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Supporting Students' Physical Activity Self-Efficacy within High School Physical Education

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Abstract

Research examining physical activity (PA) is significant because of the known benefits of PA. Studying high school (HS) students is particularly important due to the consistent decline in PA as students age. One strategy to increase PA is to increase someone's self-efficacy (confidence) to be physically active which is commonly positively associated with PA. Most of the research on how to support physical activity self-efficacy (PASE) comes from outside-of-school interventions with minimal literature on how to support students' PASE within HS physical education (PE). This study attempted to identify and share practices that current HS PE teachers were implementing to support students' PASE and further develop previous recommendations to support PASE. The study participants were 14 current HS PE teachers that participated in one individual semi-structured interview that lasted approximately 50-60 minutes. Interview questions were designed to ask participants about their daily in-person class routines and how they support PASE based on the four sources of self-efficacy. The results include three themes to assist in supporting HS students' PASE which include: (a) Maximizing initial success, (b) Redefining success, and (c) Increasing PA awareness and monitoring. All themes and examples coincide with previous recommendations on how best to support PASE. PE teachers have the opportunity to design PA experiences that maximize the chances of students interpreting their experiences as successful and allow students to manage their PA participation. Implementing these types of strategies can hopefully increase students' overall participation in PA by supporting their PASE.

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***Keywords*:** social cognitive theory, teaching strategies, qualitative research, self-efficacy, physical education

Introduction

Research examining physical activity (PA) is significant because of the known benefits of PA like improved body composition, prevention of obesity, reduced risk of cancer, improved quality of life, and improved cardiovascular health (U.S. Department of Health and Human Services [USDHHS], 2020). PA research on high school (HS) students is particularly important due to the consistent decline in PA as students age (Metcalf et al., 2015).

One strategy to increase PA is to increase someone's self-efficacy (confidence) to be physically active. Several studies that implemented interventions designed to increase physical activity self-efficacy (PASE) like the Fit for Life and Children's Health and Activity Modification Program (CHAMP) have found that PASE is positively associated with PA and at times has been found to predict it (Annesi, 2006; Burke et al., 2015; Van der Horst et al., 2007). Most of the research on how to support PASE comes from outside-of-school interventions with minimal literature on how to support students' PASE within HS physical education (PE). This study attempted to identify and share practices that current HS PE teachers were implementing to support students' PASE and further develop previous recommendations to support PASE.

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Self-Efficacy

Self-efficacy is the belief a person has about their capabilities to produce a given outcome for a specific task, and it is a central component of the social cognitive theory (Bandura, 1998). Given the reciprocal nature of the personal, environmental, and behavioral factors outlined in

social cognitive theory, a person's self-efficacy can influence behaviors, and those behaviors can influence self-efficacy. In theory, an individual's self-efficacy beliefs are the foundation of motivation, action, and future courses of action (Bandura, 1998; Pajares, 2006). An individual with high self-efficacy will likely show self-regulation, greater cognitive resourcefulness, and strategic flexibility when faced with a setback, but low self-efficacy may cause someone to avoid challenging tasks and reduce effort. For example, when a student with high self-efficacy experiences a setback, they will look to try again using a different learning strategy and increased effort. Conversely, students with low self-efficacy who experience a setback may blame their abilities, decrease their effort, and possibly quit. Since self-efficacy (personal factor) can influence individuals' participation in future tasks (behavior) like PA, providing best practices (environmental factor) to support individuals' PASE is warranted (Annesi, 2006; Burke et al., 2015).

