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Abstract

Physical education (PE) is a frequent site of public health intervention to promote physical activity (PA); however, intervention research frequently overlooks the perspective of PE teachers. The purpose of this qualitative study was to explore teachers’ experiences with and perceptions of a PA curriculum intervention. Six findings within three categories were identified and described in detail. In-depth one-on-one semistructured interviews were conducted with nine PE teachers from eight middle schools in Los Angeles. Feeling underappreciated and having a “muddled mission” within PE were driving factors in teacher morale and practice. Teachers had positive experiences with the curriculum, but significant barriers remained and limited the potential for PA during PE classes. PE teachers are pulled in multiple directions and perceive a lack of necessary support systems to achieve student health goals. Interventions aimed at leveraging PE as a site of PA promotion must incorporate the perspectives of PE teachers.

Keywords

exercise, obesity, middle/junior/high school, qualitative research, physical education, school nurse

Current rates of youth physical activity (PA) are alarmingly low despite a substantial body of evidence outlining the physical and mental health benefits of regular PA (Biddle & Asare, 2011; Janssen & LeBlanc, 2010). Regular PA helps prevent obesity and other chronic diseases, which remain among the leading causes of morbidity and mortality in the United States (Bauer, Briss, Goodman, & Bowman, 2014). Given that youth spend a large portion of their day at school, opportunities to engage in PA during the school day are critical to achieving the recommended daily amount of PA (Bagby & Adams, 2007; Hills, Dengel, & Lubans, 2015). As one of the primary health advocates in schools, school nurses play an important role in promoting PA. School nurses have been called on to collaborate with administrators, teachers, parents, and students in the promotion of high-quality physical education (PE) as a mechanism to promote PA (Bagby & Adams, 2007; Gabbard, 2001). In particular, collaborative partnerships involving sharing of expertise between PE teachers and school nurses may offer many benefits in addressing issues of childhood overweight and obesity and providing greater promotion of healthy lifestyles (Bryan, Broussard, & Bellar, 2013).

In recent decades, the public health literature has identified schools and PE departments as essential settings to reverse declines in PA as children age and to imbue youth with lifelong habits of PA (Hills et al., 2015). At the same time that health advocates have sought to leverage PE as a site of health intervention, there have been efforts to formalize PE instruction through the creation and implementation of national PE standards, which “define what a student should know and be able to do as a result of a highly effective PE program” (SHAPE America, 2013) and standardized testing (e.g., FITNESSGRAM assessments; California Department of Education, 2017; Meredith, Welk, & Cooper Institute, 2010). For example, PE standards for middle

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school students in California cover a wide array of content, including movement concepts (e.g., “Explain how to increase force based on the principles of biomechanics”), social interaction and group dynamics (e.g., “Identify the responsibilities of a leader in physical activity”), and manipulative skills (e.g., “Volley an object repeatedly with a partner, using the forearm pass;” California Department of Education, 2006; National Association for Sport and Physical Education [NASPE] & American Heart Association [AHA], 2012). Given this disparate set of goals, it may not be feasible for teachers to accomplish all of the expected outcomes in the time allocated for PE while simultaneously providing time and space for PA itself (McEvoy, Heikinaro-Johansson, & MacPhail, 2017; McKenzie & Lounsbery, 2009).

One widely used PE curriculum, SPARK PE, aims to provide a standards-based approach to teaching PE while still maximizing opportunities for PA in order to improve students’ fitness, skills, and PE enjoyment (Dowda, Sallis, McKenzie, Rosengard, & Kohl, 2005; McKenzie, Sallis, Kolody, & Faucette, 1997; McKenzie, Sallis, & Rosengard, 2009; Sallis et al., 1999). Between 1989 and 2012, SPARK provided staff development, equipment, and curricula to an estimated 2,000 school districts across the United States (L. Gonzalez, Personal communication [written], September 15, 2017). The SPARK PE curriculum was originally designed to serve as a resource for classroom teachers. The curriculum includes instructional strategies, activities, assessments, ideas for adapting instruction (e.g., plans for inclement weather or space limitations), and suggestions for classroom management (Dowda et al., 2005; McKenzie et al., 1997, 2009; Sallis et al., 1999). Outside of formative research (McKenzie et al., 2009), PE teacher perspectives have not been included in the implementation and evaluation of the SPARK curriculum. As teachers are the ultimate end users of the SPARK curriculum, their perspective could provide meaningful insight into the adoption, delivery, effectiveness, and sustainment of the program.

