Rethinking Recommendations for Implementing Comprehensive School Physical Activity Programs: A Partnership Model

Collin Andrew Webster\textsuperscript{a}, Michael Beets\textsuperscript{b}, Robert Glenn Weaver\textsuperscript{b}, Spyridoula Vazou\textsuperscript{c} & Laura Russ\textsuperscript{d}

\textsuperscript{a} Department of Physical Education and Athletic Training, University of South Carolina, Columbia, South Carolina
\textsuperscript{b} Department of Exercise Science, University of South Carolina, Columbia, South Carolina
\textsuperscript{c} Department of Kinesiology, Iowa State University, Ames, Iowa
\textsuperscript{d} Department of Kinesiology and Health Science, Georgia Regents University, Augusta, Georgia

Published online: 19 May 2015.

To cite this article: Collin Andrew Webster, Michael Beets, Robert Glenn Weaver, Spyridoula Vazou & Laura Russ (2015) Rethinking Recommendations for Implementing Comprehensive School Physical Activity Programs: A Partnership Model, Quest, 67:2, 185-202, DOI: 10.1080/00336297.2015.1017588

To link to this article: http://dx.doi.org/10.1080/00336297.2015.1017588

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms &
Rethinking Recommendations for Implementing Comprehensive School Physical Activity Programs: A Partnership Model

COLLIN ANDREW WEBSTER
Department of Physical Education and Athletic Training, University of South Carolina, Columbia, South Carolina

MICHAEL BEETS and ROBERT GLENN WEAVER
Department of Exercise Science, University of South Carolina, Columbia, South Carolina

SPYRIDOULA VAZOU
Department of Kinesiology, Iowa State University, Ames, Iowa

LAURA RUSS
Department of Kinesiology and Health Science, Georgia Regents University, Augusta, Georgia

Recommended approaches to promoting children’s physical activity through schools call for physical education teachers to serve as champions for, and leaders of, Comprehensive School Physical Activity Programs (CSPAPs). Little evidence, however, exists to suggest that physical education teachers are ideally prepared or supported to assume CSPAP leadership roles. The purpose of this article is to consider expectations that must be met for physical education teachers to serve as central protagonists in CSPAP implementation efforts, and to propose a conceptual model aimed at increasing both effectiveness and sustainability of CSPAPs through key external-internal partnerships. Specifically, community-based participatory research, communities of practice, and service-learning are presented as possible strategies to expand the support system for growing and sustaining CSPAPs. In sum, this article offers some reasons for rethinking current recommendations for CSPAP implementation.

Keywords School physical activity promotion, physical education teachers, community-based participatory research, communities of practice, service-learning

Address correspondence to Collin Andrew Webster, Department of Physical Education and Athletic Training, University of South Carolina, 1300 Wheat Street, Columbia, SC 29208. E-mail: collin.iconoclast@gmail.com
Introduction

Based on current national guidelines in the United States, children and adolescents should accumulate at least 60 minutes of moderate-to-vigorous intensity physical activity (PA) each day (U.S. Department of Health and Human Services [USDHHS], 2008). However, only 42% of children and 8% of adolescents meet PA guidelines (Troiano et al., 2007). Schools offer a natural setting for increasing the daily PA of youth (Institute of Medicine [IOM], 2013). This is because schools provide an existing infrastructure for offering PA opportunities before, during, and after regular school hours to virtually all children and adolescents most days of the week with professionals who have specialized knowledge and skills for working with children. Furthermore, engagement in PA enhances cognitive performance (Hillman et al., 2012) and can help children learn better (Basch, 2011): benefits that are consistent with the academic priorities of schools.

National recommendations call for a whole-of-school approach to PA promotion, in which numerous individuals in multiple contexts work through schools to promote more active school communities (IOM, 2013). A prominent example of this approach is a Comprehensive School Physical Activity Program (CSPAP; Centers for Disease Control and Prevention [CDC], 2013; National Association for Sport and Physical Education NASPE, 2008a). CSPAPs include five components: (a) quality physical education (PE), (b) PA during the school day, (c) PA before and after school, (d) staff involvement, and (e) family and community engagement. Quality PE is considered the cornerstone of a CSPAP and should be designed to provide youth with the knowledge, skills, and values for participation in PA, as well as opportunities to engage in moderate-to-vigorous PA. PA during the school day consists of opportunities outside of PE for children and adolescents to be active during regular school hours (e.g., recess, lunch time drop-in events, classroom-based PA). PA opportunities before and after school can range from clubs and intramurals to active transportation programs (e.g., walk or bike to school programs). The staff involvement component focuses on PA promotion roles for school professionals other than PE teachers (e.g., classroom teachers integrating PA between or within academic lessons) as well as on staff wellness. Family and community engagement focuses on promoting PA in the home environment (e.g., families taking walks or attending active events/functions at school) and taking advantage of community resources for PA (e.g., joint-use agreements between schools and local YMCAs; CDC, 2013; NASPE, 2008a).