Sources of Physical Activity Self-Efficacy

Explanations of the four hypothesized sources of self-efficacy and practices implemented to increase PASE can help to clarify best practices to support PE students' PASE. According to Bandura (1997), self-efficacy is developed through a person's interpretation of mastery experiences (e.g. personal accomplishments), vicarious experiences (e.g. observations of peers), (c) social persuasion (e.g. praise from others), and (d) physiological and emotional states (e.g. personal feelings during PA). These four hypothesized sources of self-efficacy can influence students in different ways due to how students interpret and perceive the information. Mastery experiences include individuals' interpretations of the outcomes of their previous experiences with PA. How these experiences are interpreted as successful or unsuccessful can influence individuals' PASE in positive and negative ways (Leisterer & Jekauc, 2019; Murfay et al., 2022a). Most interventions designed to increase participants' PASE focus on participants having success with a variety of PA experiences that include participation with different types of physical activities. For example, participants in the Fit for Life and CHAMP programs would practice different manipulative sport skills and perform different exercises using resistance bands (Annesi, 2006; Burke et al., 2015). Furthermore, some PASE interventions also implement experiences to increase participants' PA management skills. These are behavioral skills like goal setting and progress monitoring that can assist individuals with self-management and self-regulation of PA. For engagement with PA management skills, both the Fit for Life and CHAMP programs had participants create personal PA goals and track progress toward their goals throughout the program to support PASE (Annesi, 2006; Burke et al., 2015). Having a mix of PA experiences that include participation with PA management skills is recommended to support students' PASE.

Vicarious experiences are individuals' interpretations of their observations of other people and can involve individuals comparing their abilities to the person they observed (Bandura, 1997). This social comparison can influence PASE in both positive and negative ways (Carlin et al., 2015; Gavin et al., 2016). For example, when adolescents feel that they are similar in skill level to a demonstrator or could duplicate what the demonstrator is doing, this can increase PASE (Gavin et al., 2016; Murfay et al., in press; Saville et al., 2014). When adolescents feel less skilled than the person they observe, this might decrease PASE (Carlin et al., 2015; Murfay et al., in press). A study of HS students found that random observations of peers' successful attempts with PA had a better chance of positively influencing students' PASE than random observations of teachers (Murfay et al., in press). Some ways that previous studies have attempted to ensure more positive interpretations of participants' vicarious experiences are by providing successful PA demonstrations from multiple people (instructors/peers) and implementing group discussions (Annesi, 2006; Burke et al., 2015). Within the CHAMP program, group discussions allowed participants to discuss the different challenges and successes they experienced with PA, how fun or difficult activities were, and how to apply the information at home (Burke et al., 2015). These discussions are designed to assist participants in overcoming barriers to PA. It is also recommended that PE students have opportunities to learn from each other through guided discovery-type activities before being provided with information from the teacher (Murfay et al., in press). Based on this information, students should be provided with multiple types of observations of others' successful attempts with PA.

Social persuasion is the words or actions of others, such as a student's peers or teachers (Bandura, 1997). Some different types of social persuasion commonly used are feedback, encouragement, praise, and non-verbal actions like high-fives. Individuals' interpretations of social persuasion can increase or decrease self-efficacy beliefs, which is why positive social persuasion is recommended (Seville et al., 2014; Warner et al., 2014). One study found that middle school students' PASE was significantly associated to support from teachers, friends, and parents (Zhang et al., 2012). Instructors in the CHAMP intervention encouraged participants to reach their PA goals by rewarding and praising participants when they completed their goals (Martin et al., 2009). Feedback and encouragement can also promote effort and self-improvement, provide support, and normalize failure (Bandura, 1997; Seville et al., 2014; Zhang et al., 2012). For instance, teachers could use their feedback to assist students in understanding that learning is a process and that mistakes

are a part of the learning process to help support self-efficacy when students are unsuccessful with a task. Furthermore, in an attempt to lower the feelings of social comparison, teachers could encourage students to focus on self-improvement instead of comparing their abilities to others (Zhang et al., 2012). PASE was also significantly and positively predicted by self-persuasion and positive self-talk (e.g. "I can do it") in older adults (Warner et al., 2014), and social persuasion can be used to increase an individual's self-persuasion. To encourage positive self-talk within the CHAMP program, at the end of each day the participants were encouraged to document three successful experiences (Martin et al., 2009). These examples highlight how a teacher's words and actions can support students' PASE.

An individual's interpretation of their emotional and physiological states during PA can also influence PASE (Carlin et al., 2015). For example, perceiving PA as enjoyable or not can influence an individual's PASE and their motivation to participate in the activity again (Asebo et al., 2022; Kosteli et al., 2016). Both the Fit for Life and Champ interventions attempted to minimize participants' anxiety during PA by offering students PA choices and eliminating competitive activities (Annesi, 2006; Burke et al., 2015). These two interventions also implemented group discussions that allowed participants to share how they felt performing certain physical activities. Another related strategy is to implement experiences that assist students in accurately interpreting their physiological responses to PA. To accomplish this, heart rate monitors were used in the Partridge et al. (2011) study to assist PE students in understanding the changes in heart rate during PA and potentially prevent decreases in PASE (Bandura, 1997; Partridge et al., 2011). Therefore, guiding students to better understand how they feel emotionally and physiologically during the process of PA could be used to support students' PASE.