Although PE teacher perspectives about PA are important in efforts to support healthy development of students, they are typically on the receiving end of top-down decisions, particularly those regarding new curricula, without consideration of their expertise and daily experience (Cothran, McCaughtry, Kulinna, & Martin, 2006). In order to be most effective at improving the quality of PE, a more holistic understanding of the complex structures and phenomena at play in the school setting is needed (Gabbard, 2001; Institute of Medicine & Food and Nutrition Board, 2013; Morton, Atkin, Corder, Suhrcke, & van Sluijs, 2016). Specifically, understanding the perspective of PE teachers may provide some insight into how PE can capitalize on an opportunity to promote PA and reduce behaviors among youth. By understanding PE teachers’ perspectives, school nurses and other school health professionals can more effectively advocate for and partner with PE departments

to promote PA in schools. The purpose of this study was to examine the daily experiences of middle school PE teachers in implementing the SPARK PE for middle schools curriculum and explores contextual and interpersonal factors that influence teaching practice.

Method

Data for this investigation are from in-depth interviews conducted as a part of a larger study titled *Project SHAPE*. *Project SHAPE* was a community-engaged PE intervention aimed at increasing moderate to vigorous PA among middle school students in Los Angeles Unified School District. The university review board and the school district approved this study.

Study Participants

Participants of this study were drawn from a pool of middle school PE teachers who participated in a larger PE intervention study. For the original study, middle schools located in medically underserved areas within a large school district in Southern California were selected and administrators were asked whether they were interested in having their school participate. Teacher participation at each school was voluntary, and the research team randomly assigned participating schools to intervention or control status. The intervention targeted PE teachers and provided a curriculum (SPARK PE for middle schools) and equipment for use in PE classes, as well as a small stipend for completing teacher training. A total of 16 schools (eight intervention and eight control schools) and 52 teachers (25 intervention and 27 control teachers) participated in the original study. The average teacher to student ratio in PE classes was approximately 1:48. A subsample of teachers was drawn from the eight intervention schools using purposive sampling to recruit at least one teacher from each participating school for in-depth individual interviews. The selection criteria for interview recruitment were (1) teaching PE full time at an intervention school and (2) completing the full 12 hr of SPARK PE teacher training. Teachers who met these criteria and who had previously expressed to the project manager an interest in speaking to the research team in more depth were contacted first. All nine of these teachers agreed to participate.

Participant characteristics are presented in Table 1. The sample included nine middle school physical educators at eight different schools. Five of the participants were female, and years of teaching experience ranged from 6 to 24 years (mean = 14.3 years). The schools at which teachers were employed were located in diverse settings including urban, semi-urban, and suburban neighborhoods. All schools reported at least 80% of students participating in the National School Breakfast and Lunch Programs, with the exception of one school which had only 43% enrolled. This school was included in the sample of the original study for comparison across different socioeconomic contexts.

Table 1. Participant Characteristics.

	Sex	Years of PE Teaching Experience	School Setting	% Meal Program Participation ^a
Participant A	Female	6	Semi-urban	89.2
Participant B	Female	12	Suburban	42.7
Participant C	Male	15	Urban	91.8
Participant D	Male	13	Suburban	42.7
Participant E	Male	11	Semi-urban	87.3
Participant F	Female	13	Semi-urban	83.9
Participant G	Female	20	Urban	88.4
Participant H	Male	15	Suburban	80.8
Participant I	Female	24	Urban	89.7

^aPercentage of students participating in the National School Breakfast and Lunch Programs during the 2015–2016 school year.

Data Collection Procedure

Teachers were invited to participate in interviews via e-mail by the project manager, with one follow-up e-mail for those who did not respond to the initial request to participate. If teachers confirmed interest in participating, project staff contacted teachers to arrange a convenient time for interviews to take place in a quiet, private location on site at the school unless a different location was requested. Interviews took place between October 2016 and February 2017. Teachers signed consent forms prior to beginning the interview and were able to end the interview at any time. Interviews were digitally recorded while one interviewer led the discussion and the second took notes and observations and asked follow-up questions. Interviews lasted approximately 45–60 min.

