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Staff Involvement and Family and Community Engagement

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In the United States, a comprehensive school physical activity program (CSPAP) is conceptualized as a multicomponent approach to supporting the quality physical education and physical activity (PA) needs of school-aged youth (SHAPE America – Society of Health and Physical Educators America, 2015). This approach, which the Centers for Disease Control and Prevention (CDC, 2019) uses as the national framework for school-based physical education and PA, should invariably include a strong, standards-based, quality physical education program as the foundational component (SHAPE America, 2015; Webster, Rink, et al., 2020). Additional components of a CSPAP involve opportunities to increase students' experiences engaging in PA before, during and after school, as well as the support of school staff, families and communities in implementing the program.

Physical educators have a vested interest in ensuring that supplemental PA experiences beyond physical education lessons aid students in developing the knowledge, skills and dispositions that align with a school's quality physical education program. Other members of a school community, such as classroom teachers, administrators and parents, might primarily view a CSPAP as a vehicle to foster students' learning in academic subjects such as math, language arts and science. For public health professionals, a likely priority for CSPAP implementation is increasing the chances that each child and adolescent accumulates at least 60 min of mostly moderate to vigorous PA each day, in line with national guidelines (U.S. Department of Health and Human Services, 2018). The recent rise in attention to

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students' mental health and social—emotional learning may garner further interest in CSPAPs among professionals in a range of fields. Designed appropriately, CSPAPs could have the potential to serve the interests and agendas of all the abovementioned educational allies (Webster, Rink, et al., 2020).

This article focuses on the support system needed to maximize the potential of a CSPAP to fulfill the desired outcomes of its school community. Two components of the CSPAP framework — staff involvement (SI) and family and community engagement (FCE) — comprise this system (SHAPE America, 2015; Webster, Rink, et al., 2020). SI encompasses staff wellness programming and the promotion of students' PA by staff who support a CSPAP (Webster, Weaver, et al., 2020). The FCE component focuses on home and community settings and the resources within these contexts as levers for PA promotion (Welk & Lee, 2020). Overall, these two CSPAP components embody the essence of the framework because they generate the coordination and synergy, both during and outside of school operational hours, needed for a successful program. Such attributes are the hallmark of multicomponent approaches to school-based health promotion (Rasberry et al., 2015).

In this article, we address the question, "What does it take to galvanize staff, families and communities in a collective effort to bolster quality physical education and promote and increase youth PA?" To do this, we first summarize the research on SI and FCE that has been published in the past decade as a follow up to the last *JOPERD* special feature on CSPAPs in 2012. Then, we consider the implications of this research for professional practice. Our priority audience is PA leaders (PALs), which for the purposes of this article include anyone who takes on leadership roles with respect to school-based or school-connected PA promotion. Though such individuals often may be physical education teachers, others within a school community (e.g., classroom teachers, school administrators, school nurses, parents) may also choose, or be called upon, to lead PA promotion efforts in various CSPAP contexts. A secondary focus in this article is SI and FCE research specific to the context of physical education teacher education (PETE) and suggestions for how teacher educators might translate this research into actionable strategies for the professional preparation of preservice teachers.

Research and Key Findings From the Past Decade

This section of our article provides an overview of the research on these two CSPAP components since 2012. The previous *JOPERD* special feature on CSPAPs included excellent articles by Heidorn and Centeio (2012) and Cipriani et al. (2012) that focused on SI and FCE, respectively. Like the approach taken in those articles, our intent is not to comprehensively review the literature that has been published in the last decade but rather to highlight key findings from the research that have significantly advanced the knowledge base on SI and FCE and are most helpful in informing PALs in their efforts to implement and sustain CSPAPs.

Research on Staff Involvement.

In the context of a CSPAP, the term *staff* applies to a wide range of individuals who work in settings promoting the PA of children and adolescents. These individuals may include school

employees (e.g., physical education teachers, classroom teachers, school administrators) and staff who work in other organizations and programs, such as community recreation centers and after-school programs. The SI component of a CSPAP is divided into two parts: (a) staff wellness and (b) PA promotion by staff. Therefore, we have organized our overview of SI research based on these two distinct areas of focus.

Staff Wellness.

Wellness opportunities for staff can range from single events (e.g., a schoolwide walkathon) to regularly scheduled programming and from one area of focus (e.g., PA, nutrition, mental health) to more holistic initiatives (e.g., addressing overall wellness). Studies published in the last 10 years suggest that staff wellness may be fundamental to the success of a CSPAP (Pulling Kuhn, Kim, et al., 2021; Webster, Buchan, et al., 2015). Webster, Buchan, et al. (2015) surveyed 213 elementary class-room teachers in South Carolina and found that self-reported PA over the past 7 days directly predicted the teachers' perceived competence to promote classroom-based PA, which in turn directly predicted self-reported PA promotion. Additionally, Pulling Kuhn, Kim, and colleagues (2021) demonstrated links between personal PA, weight status and PA promotion practices in a study with 288 teachers (classroom and special area) and teaching assistants in a Mid-Atlantic state. Results showed that a higher level of accelerometer-measured moderate to vigorous PA across 24h for up to 7 days was positively associated with teachers' PA promotion practices (e.g., PA role modeling, providing in-class movement breaks, rewarding students with extra PA). Furthermore, an obese weight status was negatively associated with PA promotion. Wellness profiles and habits of school employees may therefore play an important role in nurturing these individuals' PA promotion behaviors.