Since most of the previous studies' PASE interventions were not within PE, an examination of PE experiences that align with recommended practices to support PASE is warranted and could equip current teachers with strategies to enhance students' self-efficacy beliefs, thus improving PA levels in PE. Therefore, the purpose of this study is to identify authentic HS PE teaching practices that are supported by research on how best to aid individuals' PASE.

Methods

This study was part of a larger qualitative study that involved interviewing current HS PE teachers about their online teaching practices during the Covid-19 pandemic and in-person teaching practices before the pandemic (Murfay et al., 2022b). For this study, only in-person instructional practices were analyzed through an interpretive worldview. Therefore, the analysis used in this study is not an exact measurement of current PE practices, but rather more of a holistic understanding of unique practices of select teachers through the eyes of the researchers (Tracy, 2019). A full description of the methods used in this study was published in a previous article (Murfay et al., 2022b).

Participants

The study participants were 14 (8 female/6 male) current HS PE teachers (Table 1). The participants represented nine different states in the United States and taught at 14 different public schools. Recruitment of teachers involved advertising on social media, emailing random PE teachers from around the United States, and sharing the study information with colleagues in the field. All interviews were performed by the principal investigator (PI) who had 14 years of experience teaching PE at the elementary, middle school, and college levels.

Table 1. *Participant Information*

Pseudonym/Years of Teaching/State		
1. Melissa/4/CT	6. Patty/27/AZ	11. Mindy/13/WI
2. Cindy/15/IL	7. Jay/29/NC	12. Loraine/11/IL
3. Keith/12/IL	8. Kimberly/10/CA	13. Susan/28/IL
4. Jennifer/17/ID	9. Jeremy/5/IL	14. Mike/22/MN
5. Edward/9/OH	10. Austin 15/WI	

Design

The PE teachers who agreed to be in the study participated in one Zoom interview that lasted approximately 50-60 minutes. The lead author wrote field notes during the rereading of the transcribed interviews and analytic memos during data analysis to explain the coding of the data and to reflect on the coding (Tracy, 2019).

Data Collection Methods

Interview questions (Table 2) were designed to ask participants about their daily online and in-person class routines and how they support PASE based on the four sources of self-efficacy. All interviews were semi-structured which allowed the PI to probe into the different sources of PASE right after participants mentioned them. The questions were purposely broad and not specific to strategies to support PASE to prevent socially desirable participant explanations of teaching practices that might not have actually taken place. Field notes and analytic memos were completed by the PI to explain coding, reflect on the data, develop hypotheses, track claims, and explain connections among the data (Tracy, 2019).

Table 2. *Interview Questions*

Questions
1. Why did you get into physical education? What do you like best about physical education?
2. Walk me through a typical physical education class in the gym? Why do you set up class that way? (Ask follow-up questions as they come up for any of the sources of self-efficacy).
3. What would you say are some of the most important things for students to experience in your physical education class and why?
4. If you have a student with very little confidence to be physically active, what types of experiences, activities, or skills would you want that student to learn or participate in and why?

Analysis

The analysis of the data for this study involved using a combination of deductive (first-level) and elaborative (second-level) coding (Saldaña, 2009). For deductive coding, a codebook was designed based on the sources of self-efficacy. The first-level codes were (a) mastery experience, (b) vicarious experience, (c) social persuasion, and (d) physiological and emotional states. One other code, teachers' opinions and interpretations, was later added. These first-level codes were used to code all the data. After the first round of coding, a peer debriefer followed the procedure by Barber and Walczak (2009) to ensure that the data were properly coded. Once this was completed, second-level coding began. Here the first author used a form of elaborative coding to only identify teaching strategies that coincided with previous recommendations on how to support PASE (Saldaña, 2009). The results are therefore not based on patterns within the whole data set but only within data that was believed to be relevant to the aim of the study. Once relevant examples were identified, they were then organized into three themes that encompassed different strategies to support PASE. The themes were then used to write a narrative of the results to showcase authentic examples to support HS students' PASE. At this point, a second round of peer debriefing was conducted to ensure that the results aligned with best practices used in previous PASE interventions.