Theoretically, CSPAPs can function cohesively and cumulatively to ensure youth meet the recommended 60 minutes of PA each school day (CDC, 2013; IOM, 2013). IOM suggested that CSPAPs should ensure that youth meet half the recommended minutes of daily PA (30 minutes) during regular school hours and that opportunities provided through before/after school programs and family/community engagement should ensure that youth accrue the remaining 30 minutes (IOM, 2013). Current recommendations emphasize the need for a school champion to galvanize the collective promotion efforts of others in the school community (e.g., school staff, parents) and maximize participation in PA (Beighle, Erwin, Castelli, & Ernst, 2009; Carson, 2012; Carson, Castelli, Beighle, & Erwin, 2014; Castelli & Beighle, 2007; Heidorn & Centeio, 2012; IOM, 2013). In these recommendations, PE teachers are typically identified as the most logical individuals to champion a CSPAP, based on their unique PA-related expertise in the school environment and locally situated knowledge.

Serving as CSPAP leaders would likely enhance the status of PE teachers in their schools and communities, as well as increase the prominence of PE both as a profession and as a school subject. Importantly, school- and community-wide PA is not new in
practice. Historically, there have been PE teachers and programs that have embodied the CSPAP agenda and recommendations, but the case history and craft knowledge pertaining to these efforts has been mostly passed on through professional networks or lost due to limited research, particularly related to the work of PE teachers beyond the PE setting (T. L. McKenzie, personal communication, January 16, 2015). The evidence base for CSPAPs, especially efforts to generate all five CSPAP components functioning synergistically to maximize daily PA, is in an emerging stage, and it is largely unknown whether placing expectations upon PE teachers to champion CSPAPs will result in a feasible, effective, or most importantly, sustainable pathway to increasing the daily PA of children and adolescents. Few multicomponent field trials have relied on school professionals to champion and change PA promotion through schools. In cases where such an approach was used, only modest effects on objectively measured youth PA were observed (Webber et al., 2008), or initial effects were largely not maintained over time (Pate et al., 2007).

As increased attention turns to designing, implementing, and evaluating CSPAPs, it is crucial at this early stage to carefully examine the current recommendations and consider ways in which it may be possible to strengthen the approach taken and ensure a physically active school culture is built to last. The purpose of this article is to consider expectations that must be met for school communities to implement CSPAPs and to propose strategies for expanding the CSPAP implementation process with the aim of increasing sustainability. Specifically, the emphasis on internal (i.e., within school) resources, particularly the proposed roles of PE teachers as program champions, are examined in light of possible barriers to program implementation, and external resources are foregrounded, which target sustainability through the development and maintenance of key internal-external partnerships.

**Initial Thoughts: The Currently Recommended Approach**

The current recommendations for implementing CSPAPs highlight the need to identify a leader within the school community who can motivate, activate, and coordinate others to assume various PA promotion roles. This individual has been referred to as a PA Director (PAD; Beighle et al., 2009; Castelli & Beighle, 2007), Director of PA (DPA; Carson, 2012; Heidorn & Centeio, 2012), and most recently, a CSPAP champion (Carson, Castelli et al., 2014). The notion of a champion derives from earlier conceptual models for school health. In the late 1980s, Allensworth and Kolbe (1987) introduced what became known as a Comprehensive School Health Program (CSHP; IOM, 1997)—now called a Coordinated School Health Program—consisting of eight components and emphasizing the key role of a school health coordinator in serving numerous functions related to program administration (e.g., liaison with school district representatives, coordination of different program components, fiscal planning, program evaluation). IOM recommended that a member of existing school faculty and staff be appointed as the school health coordinator and be given appropriate compensation or release time to serve in this capacity (IOM, 1997). Studies using self-report data suggest that the internal leadership approach of the CSHP model can be effective at building the infrastructure needed for generating (Aldinger et al., 2008; Stoltz, Coburn, & Knickelbein, 2009) and possibly sustaining (Ward et al., 2006) adaptive changes in school health practices.