There is a dearth of evidence-based approaches to supporting staff wellness in the school environment, and the last 10 years have seen little growth in this area of CSPAP research (Webster, Weaver, et al., 2020). Supports that are currently in place for school employee wellness are limited nationally (CDC, 2016). For instance, only 30.6% of school districts require each school to have someone to oversee or coordinate employee wellness programs, and only 27.8% of districts provide funding for incentives for employee participation or goal achievement in wellness programs. Though there has been an upward trend over the past decade in the number of districts that have such policies in place, little is known about the impact of these policies on staff wellness.

Studies of worksite wellness initiatives outside the school setting are more common in the literature (Webster, Weaver, et al., 2020). Based on these studies, characteristics of successful programs include (a) a focus on self-management strategies, (b) health screening with personalized feedback, (c) administrator support, (d) a program champion, (e) social support, (f) incentives or other strategies to increase participation, (g) the incorporation of multiple aspects of wellness, (h) aligning program goals with organizational priorities, and (i) program monitoring. Yet, mixed results from various evaluations of staff wellness programs in schools and other workplaces underscore the need for further research to better understand relationships between program attributes, worksite contexts and desired outcomes, such as employee heath, absenteeism, job tenure and job performance. For

example, in an early study of an intervention for school employees, Blair et al. (1986) reported decreased absenteeism for school staff who participated in a 10-week wellness program, whereas Song and Baicker (2019) more recently found no changes in absenteeism across an 18-month wellness intervention with employees at a large warehouse retail company.

PA Promotion by Staff.

Offering an operational definition of PA promotion by staff is an unwieldy challenge, because an extensive assortment of practices and behaviors (e.g., creating PA opportunities, directing PA opportunities, role modeling PA) can be used to describe such promotion. Essentially, the focus within the CSPAP framework addresses the myriad of ways staff positively contribute to building and sustaining a CSPAP. Research on PA promotion by staff has progressed at a more accelerated pace than research on staff wellness over the past 10 years (Webster, Weaver, et al., 2020). Significant advances in the research on PA promotion by staff include evaluations of staff trainings to implement CSPAPs, new measurement tools to conceptualize and assess PA promotion, and appraisals of key factors that may influence PA promotion. Most investigative attention has been directed toward physical education teachers, classroom teachers, school administrators and after-school program staff.

Physical education teachers are often considered the ideal group of individuals to lead CSPAPs. Centeio et al. (2014) conducted a study with 10 physical education teachers who volunteered to complete a 1-year CSPAP training and implementation period. The results indicated that, overall, the teachers had positive perceptions and experiences related to CSPAP implementation. However, given the small convenience sample used in the study, the findings do not necessarily generalize to all physical education teachers. The authors mentioned that 40 additional teachers participated in the initial CSPAP training experience but did not continue with subsequent training activities during the year. Moreover, in evaluations of subsequent iterations of the training, approximately 30% to 40% of physical education teachers who started the training finished all training activities (Carson et al., 2014; Carson et al., 2020). Data from these studies highlight the importance of having support from other teachers and school administrators when implementing CSPAPs, customizing CSPAPs to different school contexts, and designing CSPAP trainings that incorporate strategies that address perceived barriers to implementation and capitalize on existing assets.



Other research with physical education teachers in the past decade is based on the application, adaptation or development of measurement tools to address novel research questions about factors that may influence CSPAP implementation and practices that enhance PA promotion. Using questionnaires to assess psychosocial variables, Pulling Kuhn, Carson, et al. (2021) found that physical education teachers who participated in a CSPAP professional development initiative reported higher affective commitment to their role as PALs. In turn, this commitment was positively associated with the teachers' degree of before-school PA involvement. Webster, Mîndrilă, et al. (2020b) developed a new survey, based on the diffusion of innovations theory (Rogers, 1995, 2002), to examine a national sample of physical education teachers' perceived attributes of CSPAPs. The diffusion of innovations theory (Rogers, 1995) posits that perceived attributes of an innovation, such as a CSPAP, are important predictors of the rate at which people adopt the innovation. Results showed strong relationships between perceptions of compatibility (e.g., how compatible the teacher's skills with a CSPAP are), simplicity (e.g., how simple the process of implementing a CSPAP is) and relative advantage (e.g., how advantageous implementing a CSPAP would be). This finding indicates that teachers may view these attributes as inter-connected, appraising each attribute in relation to the others. Another key finding from the study was that compared to teachers in schools without a CSPAP, teachers in schools with a CSPAP rated the program higher on "simplicity" and lower on "trialability," possibly suggesting that successful implementation requires careful planning, coordination and synergy among multiple entities from the outset. Webster, Mîndril et al. (2020a) conducted a separate study with the same sample of physical education teachers and found that only 38%, 29% and 18% of participants reported playing a leadership role in PA opportunities before or after school, supporting SI in PA programming, and promoting FCE in PA, respectively. Teachers were more likely to be innovative in reference to CSPAPs when they perceived higher levels of school support for the program, received CSPAP training, and felt knowledgeable about CSPAPs. Regarding practices that enhance PA promotion, Weaver and colleagues (2016) modified the well-established System for Observing Fitness Instruction Time (SOFIT) tool to capture a broader range of teacher behaviors (e.g., avoiding waiting activities and elimination games, keeping students on task, assigning partner activities) that increase the amount of time students spend in moderate to vigorous PA during physical education

lessons. The modified tool (SOFIT+) provides an expanded set of clear competencies that should be prioritized in preservice and inservice teacher education to help ensure that students stay as physically active as possible in physical education.

