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Background and Implications*

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Volume 6, Issue 2, pp. 18-25 (2018)

To cite this article: Phelps, A. N. (2018). Comprehensive school physical activity programs: Background and implications. *Texas Education Review*, 6(2), 18-25. <http://hdl.handle.net/2152/68280>

Comprehensive School Physical Activity Programs: Background and Implications

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Recent estimates suggest that youth spend approximately 80-93% of their waking hours in a sedentary state, such as sitting or resting longer than usual (Institute of Medicine [IOM], 2013). Schools are conducive of this sedentary behavior and because of that, they have been identified as viable locations for children to be physically active. In order for schools to accommodate the daily physical activity guidelines for youth – 60 minutes or more of moderate-to-vigorous physical activity (MVPA) – the Centers for Disease Control and Prevention (CDC) has created a whole-of-school approach that aims to promote and achieve physical activity guidelines for youth throughout and beyond the school day. This whole-of-school approach, also known as a Comprehensive School Physical Activity Program (CSPAP), is a multi-component behavioral intervention that is typically set forth by the physical education teacher and serves as a framework to increase physical activity in and outside of the classroom. As part of this background, I will provide an overview of a CSPAP, discuss the inner workings of its components, and supply a brief overview of each of the four contributors for this critical issue.

Physical inactivity coupled with poor dietary habits can lead to a plethora of chronic diseases, such as obesity, Type II diabetes, and clogged arteries (National Center for Health Statistics, 2009). Physical activity (PA) behaviors in youth trickle over into adolescence and adulthood (Institute of Medicine [IOM], 2012). Therefore, it is imperative that reliable and effective physical activity interventions are set forth among youth to prevent the onset of such diseases. In 2013, the Centers for Disease Control and Prevention created a whole-of-school approach framework aimed to help youth to achieve the recommended physical activity guidelines of 60 minutes of moderate-to-vigorous physical activity per day. This whole-of-school approach is called a Comprehensive School Physical Activity Program (CSPAP). A CSPAP consists of five components that work individually or together to increase physical activity throughout and beyond the school day: quality physical education, physical activity during the school day, physical activity before and after school, staff involvement, and family and community engagement. Moving forward, it is worth mentioning that a CSPAP framework does not make room for physical education itself, rather it is implemented in addition to a school's physical education program and is mostly concentrated in elementary and middle school settings. This background will serve as a general overview of a CSPAP and its components and how it makes a difference in the physical activity behaviors of our youth. Also included in this piece is an overview of additional articles on the topic of physical education in schools also found in this forum of the *Texas Education Review*.

Background, Current Literature, and CSPAP Influence

As mentioned, CSPAPs contain five components, which will be detailed in the subsequent sections. It is important to note that the PE teacher is the main leader and delegator of a CSPAP, and it is their responsibility to gain support of and carry out this framework. Because of this added responsibility, the PE teacher takes on the role of physical activity leader (Prusak, Pennington, Graser, Beighle, & Morgan, 2010); this role will also be discussed in the following sections. First, quality physical education will be outlined.

Quality Physical Education

Quality physical education (QPE) serves as the cornerstone of a CSPAP and orchestrates the formalized educational experiences where PA knowledge is acquired. This platform can be used by the physical educator to promote PA in and outside of the school setting. Therefore, it is essential that students experience both positive and sufficient amounts of moderate-to-vigorous physical activity (MVPA) in physical education (PE). As a result, students may be more inclined to be physically active outside of school.

PE classes come in all different shapes and sizes, as a reflection of differing local and state policies surrounding its delivery. Researchers Starc and Strel (2012) identified five factors that can be attributed to a QPE program: time attributed to PA, availability of facilities and a variety of equipment, a student-centered curriculum, the student to teacher ratio, and teacher credibility. The way in which PA and PA knowledge are conveyed in PE depends upon the quality of curriculum implementation and instruction. Substantiated QPE programs contain the presence of a PE coordinator with a more defined role (i.e., physical activity leader [PAL]), PE-specific professional development opportunities, and university partnerships with physical education teacher education (PETE) programs (Prusak et al., 2010). However, students may not have daily PE due to state level policy and/or district level mandates, which may put youth at risk of developing sedentary lifestyles and potential chronic diseases (Strong et al., 2005). After all, research has revealed that students are more active on the days they have PE (20-34% increase in daily step count) compared to the days they do not (Alderman, Benham-Deal, Beighle, Erwin, & Olson, 2012). Overall, properly applied instructional strategies coupled with the appropriate MVPA interventions can lead to a 16% increase in PA during QPE (Fairclough & Stratton, 2005; McKenzie et al., 1996; McKenzie et al., 1997). A point to consider is that traditional PE (e.g., team sports or scattered curricula) may not provide students with the full 60-minute recommendation of MVPA a day (Erwin, Beighle, Carson, & Castelli, 2013). Along with the time attributed to PA and content knowledge in QPE, PA participation in alternative settings, such as before and after school, can support students to reach their daily PA recommendation.