Based on these studies and the intuitive notion that PE teachers are the most logical individuals situated within schools to serve as PA leaders, authors have called for PE teachers to serve as school champions for comprehensive and coordinated efforts to
promote PA (Beighle et al., 2009; Carson, 2012; Carson, Castelli et al., 2014; Castelli & Beighle, 2007; Heidorn & Centeio, 2012). Conceptually, the CSPAP champion can be situated within a multi-level system for PA promotion (Carson, Castelli et al., 2014). Variables at four levels—micro, meso, exo, and macro—must function synergistically to positively influence daily PA behavior. In brief, microsystem level variables include the five CSPAP components, which theoretically should have the most direct and proximal influence on PA outcomes. The mesosystem level includes key facilitators (knowledge, skills, dispositions, resources, and safety) needed to effectively implement the CSPAP components. These facilitators derive from school PA program leaders at the exosystem level, including the CSPAP champion, a supportive school administration, and a CSPAP committee. The fourth and most distal level of influence on PA outcomes is the macrosystem level, which includes relevant policies for increasing PA and normative beliefs and behaviors of the school community (e.g., local media portrayal and overall public visibility of school PA). Theoretically, macrosystem variables directly influence the actions of the PA program leaders at the exosystem level, while the program leaders are directly tied to the key facilitators at the mesosystem level, which directly impact CSPAP implementation at the microsystem level of the model (Carson, Castelli et al., 2014).

Championing a CSPAP requires PE teachers to form or join a school wellness team/committee; develop a PA subcommittee; model high PA engagement through actions such as teaching moderate-to-vigorous active PE lessons and sponsoring professional development workshops for other PE teachers; lead the development of school-based PA opportunities beyond PE, such as active recess, drop-in activities during lunch, and classroom PA breaks; and connect with the community and other stakeholders to increase opportunities for PA (Castelli & Beighle, 2007). Other recommended duties of a school PA champion include identifying a supportive school administrator, obtaining certification/training as a school PA director/leader, conducting baseline assessments of school-based opportunities and resources for PA, and creating and implementing an action plan for PA promotion (Carson, 2012).

Overall, the current recommendations primarily focus on school-based resources, particularly the specialized knowledge and skills of the CSPAP champion, to build and sustain programming for whole of school PA promotion. The PE teacher is principally called upon to lead and synergize the efforts of school administrators and classroom teachers toward providing enough opportunities each day at school to ensure youth meet at least half the recommended 60 minutes of PA each school day. This approach highlights what school professionals can do to build internal (i.e., within school) capacity for CSPAP implementation.

**Thinking Again: Meeting Needed Expectations**

Despite the intuitive and logical rationale for focusing on PE teachers as school champions, the empirical basis for this approach to building and sustaining CSPAPs is undeveloped. Little research has investigated the effectiveness or sustainability of asking PE teachers to serve as CSPAP champions, and the CSHP studies that authors (Carson, Castelli et al., 2014) have cited as promising evidence for internally driven (i.e., capitalizing on school leaders) changes in school health must be interpreted with caution, given the self-report nature of the data. In this section of the article, the authors consider several expectations that must be met for CSPAP champions to perform their recommended duties. These include (a) building the recommended competency base for a CSPAP champion, (b) increasing external accountability for CSPAP preparation and implementation, (c) building evidence that
recommended preparation can lead to effective and sustainable change, and (d) reducing
the possible reluctance of PE teachers to be CSPAP champions.

**Building the Recommended Competency Base for a CSPAP Champion**

One of the potential limitations of asking PE teachers to be CSPAP champions is the
extensive professional preparation presumably needed to effectively serve in this role.
A review of the recommendations regarding the preparation of PE teachers for PA promo-
tion roles indicates teachers must be trained in broad content areas such as organization and
administration related to school, community, and family PA programming; advocacy and
politicicking to garner the support (e.g., policy) necessary for sustainable school change in PA
promotion; behavior change theories and ecological models pertinent to PA promotion; and
measurement and evaluation of PA opportunities and behavior (Webster et al., 2015). For
instance, McKenzie (2007) suggested that preservice programs modify the content taught
to PE teacher candidates (e.g., include ecologic models and environmental engineering),
increase the diversity of field experiences (e.g., gain experience promoting PA in communi-
ity settings), and develop teacher candidates’ promotion, advocacy, and politicking skills
(e.g., complete projects that involve lobbying for school PA promotion). As another exam-
ple, Bulger and Housner (2009) recommended PE teachers obtain certification not just for
teaching but also for other PA promotion roles. These certifications would come from orga-
nizations such as the American College of Sports Medicine (ACSM), the American Council
on Exercise (ACE), and the National Strength and Conditioning Association (NSCA).

Little is known about the extent to which PE teachers have received, or are receiv-
ing, the requisite preparation as school-/community-wide leaders for PA promotion. To the
authors’ knowledge, no published studies have examined inservice PE teachers’ level of
preparedness for CSPAP implementation. One recent study suggested that some PE teach-
ers may be engaged at some level in the implementation process, while others are not
(Centeio, Erwin, & Castelli, 2014). At the preservice level, a national sample of under-
graduate PE teacher education programs in the United States were surveyed regarding the
preparation of program majors (i.e., preservice PE teachers) for CSPAP roles (Webster
et al., in review). Program faculty mostly disagreed that their programs were effectively
preparing majors for PA promotion roles beyond teaching quality PE. Thus, it is apparent
that many beginning PE teachers may be underprepared to lead school-/community-wide
PA initiatives. Of critical importance will be the extent to which the CSPAP champion can
harness human capital to increase school-wide implementation efforts.