The first and second author conducted all of the semistructured interviews using an interview guide developed by the full research team (Table 2). In developing the interview guide, the research team considered the types of information that would be relevant to understanding findings related to the original study. Questions were worded to discover the perspectives of interviewees about their experiences teaching PE. The interview guide focused on two broad research areas: (1) identifying challenges or barriers to teaching in middle school PE and (2) discussing how the SPARK PE curriculum may have facilitated or provided additional challenges to teaching PE.

Data Analysis

Interviews were transcribed verbatim from the digital recording by research assistants, and each transcription was validated for accuracy by a second research assistant. Coding and analysis were performed by the first and second author by analyzing the data separately, discussing codes, and reaching consensus. This study uses a qualitative descriptive methodology, which stays close to the data and is less interpretive than grounded theory, phenomenology, and other approaches (Colorafi & Evans, 2016). During the first cycle of coding, codes were inductively generated to summarize segments of data. Four coding methods were

Table 2. Semistructured Interview Guide.

1. Take me through a typical week for you as a PE teacher.
2. Describe how your school approaches (student, staff, and teacher) well-being.
 - a. What role does the administration play in promoting well-being at your school?
 - b. What gaps do you see in the way in which your school promotes well-being?
 - c. Where does PE fit in to promoting well-being at your school?
3. What are some of your biggest challenges as a PE teacher?
 - a. Describe the support given by admin, other departments, other PE teachers.
 - b. How do you balance competing demands?
4. What are some of your successes (or what is going well)?
5. Tell me a little bit about what you think is the purpose or goal of PE.
 - a. How does this influence your work as a teacher?
 - b. How has this philosophy changed over time? How has it stayed the same?
 - c. Can you think back and tell me why you were attracted to teaching PE?
6. In a typical week, tell me about your experience with the SPARK curriculum.
 - a. What things about the curriculum worked well?
 - b. What things didn't work so well?
 - c. How did students respond to SPARK compared to other curricula?
 - d. Give an everyday example of how the students engaged with the curriculum
 - (i) Now please think of a struggling student. How did this student engage with the SPARK curriculum?
 - e. How did SPARK meet student needs, particularly struggling students?
 - f. What would you change about SPARK?
 - g. Describe your experience of the SPARK training/website

Note. PE = physical education.

applied: (1) in vivo coding, which uses the participant's own language to record codes, (2) descriptive coding, which involves assigning labels to segments of text, (3) process coding, which uses gerunds (i.e., "-ing" words) to capture actions or processes, and (4) values coding, which incorporates the participant's values, attitudes, and beliefs (Miles,

Huberman, & Saldaña, 2014). The interview guide was also used to frame the initial coding structure and informed the development of first cycle codes.

Coding was done iteratively; a codebook was generated after coding the first interview and then used to code subsequent interviews. New codes that emerged from the subsequent interviews were added to the codebook, and the revised codebook was then used to analyze the interviews a second time. The next cycle of coding used pattern coding to group codes into a smaller number of categories (Miles et al., 2014). This included a coding sort using first cycle codes, which allowed the researchers to arrange the data into a smaller number of categories. Once pattern coding was complete, overarching concepts were identified to bring together similar categories of data. All analyses were completed using Dedoose version 8.0.3 (Dedoose Web Application, 2018).

Results

The findings of this study are presented in three categories: (1) the broader school context in which PE is situated, (2) teachers' adaptations to the context, and (3) experiences with SPARK. A summary of findings and select quotations are provided in Table 3.

PE in the Broader School Context

Several concepts emerged from the data focusing on the broader context in which PE is situated. First, teachers described working in environments in which administrators viewed PE as a low priority subject. This underappreciation manifested tangibly in the "classroom"; for example, several teachers cited inadequate facilities or large class sizes, factors which impinged on their ability to teach. Additionally, this underappreciation manifested more abstractly in terms of teachers feeling segregated from or inferior to other "academic" subjects. For example, some teachers noted limited input regarding decisions to sort students into classes of mixed or single grades, despite the PE state standards being written for individual grade levels. For some teachers, these experiences were framed as a generally accepted status quo, whereas for others, this hierarchy was problematic:

Well, P.E. is considered, like, a non-core academic class, it's more, you know, movement stuff so, like math, science, English, those kind of classes, they don't want to pull the kids too often . . . and I agree, I think that if there's a class that they could maybe miss a day of, or a couple of days of, and catch up, or bounce back, then it's going to be my class.