Physical Activity During School

PA during school may consist of activity breaks that include a pause from prolonged sedentary behavior in the classroom (e.g., students stand up, move around the classroom, stretch), coordinated activities during passing periods (e.g., hopscotch from class to class), and/or structured recess (e.g., having recreational equipment available, sectioning off activity zones), all of which can be accomplished without interfering with teaching time.

In a study examining fitness breaks among fifth-grade students, Scruggs, Beveridge, and Watson (2003) found that students were significantly more active during their structured fitness breaks compared to their participation in traditional morning and lunch recess. Students wore heart rate monitors as well as pedometers to measure both their heart rate and step count. Findings from this study indicate that PA breaks in the classroom interrupt sedentary phases and that structured recess increases both student PA and intensity. Depending on how long PA breaks were, studies show that students achieve anywhere from 561 to 1,376 steps from one break (Erwin, Abel, Beighle, & Beets, 2009; Mahar et al., 2006; Stewart, Dennison, Kohl, & Doyle, 2004). Participation in such brief bouts of PA may account for 5-10% of the daily recommendation for youth (Erwin et al., 2013).

Aside from PA breaks, structured recess can serve as a strategy to increase PA, especially amongst females. Up to 44% of children's daily PA levels come from recess alone (Erwin, Beighle,

Morgan, & Noland, 2011; Sarkin, McKenzie, & Sallis, 1997). Males, on the other hand, tend to have higher step counts in PA during the discretionary or unstructured time (Beighle, Morgan, Le Masurier, & Pangrazi, 2006).

Organized recess may include setting up activity zones, where students can play structured games such as basketball or flag football. Another example may include utilizing the playground equipment as an obstacle course. Offering bags of equipment to play games that were taught to the children during PE can also give structure in how recess time is utilized. Finally, active supervision (e.g., proactive monitoring through consistent scans of the recess area and continuous movement in and around the recess setting) by adults on the playground can increase the rate of PA engagement during such designated activity time (Castelli & Beighle, 2007). In conclusion, manipulating the recess environment and providing active adult supervision can increase children's PA levels.

Physical Activity Before and After School

The presence of before and after school PA opportunities may enhance students' readiness to learn. In a study conducted by Stylianou et al. (2016), a before-school walking/running program was implemented at two different (public and private) K-8 schools. In measuring on-task behavior through direct observations during the first 45 minutes of instruction, students who participated in the before-school walking/running program scored consistently higher for on-task behavior (i.e., behavior in-line with class rules and appropriate for the learning environment) than those who did not.

According to Erwin and colleagues (2013), before and after school programs can be classified into three categories: traditional programs, bike and walk to school initiatives (e.g., active transportation), and intramural and interscholastic activities (e.g., sport participation). Traditional programs include providing children with the necessary facilities and equipment to be physically active. Bike and walk to school initiatives enable students to actively travel to and from school – all the while, students can explore and practice safety precautions when it comes to walking or biking. Lee, Orenstein, and Richardson (2008) found that students who actively commuted to and from school achieved an additional 28 minutes (average) of MVPA per day. Intramural programs serve as a “no cut,” all-inclusive situation in which students can participate in a variety of physical activities in a non-competitive atmosphere (Erwin et al., 2013).

It is apparent in the literature (McMullen et al., 2014) that before and after school programs have great potential for increasing PA levels in youth. Aside from QPE and before and after school PA, opportunities to be physically active may also occur throughout the school day.

Staff Involvement

All school personnel, particularly educators, serve as role models for their students from both personal and academic perspectives. Aside from the physical educator, generalist teachers (i.e., math, science, language arts) promote and demonstrate PA and healthy eating habits, to enhance academic success and prevent disease (Basch, 2011). Typically, teachers have the autonomy to determine when and how to integrate PA opportunities. A key element to staff involvement is positive, teacher role modeling. When teachers participate in PA, rather than standing off to the side or sitting at their desk, children in that class are more physically active (Ernst & Pangrazi, 1999). Teacher participation provides a visual representation of what PA participation should look like and establishes expectations related to classroom routines.