**Increasing External Accountability for CSPAP Preparation or Implementation**

The recommended competencies for CSPAP leadership extend beyond what is outlined
in the current national standards for initial teacher certification in PE (NASPE, 2008b). These
standards address the knowledge and skills required to be an effective PE teacher but do
not address much of the CSPAP-related content described in the recommended competency
base described above. Teacher education programs in PE use the standards for accreditation
purposes; that is, programs collect data to provide evidence to accreditors that program
majors (i.e., preservice PE teachers) are meeting the standards. The accrediting process
therefore brings external accountability for teacher education programs in PE to prepare
majors for effective PE teaching but not to prepare majors for broader CSPAP leadership
roles.
Similarly, there is currently a lack of external accountability for CSPAP implementation in schools. In a recent study, only 16 states were found to have policies for school PA, and none of these policies used strong wording (Carlson et al., 2013). The language used in written policies for school PA is often convoluted and leaves much of the interpretation to educational authorities (McCullick et al., 2012). Moreover, interviews with key informants from nine states suggested there were limited practices in place for monitoring, enforcing, or evaluating policy implementation (Cradock et al., 2013). Carlson and colleagues (2013) found that in cases where PA monitoring was conducted as part of a policy, self-reports from schools were used, which likely produce inflated estimates of actual school-based PA promotion and PA behavior (Robinson, Wadsworth, Webster, & Bassett, 2014). In the absence of strong external accountability, CSPAP preparation and implementation is left to the discretion of teacher education programs and schools. A broader and more robust policy system is needed to increase CSPAP implementation through the efforts of preservice and inservice professionals.

Building Evidence That Preparation Leads to Effective and Sustainable Change

There is also a paucity of data to confirm whether professional preparation for CSPAP roles enhances the ability of PE teachers to generate CSPAPs that lead to adaptive and sustainable changes in the PA behavior of school communities. In a recent study, inservice PE teachers completed a one-year DPA certification program, which included initial training via a workshop and the teachers’ subsequent efforts to implement a CSPAP for one school year (Carson, Pulling, Castelli, & Beighle, 2014). Data (i.e., interviews, documents and artifacts that evidenced CSPAP implementation) from 10 of the participating teachers were qualitatively analyzed to identify facilitators and inhibitors to CSPAP implementation. Results indicated that initial multilevel support from administrators, classroom teachers, and parents, and the receptivity of classroom teachers to PA integration, were facilitators to CSPAP implementation, whereas multilevel resistance, perceived increased workload, and safety issues with transportation and/or facilities were inhibitors. It is unclear from the existing data whether or how the inhibitors to CSPAP implementation in these cases can be reduced/overcome, or if the teachers’ efforts will ultimately induce successful and sustainable PA outcomes.

Reducing Possible Reluctance of PE Teachers to Implement CSPAPs

Consistent with the school and teacher change literature in general (Fullan & Pomfret, 1977; McLaughlin, 1987), previous studies examining educational reform efforts have shown that PE teachers are reluctant to change their current practices (Curtner-Smith, 1999; Evans, Davies, & Penney, 1996; Laws & Aldridge, 1995). There is little evidence that PE teachers want to be school PA leaders or perceive such a leadership role as feasible. Of course, some teachers may have a relatively high preponderance toward CSPAP implementation. For instance, in one study, an exemplar case of CSPAP implementation was identified and examined (Doolittle, Rukavina, DeMatteo, & Mehan, 2014). A critical case study design was used to investigate an urban school whose PE teachers had developed a PE, PA, and sport program. Though the teachers were unaware of the CSPAP model, the program was consistent with many CSPAP components/goals (e.g., high quality PE, PA clubs, staff involvement, community engagement). The authors described the PE teachers in this case as “visionary.”
Where such visionaries, pioneers, or zealots exist, there can be little question that their innovativeness and enthusiasm will compliment the role of CSPAP champion. Yet, the prevalence of teachers who fit these profiles is relatively unknown. Research investigating the willingness and attitudes of PE teachers in relation to CSPAP implementation is needed. It is possible that many teachers not currently implementing CSPAPs or even any of its components outside of PE may opt not to take on a new set of responsibilities without attractive incentives (e.g., increased salary, reduced teaching load). Additionally, research on the most relevant implementation motives for teachers is needed, as contextual variables (e.g., urban vs. rural settings, socioeconomic makeup of the students) may impact the priorities of schools in terms of valued outcomes. Doolittle and colleagues (2014) found that teachers in an urban school were motivated to implement school- and community-wide PA opportunities as a means not to improve student health, but to improve personal, social, and academic wellbeing. It is vital that research examines the most effective strategies to help PE teachers and other school professionals adopt both leadership and supportive roles in efforts to generate CSPAPs. These individuals must serve as internal levers, as they are central to the implementation process. However, successful, scalable, and ultimately sustainable program implementation may also benefit from additional external resources that can maximize the influence of internal levers within the school environment.