Credibility and Trustworthiness

Member checks, peer debriefing, and reflective field notes/analytic memos assisted in ensuring the credibility of the participants' data and the researchers' interpretation (Patton, 2002). The PI completed member checks during interviews to verify that the participants' information was being understood correctly (Merriam, 1998). During the analysis of the data, peer debriefing was used to assist in identifying researcher bias, challenging the assumptions that the first author was making about the data, and providing a different point of view to assist in producing a more robust and critical investigation of the data (Barber & Walczak, 2009). The field notes and analytic memos served as reflective commentary that gave evidence of effective techniques used to generate the results of the study (Shenton, 2004). While writing the results and discussion, the researchers tried to use thick descriptions of the study, context, and results to help ensure credibility.

Results

The results include themes that provide examples of what some participants did to support students' PASE and why they believed it was beneficial to students' PASE. The three themes to assist in supporting HS students' PASE include: (a) Maximizing initial success, (b) Redefining success, and (c) Increasing PA awareness and monitoring. All themes and examples coincide with previous recommendations on how best to support PASE.

Maximizing Initial Success

Some teachers in the study helped to maximize students' initial success by teaching skills in a progression and providing students with PA choices. Most teachers described teaching skills in a progression from simple to complex to help students experience initial success because

they believed that students' interpretations of their PA experiences could influence their future actions with PA. For example, Patty explained how she starts a fitness unit using progression:

> We start out very gradually. I like success. If you try to kill them, they're not going to like it. They're going to have a bad taste in their mouth with it and they won't want to continue. So, I start out very simple. It could be walking activities. [For example], put the pedometer on and let's go to different stations and do very minimal things. I disguise fitness in a lot of games. We'll just have some fun with that, and we'll look at their pedometers and say, 'oh my gosh I got like 2000 steps playing this silly little flag tag game.' Or I'll use scarves/beanbags and play catch. Things like that where they're moving without realizing they're moving. So, I start off that way and then I slowly start to introduce technique and equipment, body bars, dumbbells, kettlebells, stability balls, and medicine balls, and we start gradually pushing them. So, it's not such a shock. They don't even realize they're getting in shape.

Patty realizes the importance of students' interpretation of their mastery experiences with PA and starts students out with activities that they can successfully participate in.

Offering students PA choices was another strategy to maximize students' initial success. Some examples include allowing students to choose the type of PA, the movement difficulty, and/or the movement intensity (see redefining success). For instance, within Melissa's PE program, students got to choose which PE unit they would participate in every two weeks since there were four PE teachers teaching at the same time. In another example, some teachers offered their students choices with the level of difficulty to help ensure students felt successful no matter their level of skill or strength. For example, Jennifer explained how she turned a yoga pose into different levels of difficulty and scaffolded instruction for her students.

> So, when I teach things. Here's level one, this is our foundation. Basic cues [and] structure. Like our tree pose [for example]. Level one, my whole feet are on the ground [and] my toes are touching the ground. Level two, now I can lift my leg up and place it on my calf. [Then] level three. I'll have them try all the levels, but you [the students] pick the level that works best for you... I really like introducing the students to how to modify things to make them feel successful and having them still try all the different levels but go back to where they feel comfortable.

Jennifer provides her students with modifications and allows students to select their level of challenge to increase the likelihood of students interpreting their PA experience as successful. These examples describe the different strategies that teachers use to maximize initial student success with PA that include teaching in a progression and offering students choices with PA.

Redefining Success

Another way that some teachers attempted to increase students' PASE was by redefining what a successful PA experience entailed. This included participation as success, normalizing failure, communicating that improvement is a process, and celebrating the body's physiological responses to PA. "Participation as success" means that as long as students participate in PE, they earn their full grade for the day. Within this teaching philosophy, students are not graded on their movement intensity or fitness test scores. For example, Jennifer described that she tells her students that "whatever their best is in the moment is success." She conveys to her students that "trying is important" and she believes that this teaching philosophy positions them for success. In another example, Patty described providing her students the option to walk for class instead of participating in the activity for the day. She explained:

> If for some reason they aren't feeling the workout today, they're sore, they're injured, they're tired, they're stressed, whatever. They always have the option to walk around the gym. As long as they're moving, I'm happy, they get their points.