Beyond building the knowledge base pertaining to physical education teachers as PALs, the last 10years of CSPAP research has also enriched the field's understanding of classroom teachers, school administrators and after-school program staff as essential aids in program implementation. The majority of research on PA promotion by staff concentrates on elementary classroom teachers (Mulhearn et al., 2020). Theoretically based studies support the relevance of social learning (e.g., satisfaction with personal experiences in K-12 physical education, perceived competence), perceived attributes (e.g., compatibility, relative advantage), social-ecological perspectives (e.g., policy awareness, organizational support) and autonomous motivation in explaining teachers' PA promotion (Egan & Webster, 2018). It is now well established that classroom teachers generally view PA promotion in a positive light, but many perceive barriers to integrating PA opportunities during normal classroom time (Webster, Russ et al., 2015). Barriers are mainly intrapersonal (e.g., perceptions, beliefs) and institutional (e.g., school resources, administrative support) in nature (Michael, Webster, Egan, et al., 2019). To reduce perceived barriers, systematic observation research generated a veritable menu of activity-promoting options for classroom teachers (Russ et al., 2017), which can be organized into a progression framework for teacher training purposes (Moon & Webster, 2019). Additionally, a study with a national sample of teachers found that participants were more likely to use available resources for classroom PA promotion if the resources connect with the academic curriculum, require limited time for teacher training (ideally, no more than an hour), are accompanied by a guidebook or training manual, and are incorporated in professional development held prior to the start of the school year (as opposed to during the year; Webster, Starrett et al., 2020). Despite these advances in research on classroom teachers, much remains relatively unexplored, such as movement integration in secondary school classrooms and teachers' PA promotion in other relevant CSPAP contexts (e.g., recess, students' home environments). Furthermore, little research has addressed whether positive changes in classroom teachers' PA promotion are sustainable following professional development and other kinds of support. A recent conference presentation provides initial insights into this matter, showing that 3 years after an intervention, individual (e.g., personal beliefs and values) and organizational factors (e.g., school-based resources and support) were most important in teachers' continued use of PA breaks (Mason et al., 2021).

CSPAP research on school administrators is not as well developed as research on classroom teachers. At a minimum, administrators who may be important to CSPAP implementation include leadership/management at the school level (e.g., principals, assistant principals), district level (e.g., district superintendents, subject area coordinators) and state level (e.g., state superintendent). Principal support is a significant predictor of CSPAP implementation (J. A. Lee & Welk, 2021). Like classroom teachers, principals view youth PA positively but may perceive barriers to providing PA opportunities beyond physical education, such as the amount of time needed (Goh et al., 2019; Van den Berg, 2017). Furthermore, similar to research on classroom teachers, studies with a national sample of K–12 principals found that social–ecological factors (particularly expectations about program outcomes) and

satisfaction with personal experiences in school physical education were key predictors of principals' CSPAP involvement (Orendorff et al., 2021; Orendorff et al., 2022). Conceptual contributions regarding administrators' involvement are present in the recent literature, as well. The study by Orendorff et al. (2021) includes the development of a new survey measure to assess principals' CSPAP involvement, and Webster, Glascoe et al. (2020) conducted a scoping review to thematically categorize published recommendations for administrators' involvement in school-based health promotion. Together, these studies highlight key roles administrators might play in CSPAPs, such as being involved with planning and evaluation, attending and participating in professional development, allocating funding and other resources, and being a physically active role model.

In alignment with school employees, many staff in after-school programs exhibit positive attitudes toward the importance of PA for children and adolescents but acknowledge that barriers to PA promotion exist (Webster, Weaver, et al., 2020). These include high rates of staff turnover, low PA promotion competency among staff, limited professional development focused on PA promotion, and other program goals being given more priority than PA. Trainings that provide staff with strategies and skills for PA promotion can be effective at increasing the amount of program time youth spend in PA (Beets et al., 2016). Examples of key strategies and skills include scheduling PA opportunities and using the LET US Play principles when leading activities. LET US is an acronym that stands for lines (avoid making children wait in lines), *elimination* (avoid playing elimination games), *team* size (use smallsided teams), uninvolved staff (be highly engaged during activities), and space, equipment and other resources (maximize use of all available resources; Weaver et al., 2013). These principles, which are also built into the PA promotion competencies of the previously mentioned SOFIT + tool (Weaver et al., 2016), serve as the basis for the development of new measurement techniques to systematically observe the different ways in which after-school program staff can keep children physically active (Weaver et al., 2014).

PETE-Based Research.

As with SI research conducted in the K–12 school setting, SI research in the context of PETE programs largely centers on the role of elementary classroom teachers in supporting CSPAPs. Studies with preservice classroom teachers have drawn upon multiple theoretical perspectives to examine what and how participants learn while enrolled in university coursework that includes a focus on classroom-based PA (Goh et al., 2013; J. Lee et al., 2021; Michael et al., 2018; Michael, Webster, Nilges, et al., 2019; Webster et al., 2019). Findings highlight the importance of addressing perceived barriers and spotlighting the benefits of classroom-based PA, as well as providing opportunities for detailed planning, peer interactions, group-based learning, practical experiences (e.g., service-learning in schools) and self-monitoring of life-style choices (e.g., engaging in PA) in fostering positive beliefs and supporting skill development related to promoting PA. Research with preservice physical education teachers further underscores the need to incorporate applied learning experiences that develop candidates' CSPAP planning and implementation skills (Kwon et al., 2018; Webster et al., 2017). At present, a focus on preparing future school administrators for CSPAP roles is lacking in the research literature.