**Thinking Outside the Box: Targeting Sustainability Through Partnerships**

In this section of the article, the authors outline three complimentary strategies that have each shown promise for evoking adaptive changes in teacher practices and children’s PA. These strategies include community-based participatory research (CBPR), communities of practice (CoP), and service-learning (SL). Each strategy capitalizes on partnership building and can work in combination to provide teachers with an expanded and enhanced support system for effective and sustainable CSPAP implementation (see Figure 1). In brief, CBPR provides support from university researchers to help school professionals develop context-sensitive PA promotion strategies and monitor program effectiveness over time. CoP and SL can build on CBPR by providing school professionals with social learning networks and trained service providers, respectively, to further leverage PA promotion. This partnership model expands the primary focus on school-based resources for CSPAP implementation (e.g., the school PA program leaders at the exosystem level of Carson, Castelli et al.’s 2014 conceptual model) to external resources that exist beyond the school. In other words, it encourages thinking “outside the box” about building and sustaining CSPAPs. A discussion of each strategy in the model is presented below.

**CBPR**

Many schools in the United States are situated in close proximity to colleges and universities. For these schools, one possible solution to helping CSPAP champions and other members of the school community overcome possible barriers to CSPAP implementation may be the formation of strong partnerships between potential change agents within school communities (e.g., PE teachers, classroom teachers, principals, parents) and researchers (faculty and graduate students) from local colleges and universities. These partnerships can bridge localized knowledge and perspectives to empirical knowledge and expertise in line with the principles of CBPR. The WK Kellogg Foundation Community Health Scholars Program defined CBPR as
Figure 1. Conceptual model for achieving an effective and sustainable CSPAP through internal-external partnerships, including CoP, CBPR, and SL. The model is designed as a moving wheel to signify the potential for program continuance. The wheel’s three spokes represent how each partnership bridges external and internal resources to overcome possible barriers faced by the CSPAP champion. The bidirectional arrows indicate that resources at each level can function synergistically to maximize program effectiveness and sustainability.

*Note:* QPE = quality physical education; PABAS = physical activity before and after school; FCE = family and community engagement; SI = staff involvement; PADSD = physical activity during the school day.

A collaborative approach to research that equitably involves all partners in the research process and recognizes the unique strengths that each brings. CBPR begins with a research topic of importance to the community and has the aim of combining knowledge with action and achieving social change to improve health outcomes and eliminate health disparities. (Community Health Scholars Program, n.d.)
Central to the philosophy of CBPR is the idea that community members should be given the opportunity to meaningfully and actively participate in all phases of the process used to address an identified need (Israel et al., 2003). This can involve meaningful contribution to the conception of an overall plan for addressing the need, the development of key strategies to implement the plan, and the monitoring and evaluation of the implementation effort. Through this approach, the strengths and perspectives of the community members form an integral foundation for and help to frame the research enterprise (Hacker et al., 2012; Israel et al., 2005, 2006). Furthermore, this approach empowers the community members and assists in building a collaborative relationship with the research team that is based on mutual understanding, respect, trust, and solidarity (Israel et al., 2005). These qualities are considered key facilitators in participant (e.g., teacher) “buy-in” and the sustainability of CBPR partnerships and outcomes (Israel et al., 2003, 2005).

Previous research has found that CBPR is an effective strategy for increasing PA promotion and youth engagement in PA during afterschool programs and summer day camps (Beets, Weaver, Beighle, Webster, & Pate, in press; Beets et al., 2014; Hughey, Weaver, Saunders, Webster, & Beets, 2014; Weaver, Beets, Saunders, Webster, & Beighle, in press; Weaver, Beets, Webster et al., 2014). For example, researchers worked collaboratively with staff in four YMCAs to modify program schedules, enhance professional development training, and incorporate weekly evaluation checklists. Following these changes, the number of girls and boys meeting PA standards for afterschool programs increased from 13.3% and 28.0% to 29.3% and 49.6%, respectively (Beets et al., 2014). Examples of CBPR-based elements of the intervention included soliciting input from staff, incorporating the suggestions of staff, and maintaining an open channel of communication with staff. The researchers were able to align staff perspectives with relevant conceptual/theoretical models (Beets, Webster, Saunders, & Huberty, 2013; Weaver, Beets, Webster, Beighle, & Huberty, 2012) to construct context-sensitive strategies for enhancing and increasing staff-driven PA promotion.