Another issue identified by teachers stemmed from shifting PE teaching paradigms. Multiple teachers drew comparisons between the "old" and "new" PE, with the former emphasizing simply making sure students were busy and the latter focusing on standards for each grade level:

You're not just 'Alright here's a basketball, go, go shoot. Go play and well you know at this time the bell's going to ring and then you come back.' But it was actually like teaching fundamentals, and teaching you know 'Here's how you play the game, and this is, this is why the strategy, this strategy works to be able to score a goal or a basket.' Um . . . so that's one reason why I liked, I wanted to come here was because there was teaching going on to the, to the standards versus the other way.

Despite some consensus on the importance of standards-based PE, teachers expressed the lack of a clear, unified mission for PE. Most teachers agreed that one role of PE was to foster a lifelong commitment to fitness and ensure understanding of the connection between PA and long-term health. Only one participant described the purpose of PE as a time and place for students to be active; rather participants described PA as an important by-product of the activities that they conducted instead of the goal. Teachers commonly mentioned preparation for standardized testing (i.e., FITNESSGRAM) as a primary goal in PE. Nonetheless, several teachers identified issues with FITNESSGRAM, namely that it was misaligned with the goals of PE, an inaccurate measure of teacher accountability, and inadequate for "sell[ing] *the school*" in an era of school choice:

There's no sort of test scores that they're going to be looking at, you know other than FITNESSGRAM, and . . . FITNESSGRAM doesn't measure learning it measures health, it's used as a surveillance measure at the state level, and um, but it's not measuring the learning that's supposed to be taking place out here.

Having an unclear mission was seen as an internal issue within the field, but for some, it was also described as contributing negatively to external views of PE. For example, some teachers described being overlooked in collaborative efforts to teach across the curriculum. In addition, since administrators do not necessarily understand the purpose of PE, teachers felt they could not be evaluated properly or recognized for going above and beyond:

They should come and visit us more often and see our needs and kind of understand like a full lesson in physical education, 'cause sometimes I don't know what they see . . . like sometimes the kids are playing, um maybe some games in basketball, and they might think that there was nothing behind that . . . I would like to see where they kind of actually know what's going on and they understand the . . . topic or our subject.

Teachers' Adaptations to the Context

All teachers in this study expressed a desire to continuously improve despite ongoing contextual concerns in PE. They cited multiple attempts to improve their own teaching as well as the school environment as a whole. For example,

Table 3. Findings and Select Quotations From Semistructured Interviews.