Research on Family and Community Engagement.

Multicomponent interventions to increase total daily PA of youth often have incorporated a focus on FCE, but intervention effectiveness has been negligible (Russ et al., 2015). Overall, there is a paucity of CSPAP research on FCE (McMullen et al., 2020). Possibilities for research in this arena cover a broad swath of contexts spanning children's homes, neighborhood environments, parks and green space, community organizations, institutions of higher education, government agencies, and other entities with connections to schools. The current coronavirus pandemic has punctuated the need to learn more about how to use family and community resources as levers to support quality physical education and PA (Webster, D'Agostino et al., 2021).

A clear link exists between family culture (e.g., beliefs and practices) and youth PA (Welk & Lee, 2020). However, relatively little is known about leveraging PA promotion within the family context. Recent research on family engagement in promoting CSPAPs centers on parents. In a national survey, 87% of parents believed schools have a responsibility to equally develop students' physical, academic and social—emotional learning (Active Schools, 2019). Data from the same survey were used to examine different types of engagement in PA promotion by parents (Webster, McLoughlin et al., 2021). Two types of engagement were identified: advocacy (e.g., communication with school administrators) and involvement (e.g., volunteering and participating in school-based PA programming). Results also showed that parents' attitudes about before- and after-school PA predicted both types of PA promotion. This finding suggests that parents who have positive feelings about a before- or after-school PA program would be more likely to advocate for, and be involved in, a CSPAP. Therefore, increasing parents' buy-in for CSPAPs may start with building strong before- and after-school PA programs.



From its conceptualization as a research construct to an established set of evidence-based recommendations for implementation, research on community engagement specific to CSPAPs is still in its infancy. Webster, Beets et al. (2015) proposed a partnership model for implementing and sustaining CSPAPs, identifying community-based participatory research, communities of practice and university service learning as key levers of support beyond

school-based resources. Research based on this model has shown that such levers can be effective at increasing children's PA during school (Weaver et al., 2018) and can lead to positive experiences for both preservice and inservice teachers (Goh & Scrabis-Fletcher, 2019; Michael et al., 2018). Another example of a community engagement approach in CSPAP research is the School Wellness Integration Targeting Child Health (SWITCH®) project, which incorporates external support of community-based staff in implementing and sustaining school-based wellness opportunities including PA for youth. External support is flexible, based on varying needs of different schools, and can range from providing advice to directly assisting with special events. Although elements of the project have evolved over time, the overall approach has been to build schools' capacities for wellness programming. Evaluation studies have demonstrated benefits for both school staff and school community partners (McLoughlin, Candal et al., 2020; McLoughlin et al., 2021).

PETE-Based Research.

Research related to preparing preservice educators for supporting or increasing FCE is limited. Webster et al. (2017) conducted a study with 17 preservice physical education teachers and found that they enjoyed receiving positive feedback from parents and community organizations when implementing CSPAP service-learning assignments. Participants stressed the importance of building rapport with parents and community members to increase buy-in from these PA promotion allies. Group-based planning, planning for contingencies, and developing an understanding of the implementation context also emerged as key strategies to facilitate success in providing PA opportunities within real-world settings.

Translating Research for Professional Practice

Implications for the professional practices of PALs, aligned with the goal of more fully leveraging the CSPAP support system (i.e., SI and FCE) to achieve program goals, can be gleaned from the research presented in the previous section of this article. These implications are listed below and are summarized with accompanying suggested resources in Table 1.

Implications for Staff Wellness

- Pre-assess and regularly monitor staff wellness profiles (e.g., physical health, mental health) and habits (e.g., PA behavior, diet) as part of staff wellness programming.
- Emphasize PA opportunities in staff wellness initiatives. Explore existing resources, such as those made available through employer health insurance programs.
- Tailor wellness programming to the school context (e.g., identified needs of staff, available resources, scheduling constraints) and desired outcomes.

Implications for PA Promotion by Staff

• Build physical education teachers' affective commitment to PA leadership. One way to do this is to highlight key attributes of CSPAPs (compatibility, simplicity and relative advantage) and explain how these attributes are connected. For instance, CSPAPs build on teachers' existing professional skills, which facilitates program implementation and enhances numerous health and educational outcomes for students.

- Initiate a CSPAP with a strong plan that addresses coordination and synergy among various supporters. Gaining as much support as possible from multiple entities at the outset may reduce the burden placed on any single individual serving in the role as school PA leader.
- Prior to the start of the school year, provide classroom teachers with professional development for PA promotion. Explain what makes a physical education program essential in schools and what constitutes quality physical education. Highlight the attributes of a CSPAP, outline the related benefits for students/ teachers/community, and address overcoming possible barriers to classroom movement integration. Make teachers aware of their movement integration options and present the options as a progression (Moon & Webster, 2019). Give teachers PA promotion resources that connect with the academic curriculum, require limited training, and are accompanied by a guide/training manual.
- When communicating with administrators, emphasize the positive outcomes of a CSPAP. Educate them about the unique value of quality physical education in students' learning and why a schoolwide approach to PA promotion is critical to whole-child development and the social—emotional climate. Embed education and support for administrators in CSPAP professional development initiatives and include specific ways administrators can be involved in CSPAPs.
- Incorporate PA opportunities in after-school program schedules and train program staff to use the LET US Play principles (Weaver et al., 2013).