Based on this previous work, the authors expect CBPR to be helpful for identifying key support mechanisms within the school environment that can be used to leverage PE teachers’ or other school professionals’ PA promotion efforts. CBPR may also motivate school communities to enhance and sustain their efforts based on the continuous program monitoring that CBPR can provide. Using available instruments (e.g., School Physical Activity Policy Assessment [S-PAPA]; Lounsbery, McKenzie, Morrow, & Holt, 2011), university researchers can help schools conduct needs assessments to identify the extent and nature of PA promotion in key contexts (e.g., PE, academic classrooms, recess, before-/after-school programs), and the level of PA students and staff are attaining. If instruments are provided with such feedback, schools will be able to set specific and realistic goals for program improvement/maintenance, and will also have considerably less work to do on their own with respect to program assessment and evaluation. Another advantage of CBPR may be its effect on preservice preparation for CSPAP. The intimate and context-sensitive knowledge gained from CBPR-based studies can inform the development of CSPAP learning experiences in teacher education.

**CoP**

A CoP is defined as “a group of people who share a common concern, a set of problems, or interest in a topic and who come together to fulfill both individual and group goals” (Cambridge, Kaplan, & Suter, 2005, p. 1). Learning can be viewed as situated within CoPs. In education, professional learning networks have emerged as an effective form of CoP for...
supporting teacher practice (Andrews & Lewis, 2002; Hollins, McIntyre, DeBose, Hollins, & Towner, 2004; Strahan, 2003). Although participation in professional learning networks has traditionally required that teachers live or work in close proximity to each other, digital technology now creates unprecedented opportunities for teachers to participate in professional learning networks through websites and social networking tools. Social networking sites have been well received by teachers as a way to promote professional learning (Trust, 2012) and can foster teacher collaboration (So, Lossman, Lim, & Jacobson, 2009; Taylor, 2008) and resource sharing (Ravitz & Hoadley, 2005).

Few studies have examined the merits of a CoP in the context of school-based PA promotion. Initial evidence with PE teachers suggests they are supportive of a virtual CoP offered through Facebook and Moodle online courseware, but may refrain from actively engaging in the CoP due to a lack of trust among participants and technological barriers (Castelli, Centeio, & Nicksic, 2013). Other research with preservice classroom teachers has found that a web-based, private access social networking platform designed specifically for educators to share experiences, ideas, and resources related to classroom-based PA promotion (MoveforThought.ning.com) can facilitate enjoyment of participation in the CoP, value for the CoP, and intentions for continued use of the CoP and future integration of PA in the classroom (Vazou, Hutchinson, & Webster, 2015). Based on these results, it may be important to ensure that CoPs for PE teachers and other potential CSPAP champions provide a private, tailored platform for interacting with peers. Teachers may be more likely to benefit from a CoP when they feel comfortable participating with others in the community and feel a connection to its members based on similarities across classroom/school contexts (e.g., student characteristics, classroom resources, school facilities) and content. Consistent with this perspective, research on virtual communities suggests that familiarity with other members, perceived similarity with other members, and trust in other members in the community positively relate to participants’ sense of belonging, which in turn affects their intentions to share knowledge (Zhao, Lu, Wang, Chau, & Zhang, 2012).

In the context of building and sustaining a CSPAP, a CoP may be particularly beneficial for PE teachers since they tend to work in isolation from other teachers in their school environment (Castelli et al., 2013). A CoP can increase PE teachers’ level of interaction with classroom teachers and building administrators to generate interest, provide support, and monitor various aspects of program implementation. It can also connect PE teachers working at multiple schools and foster the collective development of a rich and relevant catalogue of craft knowledge containing case examples of practical solutions for successful implementation. Virtual CoPs may be a particularly scalable strategy for widespread adoption by schools, given that it is increasingly common for teachers to have Internet access in their classrooms. University faculty, with the help of both graduate and undergraduate students, can work with educators in local schools, district offices, state departments of education, and professional organizations to develop web-based CoPs designed to facilitate teachers’ continuous engagement in social networking related to PA promotion. Using this approach, CoPs would become an integral component of CBPR, as their design, development, monitoring, and evaluation would be facilitated through combined knowledge and skills of school and university partners.