Being a role model requires an adult to not only demonstrate the desired behavior but embody a healthy life. Therefore the staff involvement component of a CSPAP may include

wellness programs for the teachers, as well as the students. Given the potential influence of positive role models and how job performance may be greater among healthy versus unhealthy teachers, it is essential that all school employees model healthy behaviors during the school day.

Research – as it pertains to a CSPAP – on staff involvement, is limited. However, some studies examined the effectiveness or lack thereof, of school wellness programs. In a study that looked at PA and body mass index (BMI) among staff in a suburban school district, high rates of obesity and low levels of PA were found (Webber et al., 2012). Of the 745 employees in the study, 30% were overweight and their average MVPA per day equated to less than one minute. These findings encourage a school environment that is conducive to health promotion.

Family and Community Engagement

Intuitively, CSPAP developers and researchers believe that community engagement as part of a CSPAP approach can lead to the development of a physically active lifestyle for both children and adults, yet there is a paucity of empirical evidence, specifically related to family and community engagement. Researchers do know, however, that the more connected the school and extended community are to the school sanctioned councils, boards, and decision-making groups (i.e., health initiatives) the more likely students are to engage in healthy behaviors (van Sluijs, McMinn, & Griffin, 2007). Upon collection of the 2008 School Health Profiles Principal Survey, it was determined that schools with higher family and community involvement had less unhealthy food available and more fruits and vegetable options (Kehm, Davey, & Nanney, 2015). On the contrary, schools with no outside involvement tended to offer less healthy lunches and larger package-sized vending items.

Although CSPAPs emphasize the importance of PA, nutrition is an essential factor when it comes to maintaining physical fitness. In what little research there is on this topic, there seems to be a re-occurring theme: Communities that actively participate in developing school-wide measures to promote healthy nutrition and PA are more likely to partake in these practices compared to communities that are not involved. This collaborative approach is critical in reversing obesity trends among youth.

Implications

As we continue to progress throughout the 21st century, so does our teaching landscape. No longer is PE situated in the background. Rather, it is moving towards the forefront as this subject has shifted to a public health focus. With obesity on the rise, especially amongst our youth, physical educators have to accommodate the nationwide prevention of this chronic disease through a variety of physical activity interventions, one of which is a CSPAP. Alone, traditional physical education classes cannot combat chronic diseases. After all, the majority of students in the U.S. barely have PE once a week. Therefore, having the PE teacher provide more opportunities for students to be physically active throughout and beyond the school day will help to promote and address the importance of PA among youth and adolescents. To implement high fidelity programs, it is very important that a majority of the teaching staff and administration are supportive of and on board with CSPAP implementation. Without CSPAP delegation from the PE teacher and schoolwide support, a CSPAP will not be successful. The time has come for physical educators to step up to the plate and take on the role of a physical activity leader in conjunction with their teaching responsibilities. Not only will being a physical activity leader help to ensure a healthier school environment for staff and students, but this role will provide the PE teacher with a greater presence on campus – one that has been sought out for many, many years.

Contributors for this Issue

This forum of the *Texas Education Review* discusses three of the five CSPAP components: Quality physical education, physical activity throughout the school day, and after school physical activity. Contributors for this forum include:

Kent Lorenz, Assistant Professor of Physical Education and Physical Activity in the Department of Kinesiology at San Francisco State University. Lorenz's piece described quality physical education and how this CSPAP component may benefit both the physical educator and the students. Implementing the appropriate managerial and instructional techniques, appropriate activity design, and physical fitness activities may decrease wait time and increase PA behaviors in and outside of the school setting.

Heather Erwin, Associate Professor and Director of Graduate Studies in Kinesiology and Health Promotion from the University of Kentucky. Erwin wrote about physical activity during the school day by exploring teacher and student perceptions of two recess periods throughout the school day, Monday through Friday, and how those recess periods affected student engagement in the classroom.

Mark Urtel, Department Chair and Associate Professor of the Department of Kinesiology within the School of Physical Education and Tourism Management from Indiana University – Purdue University Indianapolis. Urtel wrote about after school physical activity programs and administrative support. Dr. Urtel discusses the importance of objectives and outcomes for an after school program and how those factors can formulate recruitment, preparation, and assessment strategies.

Charlene Burgeson, Executive Director of Active Schools wrote about CSPAPs from a holistic perspective. Her editorial on CSPAPs served as a wonderful summary about this multi-component behavioral intervention and how faculty and staff can be instrumental in carrying out a CSPAP.

These articles contribute to and reiterate the importance of this whole-of-school approach known as a CSPAP. Not only will this critical issue provide readers with a greater understanding as to what a CSPAP is, but it will help to provide readers with ideas on how to become an active member of a CSPAP.

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