Implications for FCE

- Explain the importance of a CSPAP to parents, focusing on the need for
 opportunities before and after school to supplement what can be provided
 during school hours. The need for such opportunities may be pronounced during
 interruptions in school operations (e.g., during a pandemic).
- Partner with universities when possible to gain access to faculty and students whose work connects with school systems. Partnerships may involve participating as a school-based colleague in CSPAP-promoting research projects, helping to build communities of practice to support CSPAP implementation, or hosting university students doing service-learning projects that can support the achievement of CSPAP goals.
- Partner with other community-based entities to build capacity for CSPAP implementation and sustainability. For example, PALs might partner with

local government, city planning groups and community design professionals to improve safety and accessibility for PA participation through changes in the built environment. Ensure external support is flexible and adaptable to the specific needs of your school.

Implications for Teacher Educators

- Engage preservice classroom teachers in self-monitoring their personal health behaviors and stress the importance of being a healthy role model for students.
 Assign a weekly journal for candidates to record their health-related activities, including their daily PA participation.
- Provide opportunities for preservice physical education and classroom teachers
 to engage in group planning and discussion related to implementing CSPAP
 opportunities in local schools and communities. Ensure candidates plan for
 contingencies. Group planning experiences should be designed to build the
 skills needed for collaboration and synergy among school professionals when
 preparing to implement a CSPAP.
- Incorporate CSPAP-aligned field experiences beyond physical education for preservice physical education and classroom teachers. Include regularly scheduled and extended opportunities at field sites for candidates to get to know implementation contexts and build relationships with school and community partners. Have candidates actively reflect on their field experiences, particularly focusing on overcoming perceived barriers and optimizing benefits of a CSPAP for students, teachers, parents and community allies.

Conclusion

The last decade of CSPAP research reflects a stronger commitment to understanding SI than FCE. Nevertheless, studies focusing on each of these components offer important lessons for PALs. We hope that this article helps all CSPAP facilitators to better understand the developing knowledge base and how it can be used to guide next steps in program planning, implementation and sustainability. We also look forward to a future, possibly in the next 10years, in which further research will sufficiently enhance the translatability of scientific evidence for all local, state and national CSPAP efforts to succeed at scale.

References

Active Schools. (2019). The movement disparity: Parent and principal perspectives on physical activity in schools Action for Health Kids.

Beets MW, Weaver RG, Turner-McGrievy G, Huberty J, Ward DS, Pate RR, Freedman D, Hutto B, Moore JB, Bottai M, Chandler J, Brazendale K, & Beighle A (2016). Physical activity outcomes in afterschool programs: A group randomized controlled trial. Preventive Medicine, 90, 207–215. 10.1016/j.ypmed.2016.07.002 [PubMed: 27397608]

Blair SN, Smith M, Collingwood TR, Reynolds R, Prentice MC, & Sterling CL (1986). Health promotion for educators: Impact on absenteeism. Preventive Medicine, 15(2), 166–175. 10.1016/0091-7435(86)90086-1 [PubMed: 3714669]

Carson RL, Castelli DM, Pulling Kuhn AC, Moore JB, Beets MW, Beighle A, Aija R, Calvert HG, & Glowacki EM (2014). Impact of trained champions of comprehensive school physical activity

- programs on school physical activity offerings, youth physical activity and sedentary behaviors. Preventive Medicine, 69, S12–S19. 10.1016/j.ypmed.2014.08.025 [PubMed: 25158209]
- Carson RL, Pulling Kuhn A, Moore JB, Castelli DM, Beighle A, Hodgin KL, & Dauenhauer B (2020). Implementation evaluation of a professional development program for comprehensive school physical activity leaders. Preventive Medicine Reports, 19, 101109. 10.1016/j.pmedr.2020.101109 [PubMed: 32489771]
- Centeio EE, Erwin H, & Castelli DM (2014). Comprehensive school physical activity programs: Characteristics of trained teachers. Journal of Teaching in Physical Education, 33(4), 492–510. 10.1123/jtpe.2014-0066
- Centers for Disease Control and Prevention. (2016). Results from the School Health Policies and Practices Study (SHHPS) 2016 US Department of Health and Human Services.
- Centers for Disease Control and Prevention. (2019). Increasing physical education and physical activity: A framework for schools US Department of Health and Human Services.
- Cipriani K, Richardson C, & Roberts G (2012). Family and community involvement in the comprehensive school physical activity program. Journal of Physical Education, Recreation & Dance, 83(7), 20–26. 10.1080/07303084.2012.10598807
- Egan CA, & Webster CA (2018). Using theory to support classroom teachers as physical activity promoters. Journal of Physical Education, Recreation & Dance, 89(1), 23–29. 10.1080/07303084.2017.1390510
- Goh TL, Hannon JC, Newton M, Webster C, Podlog L, & Pillow W (2013). I'll squeeze it in: Transforming preservice classroom teachers' perceptions toward movement integration in schools. Action in Teacher Education, 35(4), 286–300. 10.1080/01626620.2013.827600
- Goh TL, & Scrabis-Fletcher K (2019). Community of practice: Preparing preservice teachers to lead movement integration in a school-university partnered program. Journal of Teaching in Physical Education, 40(1), 1–9. 10.1123/jtpe.2019-0004.
- Goh TL, Webster CA, Hannon J, & Brusseau T (2019). Infusing physical activity leadership training in PETE programs through university-school partnership: Principals' and graduate students' experiences. The Physical Educator, 76(1), 238–257. 10.18666/TPE-2019-V76-I1-8725
- Gutermuth LK, Hager ER, & Porter KP (2018). Using the CDC's Worksite Health ScoreCard as a framework to examine worksite health promotion and physical activity. Preventing Chronic Disease, 15, Article 170463. 10.5888/pcd15.170463
- Heidorn B, & Centeio E (2012). The director of physical activity and staff involvement. Journal of Physical Education, Recreation & Dance, 83(7), 13–26. 10.1080/07303084.2012.10598806
- Kwon JY, Kulinna PH, van der Mars H, Koro-Ljungberg M, Amrein-Beardsley A, & Norris J (2018). Physical education preservice teachers' perceptions about preparation for comprehensive school physical activity programs. Research Quarterly for Exercise and Sport, 89(2), 221–234. 10.1080/02701367.2018.1443196 [PubMed: 29617212]
- Lee J, Zhang T, Zhang X, Chu TL(A), & Weiller-Abels KH (2021). Preservice classroom teachers' perspectives on a comprehensive school physical activity programme. Health Education Journal, 80(2), 145–159. 10.1177/0017896920958047
- Lee JA, & Welk GJ (2021). Association between comprehensive school physical activity implementation and principal support. Health Promotion Practice, 22(2), 257–265. 10.1177/1524839919862767 [PubMed: 31315464]
- Mason A, Yu H, Mulhearn SC, Griffo JM, Kulinna P, & Parmar R (2021). Ecological factors and sustainability of comprehensive school PA programs [Paper presentation] Poster Presentation at the SHAPE America National Convention (Virtual Conference), April).
- McLoughlin GM, Candal P, Vazou S, Lee JA, Dzewaltowski DA, Rosenkranz RR, ... Welk GJ (2020). Evaluating the implementation of the SWITCH school wellness intervention and capacity-building process through multiple methods. International Journal of Nutrition and Physical Activity, 17, 162. 10.1186/s12966-020-01070-y.
- McLoughlin GM, Vazou S, Liechty L, Torbert A, Lanningham-Foster L, Rosenkranz RR, & Welk GJ (2021). Transdisciplinary approaches for the dissemination of the SWITCH school wellness initiative through a distributed 4-H/Extension network. Child & Youth Care Forum, 50(1), 99–120. 10.1007/s10566-020-09556-3