Categories	Findings	Exemplars
Broader school context	PE is underappreciated	<p>"We're the stepchild of the school. Don't get treated as equal as everybody else. You always feel like 'oh well you only teach P.E. and it doesn't really matter.' That's what we always hear all the time."</p> <p>"Our class sizes, they've come down, but they're still kind of high . . . ummm they're in the 50s. And then when you put that with the lack of facilities to use it's . . . we don't get a lot of time to do the physical activity part. It's more like class management . . . and then you know disciplining."</p> <p>"Like the fields get too wet, so then you're off that area. You're only limited to walking the track because all the other spaces are full."</p> <p>"It's not what they thought it was back in the 60's, 70's, 80's, like, teachers don't just roll out the ball, and it's not just about dressing in your physical education clothes, and the participation, there's so much content and knowledge involved that the kids need to know to be successful and be able to apply what we're trying to teach them, as far as staying healthy, fit, and being lifelong. . . fitness learners"</p> <p>"It's like okay now we gotta figure out alright how are we going to incorporate Common Core into our curriculum and then we already have our curriculum and then it's like okay . . . they're asking us . . . how can we get more writing into our classes, how can we get kids reading articles, or having to find evidence of this in our classes. And then SPARK's coming along and then so they want us to put 'Hey can you put SPARK curriculum in your curriculum?'"</p> <p>"So uh . . . it's a question of what is the P.E., it's always like just adapt to what the needs are but as to one specific what's the goal it kind of changes every time."</p>
PE teachers' adaptations	Burnout	<p>"We had . . . a teacher that was here and he was . . . like a substitute kind of, but . . . they kept telling him, we're gonna hire you, we're gonna hire you. And the year came, and then the next year came, and it was like the same thing, and I would assume it has to . . . a motivational kinda thing, you're like, well shoot why should I do all this work if . . . you're not . . . doing anything for me."</p>
	Professional development (e.g., SPARK training)	<p>"You know you have an option to get involved or not get involved . . . being involved at these physical education conferences . . . it led me to be more motivated and bring back new ideas to- to my students and the school . . . I actually became an advocate for my students, I started like calling I want this program um, writing grants, trying to get funding, because I notice[d] PE . . . was lacking in getting funding, like we were always the last to get monies or, you know 'when we ask we get like a- a certain amount that's not as much as the other subjects'"</p> <p>"You know when you're an undergraduate, a lot of what you're learning may not be meaningful at the time, and when you get out into the work world, you realize, oh that's why they were teaching me that, so, you need to constantly stay up on the science and on the changes in the field, and there- there have been quite a few changes, you know in the last twenty years since I graduated."</p> <p>"I'm like, 'you never want to be stale.' So then they're like, 'who wants to learn SPARK?' And I'm like, 'Oh, I do! What is it?'"</p>
Experiences with SPARK	Facilitators	<p>"I did go to the trainings, I- the trainings were good because uh, you can only get so much from- from looking at the- the book right, and when you see the lessons in, in action, with, you know other teachers going through them and- and their, whoever their facilitator is or, the- the expert, when I saw those lessons executed, I was better able to put those into p- place than w- with just reading the book alone."</p> <p>"I like SPARK a lot . . . the book was great because it lays out, you know, all the . . . lesson plans for you right there and it's attached to the standards so that you can see it. Which is you know, having something tangible like that, I think is, is huge."</p> <p>"[SPARK] keeps them very busy and very active. They have a lot of fun and then they go out and they say PE is more fun. So that makes you feel good."</p>
	Limitations	<p>"A lot of it we've noticed is meant for an indoor area with like 30 kids. And I don't get indoors except once a year for 21 days."</p> <p>"We had a SPARK trainer come to us and uh she told us for example, 'Oh, you have an hour of P.E.' where lessons are designed for twenty minutes. So she said to do three lessons of SPARK. So three SPARK lessons, just to add up to sixty, well I wish it was that easy."</p> <p>"A lot of those games worked well and we incorporated it a lot into our units. Some of-, the ones that didn't, I tried but it was, it just seemed . . . I couldn't figure out how to tweak it to make it work for me. I did a little bit but then I think it really got away from the idea of . . . what that lesson was set up for."</p> <p>"I'm hesitant to use it too much, and the reason is because it's . . . not following the standards-based instruction designed approach to teaching"</p>

teachers organized school-wide sports tournaments during lunch, planned community-wide fun runs, and wrote grants to receive exercise equipment that could be made available to the community:

I think . . . that as long as we continue to . . . keep learning ourselves and getting better ourselves as teachers . . . and with other things, that hopefully will make strides in how kids get better prepared for or better equipped to stay healthy for the rest of their lives.

Participating in the SPARK study was seen as another opportunity to develop themselves professionally while also building a relationship with a local university. One teacher described the collaboration as a way to validate the PE program at his school. In his view, study participation provided a salient example of his efforts to improve PE that his supervisors could easily recognize. Conversely, teachers also described colleagues who initially engaged with these types of opportunities, but lack of recognition or support resulted in “burnout”:

I think it was last year, where I felt like I was putting in a lot of time, and . . . didn’t feel like, you know, to a point where I’m like what am I doing this for? I’m not getting anything out of it . . . you’re not getting the response either from . . . the administrators. . . . When you try but then you didn’t see the outcome, or nobody valued it . . . that’s the burnout.

Experiences With SPARK

Teachers described the aspects of the SPARK curriculum as facilitators to their teaching practices. First and foremost, teachers appreciated the interactive training where trainers modeled teaching strategies and entire SPARK lessons. With regard to the curriculum itself, teachers felt like the activities were fun and engaging for students and teachers alike. Having all students engaged helped to reduce some classroom management issues and involve students who typically do not enjoy participating in PE. Teachers also noted that the curriculum introduced creative, new ideas into their repertoire, which were a departure from the typical games and traditional sports that they used in their classes. Accordingly, teachers expressed that they wished they had access to the SPARK curriculum when they first started teaching. A few teachers mentioned sharing the curriculum with a new teacher in the department and reported this to be a useful activity.

Teachers also identified various issues with SPARK. While it created opportunities to increase activity levels or add an element of fun to the class, they felt it lacked opportunities to prepare for fitness testing or meet other content standards and goals of PE. Consequently, teachers described “*take[ing] bits and pieces of it*” and adapting them into their existing curriculum rather than using lessons and units of SPARK as a whole. This process was usually related to

feelings that SPARK was not necessarily designed to account for their unique needs and settings:

There are some things that . . . they have to be kind of modified just ‘cause the equipment expectations are not . . . something that we can match, or like the setup and breakdown also, it just would be something that . . . would work out.

