480) 965-6788.

By clicking "Yes" below you are indicating that you are at least 18 years old, have read and understood this consent form and agree to participate in this research study.

Q. I have read the information page and consent to participate.
- Yes
- No (if you answer No, you may exit the survey at this time)

Q. Please indicate the total number of credits hours required for graduation.

- Hours (ex. 144) (_____)
- Comments (e.g., Undergraduate or graduate or both, etc.) (_____)

Q. Please indicate the number of credits hours/units required for each category below (these should add up to the number provided in Q3).

- General Education (_____)
- Disciplinary Knowledge (e.g., anatomy or exercise physiology) (_____)
- Pedagogical Knowledge (e.g., methods or curriculum) (_____)
- Content Knowledge/Activity Courses (e.g., basketball or yoga) (_____)
- Field Experiences (e.g., internship or student teaching) (_____)
- Professional issues (e.g., introductory course or multicultural course) (_____)
- Other (please specify) (_____)

Q. Please indicate the categories in which your CSPAP preparation is occurring (check all that apply).

a) Disciplinary Knowledge (e.g., anatomy or exercise physiology)
b) Pedagogical Knowledge (e.g., methods or curriculum)
c) Content Knowledge/Activity Courses (e.g., basketball or dance)
d) Field Experiences (e.g., internship or student teaching)
e) Professional issues (e.g., introductory course or multicultural course)
f) None
g) Other (please specify)
(_____)

Q. Please indicate the categories in which each component of CSPAP are taught in your PETE program (check all that apply).

	Disciplinary Knowledge (e.g., anatomy or exercise physiology)	Pedagogical Knowledge (e.g., methods or curriculum)	Content Knowledge/ Activity Courses (e.g., basketball or dance)	Field Experiences (e.g., internship or student teaching)	Professional issues (e.g., introductory course or multicultural course)
Physical Education	☐	☐	☐	☐	☐
Before/After School physical activity program	☐	☐	☐	☐	☐
Physical activity during school	☐	☐	☐	☐	☐
Family and community engagement	☐	☐	☐	☐	☐
Staff involvement	☐	☐	☐	☐	☐

Q. Are students required to attend Physical Activity Leader (PAL) or Director of Physical Activity workshop?

a) Required

b) Encouraged

c) No

d) I don't know

e) Other (please specify)

(_____)

Q. Please add additional information about the structure of your PETE program related to CSPAP.

Q. Which components of CSPAPs (beyond Physical Education) are taught by separate courses (e.g., entire course dedicated to teach promoting physical activity in schools, 'Promoting Physical Activity in Schools') in your PETE program? (check all that apply)

a) Before/After School Physical Activity Program
b) Physical Activity during School
c) Family and Community engagement
d) Staff Involvement
e) All of above
f) None

Q. Separate CSPAP course #1:

- Course name (_____)
- Is this course required?
  a) Yes b) No
- Credit hours
  a) 1 b) 2 c) 3 d) 4+
- Year taken
  a) 1st year b) 2nd year c) 3rd year d) 4th year e) 5th year
  f) Graduate for certification g) Graduate not for certification
- Grade level
  a) Elementary b) Secondary c) Both
- Which components of CSPAP are covered in this separate course?
  a) Before/After School Physical Activity Program
  b) Physical Activity during School
  c) Family and Community engagement
  d) Staff Involvement

- How do you assess students' knowledge and application of CSPAP in this course? (check all that apply)

a) Written exam b) Assignments c) Self-reflection d) Field notes

e) Systematic observation f) All of above g) None

h) Additional assessment (_____)

- What is the primary focus of the assessment?

a) Skill of implementing CSPAP components

b) Knowledge about CSPAP components

c) Disposition about implementing CSPAP components

d) All of above

e) Not applicable

f) Other (please specify) (_____)

- Please provide a brief description of the course.