Another way that some teachers attempted to redefine success was with social persuasion. For example, Edward provided his students with "fake praise" and encouragement just so they participated in the PA experiences and felt successful. He explained, "Just encouraging to the point where you [are] giving that fake praise. Where you know they could have done better, but you hype them up." Similarly, Jennifer used her feedback to "help students feel successful" because she believed students needed assistance "processing" what a successful experience with PA entailed. Jennifer wants her students to know "that any choice [with PA] is a great choice." In these examples, teachers were redefining PA success by emphasizing that a successful PA experience is more dependent on participation in PA than it is on performance outcomes of PA.

Another way that some teachers were attempting to redefine success was by normalizing failure. According to these teachers, normalizing failure helped students to interpret setbacks or failures with PA as normal and therefore had no effect on students' PASE. For instance, Jeremy and Jay helped students to understand that even

when they had a failure or setback with PA, it was still a successful PA experience. Jeremy gave an example of what he "preaches" to his students. He said, "it's really easy to do things that you're already good at. It's okay to struggle at something or not be good at something and be willing to improve and get better at it." For Jay, he told his students that "relapse is just a part of the process [of being physically active]. It doesn't have to derail you." Jay described spending the first two weeks of class teaching about "growth mindset." He gave students a challenge that they could complete with time and effort. As students failed to complete the challenge and began to say that they "couldn't do it." He told them, "You can't do it yet," which communicated to the students that improvement is a process and involves making mistakes. He said students "want that safe place" where they can make mistakes. Another strategy to assist in normalizing failure was teacher demonstrations. For example, when students felt uncomfortable performing around their peers, Kimberly would "put herself on blast" and demonstrate an unsuccessful attempt. Kimberly believed that by modeling failure she could lower some students' anxiety associated with participating in PA in PE. Similarly, Jennifer took time to share personal success stories with PA that involved failure. For example, Jennifer told her students that it took her "a whole year of strength training" to be able to do push-ups. She had to tell herself that she "could do it" and "laughed a bit" during the process. For these teachers, normalizing failure was a way to communicate to their students that participation in PA does not have to be perfect to be a success and that improvement takes time and is not impermeable to mistakes.

In another example, redefining success can also involve normalizing the physiological responses of the body to PA so that students interpret these changes as a positive experience with PA. For instance, Patty utilized group discussions right after PA to tell her students:

> 'When you're breathing hard, when your body temperature is up, when you feel like you want to give up... Those are all very positive things. Your body's telling you that you're working hard, and you are going to get these [PA] benefits that we've been talking about.' So, we [as a class] do stop a lot and recognize what is happening physiologically. What's happening to the body and why.

Here, Patty is educating students on the normal physiological responses of the body to PA and then celebrating these responses as a positive outcome of PA. Overall, these teachers wanted to portray to students that as long as they participate in PA, then it is a successful experience with PA.

Increasing Physical Activity Awareness and Monitoring

Some teachers design and implement PA experiences for students so they can participate in PA management skills like goal setting and progress monitoring. These are designed to increase students' awareness of their daily PA, observations of improvement, knowledge of the emotional benefits of PA, and strategies to overcome barriers to PA. A few of the teachers had students track their steps daily in PE to increase their awareness of their PA levels. For example, Patty used pedometers every day to have students measure their steps, activity time, and moderate to vigorous PA. She explained that at the end of class, the students would observe their PA and she would ask:

> 'All right, how much activity time did you get today?' They [the students] look at it and they throw out some numbers and or they can keep it to themselves. I say 'okay, you need about 60 minutes in the day. This is how much you've got here. Remember you walked to school, you rode your bike to school, passing period. Add all that [up], but you need about 60 minutes [of PA]. So, I just want you to know where you're at right now with this class.'

Patty assisted students in better understanding how much PA is needed daily and how to start to track their own PA. She also used that information to "compare the different activities" that the students participated in to help them understand which activities "gave them more or less activity time." She believed this information could increase students' awareness of their daily PA levels and was the "first step of self-analysis." In a different example, Jennifer explained that she had her students track their PA outside of school with activity logs. She said:

> I like activity logs because it keeps it [PA] in their mind. [The students think], 'oh yeah I should be doing something outside of school.' [As a teacher] you can't go check that they actually did it, but they are at least processing and being mindful of it.