SL

CBPR and CoPs can be effective approaches to harnessing the internal capacity of school resources for CSPAP implementation through the assistance of external support. However, these approaches may not always be sufficient to provide maximal PA opportunities
Comprehensive School Physical Activity Programs

through schools or sustain implementation efforts. While relatively little is known about PE teachers’ dispositions toward, or experiences related to, CSPAP implementation, it is not uncommon for teachers across subject areas to have busy schedules with multiple professional responsibilities both related and unrelated to instruction and student learning. For instance, research has shown that elementary classroom teachers perceive limited time available for planning PA opportunities as a barrier to PA promotion (Naylor, Macdonald, Zebedee, Reed, & McKay, 2006). In many cases, it may be an unrealistic expectation for PE teachers and other school professionals to carry the added workload involved with building and sustaining a CSPAP without continuous assistance from external service providers.

SL can bring additional external support to schools that can further increase the capacity of internal resources, while also allaying the burden placed on school professionals (e.g., PE teachers) who may be overworked and/or under-resourced. Often, SL is conceptualized and defined within the university setting. For instance, according to Bringle and Clayton (2012), “service learning involves the integration of academic material, relevant community-based service activities, and critical reflection in a reciprocal partnership that engages students, faculty/staff, and community members to achieve academic, civic, and personal learning objectives as well as to achieve public purposes” (p. 105). University-based SL is gaining traction in health promotion contexts (Borges & Hartung, 2007; Butcher & Hall, 1998; Carson & Raguse, 2014; Chabot & Holben, 2003; Galvan & Parker, 2011; Himelein, Passman, & Phillips, 2010; Johnston, Harkavy, & Hartley, 2009; Romack, 2004; Rosencranz, 2012; Williams & Kovacs, 2001). For example, university SL initiatives relevant to PA promotion have resulted in enhanced enjoyment among elementary children during school-based recess (Butcher & Hall, 1998), increased motor learning, cooperation, teamwork, and positive adult relationships in underserved youth (Galvan & Parker, 2011), and improved balance among older adults at a nursing home (Williams & Kovacs, 2001). In reviewing the scope and success of university SL in the promotion of PA, healthy eating, and obesity prevention, Rosencranz (2012) concluded, “It appears that service-learning has great potential as a rather flexible component of academic coursework in the areas of preventive medicine and public health, which may only be limited by the creativity and resources available of academic instructors and their home institutions” (p. 681). In line with this perspective, the current authors believe SL should play an integral role in building and sustaining CSPAPs.

Schools in close proximity to colleges and universities should be able to rely, at least in part, on SL-based PA promotion to increase PA engagement among school communities (Rosencranz, 2012). Examples of such promotion may include having preservice PE teachers offer before, during, or after school PA programs (e.g., walking/running clubs, lunchtime “drop-in” PA sessions); sending preservice classroom teachers to academic classrooms to provide PA breaks or to school playgrounds to stimulate PA participation; and integrating requirements for PA promotion within school- and community-based internships for majors in both education and public health. These types of promotion experiences would transfer at least some of the responsibility for school- and community-based PA promotion from school community members to university personnel. Moreover, exposure to SL may also introduce inservice teachers and other professionals to new ideas/avenues for PA promotion, help them to identify feasible promotion strategies, and ultimately lead to the adoption of routine CSPAP practices.

Importantly, SL is not only beneficial to school and community members, but it is also beneficial to university students and faculty (Rosencranz, 2012). SL extends what university students learn from traditional classroom instruction (Borges & Hartung, 2007) and can improve educational outcomes, such as empathy and awareness regarding community education.
needs (Himelein et al., 2010) and personal competence and confidence (Butcher & Hall, 1998). Furthermore, SL is well established in teacher education (Anderson, Swick, & Yff, 2001) and has been recommended for preparing professionals in PE (Domangue & Carson, 2008; Watson, Hueglin, Crandall, & Eisenman, 2002), health education (Geiger & Werner, 2004), and public health (Anderson, Royster, Bailey, & Reed, 2011). Swick and Rows (2000) stated that SL can “empower future teachers to function dynamically in their educational and leadership roles” (p. 461). Preservice teachers engaged in SL have reported developing teaching skills (competence), becoming actively involved as community stewards (participation), building meaningful relationships (relationships), and gaining insight into the value of continued service to the community (understanding) (Swick & Rows, 2000), which are considered the four targeted behavioral outcomes of SL (Serow, 1997). In the context of preservice preparation for PE teachers, SL experiences could build on and authenticate classroom learning experiences targeting aforementioned recommended knowledge and skills for CSPAP implementation (e.g., program organization, administration, and monitoring; PA advocacy and politicking) (Beets et al., in press). The benefits students experience through SL can also be beneficial for faculty, as increased student understanding helps to foster a more dynamic learning environment and strengthen faculty-student relationships (Chabot & Holben, 2003). Additionally, SL has the potential to align with and enhance all three of the major pursuits of most faculty, namely teaching, research, and service (Johnston et al., 2009).