- Are there more separate courses that focus on CSPAP skill and knowledge development?

a) Yes b) No

APPENDIX C

STATISTICAL EVIDENCE FOR SAMPLE REPRESENTATION

Table

Chi-square statistics of sample representation analysis

	% in Population (N=446)	% in Sample (n=130)	χ^2	*df*	*p*
Regions			7.04	5	.22
Central	18.2%	11.5%			
Eastern	13.0%	10.8%			
Midwest	20.0%	26.2%			
Northwest	4.5%	2.3%			
Southern	38.1%	42.3%			
Southwest	6.3%	7.7%			
Classifications			2.00	2	.37
Baccalaureate	27.8%	23.1%			
Master	49.8%	50.0%			
Doctoral	21.1%	26.2%			

APPENDIX D

INTRODUCTORY SURVEY FOR PETE STUDENTS

Dear Teacher Candidate,

Pamela Hodges Kulinna in Physical Education Pedagogy in the Mary Lou Fulton Teachers College at Arizona State University along, with doctoral student Ja Youn Kwon, would like to request your participation in this study. The purpose of the study is to understand the pre-service teachers' perspectives of the role of PETE programs in preparing teachers specifically related to Comprehensive School Physical Activity Program.

Your involvement would involve completing very short survey, participating in an interview, taking photos and providing documents related to your learning experiences in your PETE program.

Your participation in this study is voluntary. We will provide an incentive for your participations (a $25 gift card via email after completion of data collection). If you chose not to participate or withdraw from the study at any time, there will be no penalty. There are no foreseeable risks or discomforts to your participation.

We would like to audiotape the interview with your permission. Please let me know if you do not want the interview to be taped; you can also change your mind after the interview begins, just let us know. The data will be retained by the investigator using pseudonyms to represent participants in a secure location until the project is complete. At the end of the project the data will be destroyed.

This study will contribute to research in education and lead to beneficial information for PETE programs.

If you have any questions concerning your participation in this study now or in the future, Dr. Pamela Hodges Kulinna can be reached at pkulinna@asu.edu or (480) 727-1767 or Ja Youn Kwon can be contacted at Jayoun.Kwon@asu.edu or (480) 259-8665. If you have questions regarding your rights as a research subject, contact the Research Integrity and Assurance Office at (480) 965-6788.

By clicking "Yes" below you are indicating that you are at least 18 years old, have read and understood this consent form and agree to participate in this research study.

Q. I have read the information page and consent to participate.
- Yes
- No (if you answer No, you may exit the survey at this time)

Q. Name

Q. University

Q. Year of Programs

a) 3rd b) 4th c) 5th

Q. Gender

a) Female b) Male

Q. Ethnic Background

a) Caucasian b) African American c) Asian-American

d) Arab-American e) Hispanic f) Native American

g) Other (please specify) (_____)

Q. How familiar are you with Comprehensive School Physical Activity Programs?

□ Not at all familiar	□ Slightly familiar	□ Moderately familiar	□ Very familiar	□ Extremely familiar

Q. How confident are you in your ability to implement CSPAP in your teaching?

	Not at all confident	Slightly confident	Moderately confident	Very confident	Extremely confident
Physical Education	□	□	□	□	□
Before/After School physical activity program	□	□	□	□	□
Physical activity during school	□	□	□	□	□
Family and community engagement	□	□	□	□	□
Staff involvement	□	□	□	□	□

Q. What learning experiences have you had during training related to CSPAP (Check all that apply) ?

	Courses	Assignments	Reading	Peer teaching	Pre-student teaching experiences	Student teaching experiences
Physical Education	□	□	□	□	□	□
Before/After School physical activity program	□	□	□	□	□	□
Physical activity during school	□	□	□	□	□	□
Family and community engagement	□	□	□	□	□	□
Staff involvement	□	□	□	□	□	□

Q. Should running/helping with CSPAP programs be part of what Physical Education teacher do in their jobs?

□ Totally Disagree	□ Disagree	□ Neither agree nor disagree	□ Agree	□ Totally agree

Q. How do you feel about your role as a Physical Educator in the CSPAP model?

Q. Please provide available dates and time for your interview in next two weeks (45 - 60 mins).

1.
2.
3.

APPENDIX E

INTERVIEW GUIDE FOR PETE STUDENTS

[Background information]

1. Why do you want to become a Physical Education teacher?
2. How would you describe the primary role of a Physical Education teacher in k-12 schools?
    a. Why is it important?
    b. In what way (if at all) have your ideas about the role of a Physical Education teacher changed during your time in the program?
    c. (if yes) could you describe any specific learning experiences for the change in your views?