These PA experiences are reminding students to be physically active and helping them to understand their PA levels within and outside of PE.

Another strategy to support students' PASE was to implement experiences where students monitor their PA progress to observe their own potential improvements or achievements. To accomplish this, Susan had students fill out "workout cards" every time they lifted weights in the weight room. She said, "they're writing down their weight (lifted) and repetitions so they can see throughout the

semester how they progress." Similarly, Mike had his students "chart their strength and turn in a graph every week" to track improvement. He did this because he believed that "every time somebody improves. I think they get a little bit more confidence." In another example, progress monitoring can also be used to track achievement of being in the target heart rate zone. For example, Jennifer's students used heart rate monitors during PE to increase students' confidence to be able to participate within the target heart rate zone and lower anxiety associated with it. She said:

> If our goal is moderate to vigorous [intensity]. That's a wide range for them. And so, they don't need to be afraid of [having] to be in this red vigorous zone for the whole time. [They] can do this [PA] and be in low yellow [moderate intensity], and be comfortable, and know that [they are] getting benefit out of this. I think that's what's nice about technology. It really helped the students take control of that [their intensity].

These experiences put students in the position to possibly interpret a PA experience as a success and positively influence their PASE.

Progress monitoring could also be used to assist students in recognizing the emotional benefits of PA and to strategize ways to overcome barriers to PA. Jennifer and Patty guided students through the process of identifying how they felt emotionally about PA while in PE. For example, Patty asked students after PA, "How do you feel? You feel better than when you walked in?" Patty wanted students to feel the emotional benefits of PA and directed them to reflect on it right after PA. She stressed the importance of "making students feel good when they're in PE" because she thought HS PE was the last chance to "hook" students and get them to "buy-in" on PA. Patty believed that students' emotional interpretations of their PA experiences would influence their future PA. In Jennifer's class, she had her students monitor their outside of school PA and then reflect on it. She would ask them, "What are some of the biggest barriers to your physical activity and what can you do about it?" She wanted her students to action plan for PA based on their personal barriers to PA. To assist with this, Jennifer had students share information with a partner in a "walk and talk" activity. She wanted to give students that "opportunity and space for sharing" about how they would be active on the weekend and what they enjoyed doing for PA. In this scenario, Jennifer believed that students might learn from each other and possibly increase their PASE. Overall, implementing participation in PA management skills was these teachers' attempt to increase students' knowledge, skills, and confidence to be physically active.

Discussion

The results provided examples of how current HS PE teachers attempted (environmental factor) to support students' PASE (personal factor) in hopes of increasing their participation in PA (behavior). Some of the teachers in the study implemented practices to maximize student success and provided social persuasion to redefine what a successful experience with PA entails. Similar to previous interventions, both of these strategies focus on students having a positive interpretation of their mastery experiences (Annesi, 2006; Burke et al., 2015). Adding to the literature are strategies that a few teachers are implementing within PE to support students' PASE. For example, teaching with progression and allowing students to choose their level of challenge within that progression in order to ensure initial success. A few teachers also attempted to positively influence students' interpretations of their physiological responses to PA, which is similar to attempting to minimize participants' anxiety during PA (Annesi, 2006; Burke et al., 2015). Some teachers also implemented experiences where students were participating in PA management skills in hopes of increasing students' voluntary participation in PA outside of school and their awareness of positive impacts of PA. Implementing these types of experiences has been successful with increasing PASE in previous studies (Annesi, 2006; Burke et al., 2015). Further adding to the literature is how a few teachers were attempting to assist students in positively interpreting their emotions during PA. All the examples provided align with previous research on how best to support individuals' PASE (Annesi, 2006; Burke et al., 2015).