While most of the literature on SL primarily focuses on the university system as the external partner for schools and other community organizations, it should be noted that additional partners could expand the external support structure for CSPAPs and extend the reach of SL to schools located further away from any colleges or universities. For example, university extension networks, community public health centers, and state associations (e.g., PE associations, after school associations) with locally established ties to schools may have, or be able to secure, the resources to send service providers to reinforce and enhance the internal capacity of rural school communities to build and sustain CSPAPs.

In summary, the confluence of CBPR, CoPs, and SL is expected to optimize PA promotion efforts by schools; maximize the number of PA opportunities provided for school communities; increase the level of engagement in PA among children, school faculty/staff, and parents; and most importantly, sustain PA promotion through schools. Through CBPR, partnerships between school/community professionals and university researchers can facilitate the development of context-sensitive PA promotion strategies that take advantage of school resources, and which school communities could incorporate with regularity into daily routines. CoPs can be integrated as a critical component of CBPR, providing school professionals with locally developed (and if online, universally accessible) professional learning networks for PA promotion within a particular subject area (e.g., PE) or field of practice (e.g., elementary classroom teaching). SL can expand the external support structure of CBPR and CoPs, reducing the expectations for PE teachers and other school/community professionals to assume responsibility for PA promotion, while also demonstrating novel promotion strategies that teachers, parents, and other stakeholders might want to try themselves and even adopt.

Final Thoughts . . . for Now

Little research has examined the effectiveness of CSPAPs for increasing youth PA. A recent study identified 14 interventions with two or more components that could be mapped onto the CSPAP framework (Russ, Webster, Beets, & Phillips, in press). None of the
interventions included all five components, and the overall effect across studies on the total daily PA of youth was minimal. However, the one trial (Sallis et al., 2003) that included four CSPAP components was more effective than studies that included three components. Likewise, studies with three components were more effective than studies with only two components. It seems, therefore, that CSPAPs hold promise, but as the whole-of-school approach that CSPAP stands for is relatively new, extant efforts may be falling short. Innovative approaches are needed to maximize CSPAP effectiveness. Moreover, the sustainability of multicomponent interventions, or of existing CSPAPs, has received little investigative attention. The architecture of a CSPAP must be designed for durability.

It is unlikely that a “silver bullet” approach to school-based PA promotion exists, which can be applied with consistent success in all schools. Whereas some schools will be able to capitalize on the passion and resourcefulness of a PE specialist to champion a CSPAP, others may need to identify a different person in the school community for this role (Langille & Rodgers, 2010), such as a motivated classroom teacher, school principal, or parent. Not all schools even have a resident PE specialist; indeed, several states do not require everyone who teaches PE to be certified/licensed in the subject (NASPE, 2012).

It is greatly acknowledged that a quality PE program is the foundation of a CSPAP (CDC, 2013; IOM, 2013; NASPE, 2008a). Quality PE is characterized by numerous attributes, such as developmental appropriateness; attention to psychomotor, cognitive, and affective learning; use of assessment to inform instruction; and the provision of opportunities for students to be moderately-to-vigorously active at least 50% of the time during scheduled classes (IOM, 2013). Unfortunately, little evidence is available to suggest that these characteristics are common among PE programs. In most studies, for instance, students were engaged in moderate-to-vigorous PA well under 50% of the time during PE lessons (Fairclough & Stratton, 2005, 2006). PE teachers who wish to expand their influence in the school community must first work to ensure their own programs meet quality benchmarks. School principals, other teachers, parents, and other potential stakeholders in school-/community-wide PA programming may place little trust in or want to invest any effort or resources to support the ideas and initiatives of a PE teacher whose own program fails to meet high standards. Gradual implementation of full CSPAPs, beginning with strong PE programs and leading in small steps to additional PA opportunities within the school, the community, and students’ home environments, may promote greater sustainability than attempting to generate all components simultaneously (Centeio, Castelli, Carson, Beighle, & Glowacki, 2014; Mosier & Heidorn, 2013).

With rapidly increasing attention to CSPAPs as a viable path toward more active schools and a healthier society, conceptualization of approaches aimed at long-term outcomes should be prioritized. Expanded solutions encompassing every resource available to schools should be considered. Both internal and external variables must be carefully examined to identify modifiable levers for PA promotion. This article builds on conceptualizations of CSPAP implementation for research and practice (e.g., Carson, Castelli et al., 2014) by (a) considering expectations that may need to be met for current recommendations to find footing in schools and (b) proposing strategies to expand the support structure for CSPAPs. The proposed strategies (i.e., CBPR, CoPs, and SL) are designed to increase the internal leverage of schools (provided by the CSPAP champion and others in the school community) by tapping into locally situated knowledge and harnessing the human resources of the university system and other community-based partners. These strategies will strengthen the ability of schools to grow and sustain comprehensive and coordinated approaches to PA promotion.
References


Comprehensive School Physical Activity Programs