Additionally, teachers reported that some lessons had confusing or unclear instructions, and training sessions were necessary for resolving these issues. Teachers mentioned wanting online videos to demonstrate certain tasks and activities outlined in the curriculum. At the same time, few teachers utilized the SPARK online resources and described limited access to technology during their work day.

Discussion

Schools and PE departments have been increasingly called upon to reverse declines in PA among youth (Hills et al., 2015). PA interventions in PE do not always consider the perspectives of PE teachers (Cothran et al., 2006); however, a more holistic understanding of the complex structures and competing priorities teachers face in the school setting may improve interventions aimed at increasing PA in schools. This article used a qualitative descriptive methodology to understand the daily experiences of middle school PE teachers in implementing the SPARK PE for Middle Schools curriculum and explored contextual and interpersonal factors that influence teaching practice.

According to teachers, PE holds a low position within the hierarchy of the school. As a result, PE teachers face barriers to teaching, such as large class sizes, challenges scheduling space, and inadequate resources, which have also been identified by previous research (McKenzie & Lounsbery, 2009). It seems that most of these challenges are related to institutional factors over which teachers have little control. For example, administrators have the final say regarding decisions about class size and allocation of space, and they also set the tone for the perceived value and subsequent treatment of PE and PE teachers. Our findings suggest that administrators’ views of PE as separate from other subjects, as well as general shifts within education toward high-stakes testing (Duffy, Giordano, Farrell, Paneque, & Crump, 2009), may have contributed to the shifting paradigms of instruction within the field over the past few decades. PE teachers have tried to validate the subject’s contribution by moving toward standards-based teaching and standardized testing (Lee, Burgeson, Fulton, & Spain, 2007; NASPE & AHA, 2012). Teachers identified these strategies as a means to formalize PE as an academic subject. However, despite the emphasis on standards among the teachers in this study, previous research has documented inconsistency and lack of accountability in the way they are implemented (Sallis et al., 2012). Moreover, these efforts to formalize the subject have also

Figure 1. Context matters: Physical education teachers' experiences with a physical activity intervention.

complicated the work of PE by expanding its mission to include a disparate set of goals. It remains unclear whether PE can feasibly achieve all of the outlined goals given ongoing constraints in the classroom (McKenzie & Lounsbury, 2009).

As shown in Figure 1, we found that the resulting milieu affects teachers in different ways. Some participants described instances when they or their colleagues felt "burnout" from not being recognized for work, which then led to a reduction in effort. This, in turn, reinforces the idea that PE is not a serious subject, as "burned out" teachers may revert to just "rolling the ball out," a term used to describe a hands-off approach to PE instruction (e.g., allowing free play). PE teacher burnout has also been identified by previous studies as an important influence on teaching practice (Bartholomew, Ntoumanis, Cuevas, & Lonsdale, 2014; Smith & Leng, 2003). Conversely, teachers also described times when they were motivated to go beyond their job duties in an effort to improve the PE and/or PA programming at their school. This included both developing programming for their students outside of the PE classroom and seeking out professional development opportunities. What remains unclear is the impact of these efforts. Although individual teachers may be able to translate these opportunities into better classroom practice, enhanced school community, and higher job satisfaction, these efforts may not address the larger institutional factors that currently impinge on PE practice. Moreover, when teachers do go above and beyond and are still not recognized for these efforts, this may also contribute to burnout.

Participating in the SPARK intervention study was one way teachers felt they could improve their practice. As shown in Figure 1, there were benefits and drawbacks of the SPARK curriculum and training. Although teachers liked the novelty and creativity of the SPARK curriculum, they generally felt that it did not allow them to meet all of the goals of PE. Instead, they viewed the SPARK curriculum as

a way to increase PA but felt it overlooked standards pertaining to learning skills and knowledge. This misalignment further emphasizes the "muddled mission" of PE, which Pate and Hohn (1994) criticized over two decades ago. It seems that the lack of clarity in goals continues to plague the practice of PE teachers today, as many teachers described being faced with multiple curricular models and demands to include a variety of topic areas in their class. With regard to SPARK, the lack of a clear goal resulted in picking and choosing aspects of the curriculum rather than using it as a whole, despite claims that the curriculum is standards based.