It is believed that the strongest influences on self-efficacy are successful mastery experiences, which puts an emphasis on how PA experiences are designed and implemented (Bandura, 1998). Teaching tasks in a progression from simple to complex is a strategy to increase the likelihood of students interpreting their PA experiences as positive and possibly influencing future participation in PA. For instance, when teaching a skill or sport, having students start with an easy task is a way for students to experience immediate success and most likely have a positive interpretation of the PA being performed. Once competence for that task is observed by the teacher, they can then start to gradually make the task more difficult over time. This might help ensure that students have developed a base level of confidence for a PA before an increase in task difficulty is implemented because the increase in difficulty might increase the amount of PA mistakes. Hopefully, this initial confidence would limit the negative impact of mistakes on an individual's PASE. Furthermore, teaching in a progression would be the opposite of bypassing practice or training and going straight into gameplay or a physical assessment which might increase PA mistakes or a feeling

of failure. In this scenario, if a baseline level of confidence was not yet developed, the experiences might be more likely to have a negative impact on an individual's PASE. This rationale justifies the importance of how teachers design PA experiences when thinking about how best to support students' PASE.

Some of the teachers in the study used their social persuasion to possibly influence how students interpreted their PA experiences. In this way, social persuasion can help portray important messages to students. For instance, when teachers emphasize that participation equals success, this puts less importance on the outcome of the PA, or the intensity students exert during the PA. This could also be a way to minimize students socially comparing their abilities to others and further emphasize that PA is an individual process (Murfay et al., 2020). For example, immediately following the initial success from participation, teachers could explain that individual improvement is the next optional step in the process. Referring to improvement as optional would be another way to reinforce that simply participating in PA equals success and perhaps influences how students interpret their PA experiences. This rationale might also reshape what failing means when it comes to being physically active. Since success is participation and the outcome of the PA does not matter, the only real failure is not participating in PA at all. These examples highlight how a teacher's social persuasion can define what a successful experience with PA entails which can influence how students interpret their PA experiences and possibly their future participation in PA (Murfay et al., 2022a).

Within this study, a few teachers attempted to support students' PASE by implementing student participation in PA management skills in order to increase their awareness of their own PA. These types of experiences have assisted in significantly increasing children and adolescents' PASE in previous studies and are examples of authentic learning experiences since individuals are solving a personal real-world problem (Annesi, 2006; Burke et al., 2015; Manley et al., 2022). Participation in PA management skills provides students the opportunities to set PA goals, plan for success, track progress towards those goals, reflect on their progress, and then adjust goals based off the data collected which starts the process over again (Manley et al., 2022). Tracking progress allows students to observe their own potential improvements which some teachers in the study thought could increase PASE. This type of problem-solving experience might also assist students in overcoming barriers to PA and reinforces the idea that participation in PA is an individual experience and not based on social comparison. Therefore, providing students with opportunities to participate in PA management is recommended.

Limitations and Future Research

There were several limitations to the current study. First, participant selection was not completely random, and some participants knew the PI. Adding to this, interviews were the only source of data collection. For these reasons, participants might have provided socially desirable answers. Adding another form of data collection like observations could have resulted in a more accurate interpretation of the participants' teaching practices. The analysis of the data also has some limitations. For example, based on the second-level coding that was used, the results were not based on patterns among the participants, but instead, on hand-picked examples made by the PI. Furthermore, only interviewing the participants one time and attempting to member-check during interviews could have resulted in a less accurate depiction of participants' teaching practices. Despite these limitations, the study further adds to previous findings by providing authentic examples that HS PE teachers implement to support students' PASE.

Based on the literature review for this study, there are some gaps in the research. It is recommended that future research examine quantitatively how some of the described teaching practices influence students' PASE within PE. For example, researchers might examine if participation in PA management skills on top of regular PE instruction influences students' PASE any differently than not participating in them. Researchers might also study how different forms of social persuasion influence students' PASE. Based on the results, examining the influence of participation-based grading versus performance-based grading on PASE within PE is recommended. Teaching with or without progression within a sports unit might also be a helpful topic for future PE practices.

Conclusion

The purpose of this study was to share some practices to assist current PE teachers in supporting their students' PASE. Since environmental factors like instructional decisions can impact what PA that students participate in, as well as their PASE, it is important to continuously examine and identify current practices that align with recommended interventions (Annesi, 2006; Burke et al., 2015; Murfay et al., 2022a). PE teachers have the opportunity to design PA experiences that maximize the chances of students interpreting their experiences as successful and allow students to manage their PA participation. Implementing these types of strategies can hopefully increase students' overall participation in PA by supporting their PASE.

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