McMullen JM, George M, Ingman BC, Pulling Kuhn A, Graham DJ, & Carson RL (2020). A systematic review of community engagement outcomes research in school-based health interventions. Journal of School Health, 90(12), 985–994. 10.1111/josh.12962 [PubMed: 33184891]

- Michael RD, Webster CA, Egan CA, Nilges L, Brian A, Johnson R, & Carson RL (2019). Facilitators and barriers to movement integration in elementary school classrooms: A systematic review. Research Quarterly for Exercise and Sport, 90(2), 151–162. 10.1080/02701367.2019.1571675 [PubMed: 30794089]
- Michael RD, Webster CA, Egan CA, Stewart G, Nilges L, Brian A, Johnson R, Carson R, Orendorff K, & Vazou S (2018). Viability of university service learning to support movement integration in elementary classrooms: Perspectives of teachers, university students, and course instructors. Teaching and Teacher Education, 72, 122–132. 10.1016/j.tate.2018.03.003
- Michael RD, Webster CA, Nilges L, Brian A, Johnson R, Carson R, & Egan CA (2019). An online course to prepare preservice teachers to promote movement integration. American Journal of Distance Education, 33(1), 59–70. 10.1080/08923647.2019.1555408
- Moon J, & Webster CA (2019). MI (my) Wheelhouse: A movement integration progression framework for classroom teachers. Journal of Physical Education, Recreation & Dance, 90(7), 38–45. 10.1080/07303084.2019.1644258
- Mulhearn S, Kulinna P, & Webster CA (2020). Stakeholders' perceptions of implementation of a comprehensive school physical activity program: A review. Kinesiology Review, 9(2), 159–169. 10.1123/kr.2019-0045
- Orendorff K, Webster CA, Mîndrila D, Cunningham KM, Doutis P, Dauenhauer B, & Stodden DF (2021). Principals involvement in comprehensive school physical activity programs: A social-ecological perspective. European Physical Education Review, 27(3), 574–594. 10.1177/1356336X20976687
- Orendorff K, Webster CA, Mindrila D, Cunningham KMW, Doutis P, Dauenhauer B, & Stodden DF (2022). Social-ecological and biographical perspectives of principals' involvement in comprehensive school physical activity programs: A person-centered analysis. Physical Education and Sport Pedagogy Advance online publication. 10.1080/17408989.2022.2039610
- Pulling Kuhn A, Carson RL, Beighle A, & Castelli DM (2021). Changes in psychosocial perspectives among physical activity leaders: Teacher efficacy, work engagement, and affective commitment. Journal of Teaching in Physical Education, 40(3), 484–492. 10.1123/jtpe.2019-0274
- Pulling Kuhn A, Kim E, Lane HG, Wang Y, Deitch R, Turner L, Hager ER, & Parker EA (2021). Associations between elementary and middle school teachers' classroom physical activity practices and teacher- and school-level factors. International Journal of Behavioral Nutrition and Physical Activity, 18(1), Article 66. 10.1186/s12966-021-01129-4 [PubMed: 34011376]
- Rasberry CN, Slade S, Lohrmann DK, & Valois RF (2015). Lessons learned from the Whole Child and Coordinated School Health approaches. Journal of School Health, 85(11), 759–765. 10.1111/ josh.12307 [PubMed: 26440817]
- Rogers EM (1995). Diffusion of innovations (4th ed.). The Free Press.
- Rogers EM (2002). Diffusion of innovations (5th ed.). The Free Press.
- Russ LB, Webster CA, Beets MW, Egan CA, Weaver RG, Harvey R, & Phillips DS (2017). Development of the System for Observing Student Movement in Academic Routines and Transitions (SOSMART). Health Education & Behavior, 44(2), 304–315. 10.1177/1090198116657778 [PubMed: 27486179]
- Russ LB, Webster CA, Beets MW, & Phillips DS (2015). Systematic review and meta-analysis of multicomponent interventions through schools to increase physical activity. Journal of Physical Activity and Health, 12(10), 1436–1446. 10.1123/jpah.2014-0244 [PubMed: 25599111]
- SHAPE America Society of Health and Physical Educators America. (2015). Comprehensive school physical activity programs: Helping all students log 60 minutes of physical activity each day [position statement]
- Song Z, & Baicker K (2019). Effect of a workplace wellness program on employee health and economic outcomes: A randomized clinical trial. JAMA, 321(15), 1491–1501. 10.1001/jama.2019.3307 [PubMed: 30990549]