[Perception of roles of PETE programs]

3. What is the purpose of your PETE program?
    a. Have your ideas about the purpose of PETE programs changed during your time in your program?
    b. (if yes) could you describe any specific learning experiences for the change?
4. How do you describe your experiences in your PETE programs? What have been the most meaningful experiences in your PETE program to you as a future physical education teacher? Why?

[Comprehensive School Physical Activity Programs]

5. What do you know about Comprehensive School Physical Activity Programs (CSPAP)?.
6. Could you explain this more? Why do you agree/disagree?
7. You wrote that the role of a Physical Educators in CSPAP as **…..** Could you explain more about this role?
8. In your opinion, what are the necessary knowledge needed to implement CSPAP as a Physical Educator?
9. In your opinion, what are the necessary skills needed to implement CSPAP as a Physical Educator?

10. How well are you prepared to start developing CSPAP components beyond physical education?
11. What do see as your areas of strength relative developing (aspects of) CSPAP?
12. What do you still see problematic for yourself in terms of implementing (aspects of) CSPAPs?
13. In your opinion, what are the major barriers for moving traditional physical education programs toward becoming more CSPAP-like?

[PETE program & CSPAP]

Please discuss your experiences in your PETE programs related to learning about CSPAP.

14. In your opinion, how well is your PETE program preparing you to teach a quality Physical Education program (as part of the total CSPAP model)?
    a. **Course**/activities?
    b. **Field experiences**?
    c. What learning experiences would have more in future?
15. What courses/activities/experiences have you had that may have prepared you to administer a Before/After school physical activity program? When? Where?
    a. Explain specific learning experiences that you have had related to conducing a Before/After school physical activity program in **courses** and **field experiences**?
    b. What learning experiences would have more in future?
16. What courses/activities/experiences have you had that were specifically aimed at promoting Physical Activity during school day (such as PA breaks in the classroom)? When?
    a. Explain specific learning experiences that you have had related to promoting physical activity during the school day in **courses** and **field experiences**?
    b. What learning experiences would have more in future?
17. What courses/activities/experiences have you had that may have prepared you to promote Family and community engagement? When?

a. Explain specific learning experiences that you have had related to conducing a Family and community engagement in **courses** and field experiences
b. What learning experiences would have more in future?

18. What courses/activities/experiences have you had that may have prepared you to promote Staff involvement? When?
    a. Explain specific learning experiences that you have had related to promoting Staff involvement in **courses** and field experiences
    b. What learning experiences would have more in future?

[Changes/suggestions on PETE programs about CSPAP]

19. What are the keys as a PE teacher to implement CSPAP in schools? Do you think your program is preparing those keys enough? Why/Why not?
20. What could be the best way to teach CSPAP in PETE programs? In other words, what would an ideal PETE program look like that trains students to promote CSPAP?
21. What do you know about the training available to become a Physical Activity Leader (PAL)? Is this something that you are planning to do? Why/why not?
22. Please discuss any specific strategies that your faculty are using to help you successfully develop skills and knowledge for implementing CSPAP.

[Photos]

23. Could you briefly describe each photo? Are these from Physical Education class? Or do you have any other photos beyond Physical Education?
24. What did you learn about CSPAP in this photo?
25. What do you wish you could have captured about CSPAP with a photo but you were not able to do this? What other experiences not in the photos?

APPENDIX F

INSTRUCTIONS FOR PHOTO IMAGES

Instruction for Photo images

As a part of data collection, we are requesting you to take 10 photo images to represent teaching/learning practices related to CSPAP (e.g., Physical Education, Before/After school physical activity program, Physical activity during school, Family and community engagement and Staff involvement) in your programs. This will help us to understand your perceptions of the current role of teacher education programs related to CSPAP. There are two requests regarding your photos.

First, Photos may be taken of in-classroom courses, courses that meet in a gymnasium, and/or observations or field experiences in your PETE program (You can provide us photos taken previously). Please take general pictures while avoiding pictures where teacher education students or K-12 students can be identified.

Second, please provide short description for each picture about the context of the picture, the contents, and/or your impression and reflection.

If you chose not to participate in this procedure, it is absolutely acceptable and there will be no penalty. The pictures will help us learn about how CSPAP is being taught in teacher education programs.

If you have any questions regarding this, please contact Dr. Pamela Hodges Kulinna (pkulinna@asu.edu or (480) 727-1767) or Ja Youn Kwon (Jayoun.Kwon@asu.edu or (480) 259-8665).