Moreover, the findings of this study suggest that there is misalignment between the public health view of PE's purpose as a site for intervention (Institute of Medicine & Food and Nutrition Board, 2013) and teachers' perceptions of the role of PE. This disagreement has been noted in the literature by blaming PE for not "fully embrac[ing] the public health goals set forth in 1991" (Sallis et al., 2012, p. 131). This view unfairly discounts the perspective of experts in the PE field, highlighting the need for a more productive conversation to bridge the goals of public health and public education.

Building consensus in the PE field about the purpose of PE and addressing institutional-level barriers are both long-term goals for improving the quality of PE in public schools. There is also a need for further research to understand how teachers can be more effective in the current environment. For example, participants in this study felt that new PE teachers may be more open than established PE teachers to new interventions and curricula. In addition, while this intervention study only targeted teachers including administrators, school nurses, and other school health personnel in the design of an intervention may help address some of the larger institutional barriers outlined by teachers. Overall, it is imperative that public health researchers and practitioners designing interventions for PE consider the larger school context within which PE teachers perform their work.

Strengths and Limitations

The teachers interviewed for this study varied in terms of age, gender, and years of professional experience, which strengthens the credibility and transferability of this study. Since the teachers had been actively engaged with the research project for the previous 2 years, the researchers had the opportunity to develop rapport and relationships with the participants, also contributing to the credibility of the current study. While the interviews provided a variety of views, the transferability could be questioned due to a small number of interviews. Selection criteria limited participation to teachers who participated in the intervention study and completed 12 hr of training. This suggests a risk of bias toward teachers who have time and motivation to participate in these activities. Nonetheless, several findings were recurrent across the eight different schools and thus may transfer to other schools and teachers. While teachers were able to bring up unique topics during the interview, use of a semistructured interview guide enabled the interviewers to ask a core set of questions to all participants, which increases the dependability of the study. The rigor of the qualitative data analyses employed is a strength, increasing confidence in interpretation of data. Patterns and overarching concepts were identified after extensive discussion between the authors, further strengthening the credibility of the study.

Implications for School Nurses

Schools and PE programs have been targeted as critical settings in which youth can engage in regular PA (Hills et al., 2015). Addressing physical inactivity is not the responsibility of PE alone; however, PE is an integral part of school health programming. Because PA is a key influence in the prevention of many health problems throughout life, it is a serious school nursing concern (Cowell, 2014). School nurses are in a prime position to initiate and support efforts to promote PA in PE by collaborating with PE teachers and administrators within the school, as well as with parents (Gabbard, 2001). Effective efforts to promote collaborations begin with clear communications about professional roles and potential contributions of school nurses, teachers, and others to promoting PA and health. School networks and functions (e.g., staff and committee meetings) may provide an opportunity for preliminary discussions among nurses, PE teachers, and other school members who are interested in improving health and academic outcomes. Creating a shared vision is an essential step for effective collaboration.

PE, PA, and health services are among the key components in the *Whole School, Whole Community, Whole Child* (WSCC) model that focuses on the child and emphasizes a school-wide collaborative approach within the context of the community, to promote learning and improve health (Lewallen, Hunt, Potts-Datema, Zaza, & Giles, 2015). Implementation of the WSCC model requires rethinking the role of

health in schools and moving beyond the focus on curriculum, instructional strategies, and academic outcomes. The school environment and core mission need to be comprehensively considered. Policies at the district and school level should support the formation of WSCC teams to standardize practices and address roles and responsibilities related to health and learning (Murray, Hurley, & Ahmed, 2015). As part of WSCC teams, nurses may help other members to understand the link between health and academic achievement. In accord with the WSCC framework, data tracking and school accountability systems need to integrate metrics about health and wellness in addition to academic achievement of students (Murray et al., 2015).

A deeper understanding of PE teachers' perspectives may enhance school nurses' capacity to advocate for the PE teachers and the development of interventions that more effectively promote PA among students. Collective and coordinated efforts involving all members of the school health community, including school nurses, are necessary to make strides in preventing obesity and other chronic diseases. This alliance can influence development of and adherence to policies that focus on childhood health and healthy lifestyles.

Author Contributions

MLP and DKG oversaw the study's design, implementation, analyses, and manuscript development. MG and SER led the data collection, analyses, interpretation, and drafting of the manuscript. LNR led the acquisition of data efforts and edited the manuscript. All authors read and approved the final manuscript.

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