U.S. Department of Health and Human Services [USDHSS]. (2018). Physical activity guidelines for Americans (2nd ed.). US Department of Health and Human Services.

- Van den Berg V, Salimi R, de Groot RH, Jolles J, Chinapaw MJ, Singh AS (2017). It's a battle... you want to do it, but how will you get it done?": Teachers' and principals' perceptions of implementing additional physical activity in school for academic performance. International Journal of Environmental Research and Public Health, 14(10), 1160–1174. 10.3390/ijerph14101160 [PubMed: 28973967]
- Weaver RG, Beets MW, Webster C, & Huberty J (2014). System for Observing Staff Promotion of Activity and Nutrition (SOSPAN). Journal of Physical Activity and Health, 11(1), 173–185. 10.1123/jpah.2012-0007 [PubMed: 23359387]
- Weaver RG, Webster C, & Beets MW (2013). LET US Play: Maximizing physical activity in physical education. Strategies, 26(6), 33–37. 10.1080/08924562.2013.839518
- Weaver RG, Webster CA, Egan C, Campos CMC, Michael RD, & Vazou S (2018). Partnerships for Active Children in Elementary Schools: Outcomes of a 2-year pilot study to increase physical activity during the school day. American Journal of Health Promotion, 32(3), 621–630. 10.1177/0890117117707289 [PubMed: 28482678]
- Weaver RG, Webster CA, Erwin H, Beighle A, Beets MW, Choukroun H, & Kaysing N (2016). Modifying the system for observing fitness instruction time to measure teacher practices related to physical activity promotion: SOFIT+. Measurement in Physical Education and Exercise Science, 20(2), 121–130. 10.1080/1091367X.2016.1159208
- Webster CA, Beets MW, Weaver RG, Vazou S, & Russ L (2015). Rethinking recommendations for implementing comprehensive school physical activity programs: A partnership model. Quest, 67(2), 185–202. 10.1080/00336297.2015.1017588
- Webster CA, Buchan H, Perreault M, Doan R, Doutis P, & Weaver RG (2015). An exploratory study of elementary classroom teachers' physical activity promotion from a social learning perspective. Journal of Teaching in Physical Education, 34(3), 474–495. 10.1123/jtpe.2014-0075
- Webster CA, D'Agostino E, Urtel M, McMullen J, Culp B, Egan CA, & Killian C (2021). Physical education in the COVID era: Considerations for online program delivery using the comprehensive school physical activity program framework. Journal of Teaching in Physical Education, 40(2), 327–336. 10.1123/jtpe.2020-0182
- Webster CA, Glascoe G, Moore C, Dauenhauer B, Egan CA, Russ LB, Orendorff K, & Buschmeier C (2020). Recommendations for administrators' involvement in school-based health promotion: A scoping review. International Journal of Environmental Research and Public Health, 17(17), 6249. 10.3390/ijerph17176249 [PubMed: 32867355]
- Webster CA, McLoughlin G, Starrett A, Papa J, Erwin H, Reed JA, Carson RL, & Burgeson C (2021). Parents' perceptions and engagement regarding school-based physical activity promotion. American Journal of Health Promotion, 35(8), 1125–1128. 10.1177/08901171211020987 [PubMed: 34047206]
- Webster CA, Michael RD, Russ LB, & Egan CA (2019). Learning to integrate movement in elementary classrooms: Field experiences of preservice classroom teachers. The Physical Educator, 76(3), 726–755. 10.18666/TPE-2019-V76-I3-8753
- Webster CA, Mîndrilă D, Moore C, Stewart G, Orendorff K, & Taunton S (2020a). Exploring the role of physical education teachers' domain-specific innovativeness, educational background, and perceived school support in CSPAP adoption. Journal of Teaching in Physical Education, 39(1), 36–47. 10.1123/jtpe.2018-0313
- Webster CA, Mîndrilă D, Moore C, Stewart G, Orendorff K, & Taunton S (2020b). Measuring and comparing physical education teachers' perceived attributes of CSPAPs: An innovation adoption perspective. Journal of Teaching in Physical Education, 39(1), 78–90. 10.1123/jtpe.2018-0328
- Webster CA, Nesbitt D, Lee H, & Egan C (2017). Preservice physical education teachers' service learning experiences related to comprehensive school physical activity programming. Journal of Teaching in Physical Education, 36(4), 430–444. 10.1123/jtpe.2016-0191
- Webster CA, Rink JE, Carson RL, Moon J, & Gaudreault KL (2020). The CSPAP model: A proposed illustrative supplement to help move the needle on youth physical activity. Kinesiology Review, 9(2), 112–121. 10.1123/kr.2019-0048

Webster CA, Russ L, Vazou S, Goh TL, & Erwin H (2015). Integrating movement in academic classrooms: Understanding, applying and advancing the knowledge base. Obesity Reviews, 16(8), 691–701. 10.1111/obr.12285 [PubMed: 25904462]

- Webster CA, Starrett A, Rehling J, Chen B, Beets MW, & Weaver RG (2020). Understanding elementary classroom teachers' use of movement integration resources. Frontiers in Education, 5, Article 56. 10.3389/feduc.2020.00056 [PubMed: 35529897]
- Webster CA, Weaver RG, Carman M, Marcheschi L, Loulousis A, Vazou S, Goh TL, & Carson RL (2020). Staff involvement. In Carson RL & Webster CA, (Eds.), Comprehensive school physical activity programs: Putting research into evidence-based practice (pp. 127–142, 355–359). Human Kinetics.
- Welk GJ, & Lee JA (2020). Family and community engagement. In Carson RL & Webster CA, (Eds.), Comprehensive school physical activity programs: Putting research into evidence-based practice (pp. 143–155, 360–362). Human Kinetics.

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Table 1.

Evidence-Based Strategies to Professional Practice

Area of Focus	Strategies	Resources
SI Staff wellness	Pre-assess and regularly monitor staff wellness profiles Emphasize PA opportunities in staff wellness initiatives Tailor wellness programming to the school context Sustain staff wellness programs by establishing and implementing local school wellness policies	CDC's Worksite Health ScoreCard (Gutermuth et al., 2018) RMC Health Smart Guide — Employee Wellness (https://www.rmc.org/wp-content/uploads/2020/01/8-Employee-Wellness-Smart-Guide.pdf) Blueprint for School Employee Wellness (https://oeachoice.com/wp-content/uploads/2022/02/Blueprint-2-28-22_pdf) Alliance for a Healthier Generation (AHG) Employee Interest Survey (https://alliance for a Healthier Generation org/resource/83) AHG Evaluating Staff Well-Being and Job Satisfaction Across Your District (https://api.healthiergeneration.org/resource/703) AHG Employee Wellness Program Baseline Assessment (https://api.healthiergeneration.org/resource/147) AHG Employee Wellness Committee (https://api.healthiergeneration.org/resource/146) School Well-Being Champion Start-Up Kit (https://thrivingschools.kaiserpermanente.org/wp-content/uploads/2021/05/LMP_Wellbeing_Champion_Startup-Kit_School_2021.6-1.pdf) Model Local School Wellness Policy: Policy Guidance (https://api.healthiergeneration.org/resource/2)
PA promotion by staff	Build physical education teachers' affective commitment to PA leadership Initiate a CSPAP with a strong plan that addresses coordination and synergy among various supporters Prior to the start of the school year, provide classroom teachers with professional development for PA promotion Classroom physical activity integrated with academic resources: Energizers for Schools (https://www.eatsmartmovemorenc.com/resource/energizers-for-schools/ When communicating with administrators, emphasize the positive outcomes of a CSPAP Incorporate PA opportunities in after-school program schedules and train program staff to promote PA Classroom activity, recess, and after-school resources: Spark (https:// sparkpe.org/)	SHAPE America's Physical Activity Leader Learning System (https://www.shapeamerica.org/prodev/workshops/lmas/) Increasing Physical Education and Physical Activity: A Framework for Schools 2019 (https://www.cdc.gov/healthyschools/physicalactivity/pdf/2019_04_25_PE-PA-Framework_508tagged.pdf) Springboard to Active Schools: Classroom Physical Activity Ideas and Tips (https://schoolspringboard.org/wp-content/uploads/2020/10/Classroom-PA-Ideas-and-Tips_FINAL-201008.pdf) Provide Physical Activity Before and After School (https://schoolspringboard.org/wp-content/uploads/2021/02/PA-Before-and-After-School-Data-Brief_FINAL-210125.pdf)
FCE	Explain the importance of a CSPAP to parents Partner with universities when possible Partner with other community-based entities to build capacity for CSPAP implementation and sustainability	RMC Health Family Engagement (https://www.rmc.org/wp-content/uploads/2020/01/9-Family-Engagement-Smart-Guide.pdf) RMC Health Community Involvement (https://www.rmc.org/wp-content/uploads/2020/01/10-Community-Involvement-Smart-Guide.pdf) Joint Use Agreements (https://api.healthiergeneration.org/resource/53) Family Activity Tracker (https://api.healthiergeneration.org/resource/485)
Teacher	Engage preservice classroom teachers in self-monitoring their personal health behaviors Provide opportunities for preservice physical education and classroom teachers to engage in group planning for CSPAP implementation Incorporate CSPAP-aligned field experiences beyond physical education for preservice physical education and classroom teachers	Personal activity and fitness trackers (e.g., smart watches, smart phones) CDC CSPAP Planning Guide (Comprehensive School Physical Activity Programs: A Guide for Schools; cdc.gov) SHAPE America's CSPAP Guide Checklist (CSPAP Guide Checklist; shapeamerica.org) SHAPE America's Template for CSPAP Implementation Plan (Table 6. Template for CSPAP Implementation Plan; shapeamerica.org)