The thought of physical education often causes adults to remember hanging on a pull-up bar in front of the entire class and struggling to complete a single pull-up. One by one, students would take their turn hanging in front of their peers, while attempting to pull their chin up and over the bar. Some students could perform one, maybe two pull-ups easily. Others contorted their bodies or kicked their legs like frogs to help pull themselves upward, while still others hung there, trying to no avail to even bend their arms. Many people would likely cringe at the memory of those students who were horrified when they heard their name called to step up to that bar. Unfortunately, students who could and students who could not perform a pull-up likely already knew if they were about to show off their strength or be embarrassed in a very public forum. What was the purpose of this exercise? Research suggests that often nothing was gained; students were not motivated to improve their fitness nor did they learn much about physical activity as a result of this humiliating experience (Cale & Harris, 2009).
Students should be taught to understand that fitness assessment allows for a current level of fitness to be determined, that levels of fitness correspond to overall health, and that these levels can both increase and decrease.

Fortunately, in most places, the days of promoting negative experiences through fitness assessment highlighted by pull-ups and the mile run (in which the slowest student had to shuffle across the finish line in front of a snickering class) are gone. Today, fitness assessment is often used appropriately (e.g., not in front of an audience) to help students learn more about fitness and physical activity; it can even support the promotion of positive attitudes toward physical activity (Silverman, Keating, & Phillips, 2010)! Research has suggested that students who develop positive attitudes toward physical education may lead more active lives (Solmon, 2003). Fitness assessment is part of physical education and can contribute to the formation of attitudes that could determine students’ lifelong physical activity levels. The purpose of this article is to share information with teachers about how fitness assessment should be used in their physical education classes and to share strategies that will help students develop positive attitudes toward being active.

Recommendations for Appropriate Fitness Assessments

Fitness education and the assessment of health-related fitness components should be part of a year-long curriculum (Silverman, Keating, & Phillips, 2010), which is the first recommendation. Fitness education is defined by SHAPE America – Society of Health and Physical Educators (2012, p. 1) as “the instructional and learning process of acquiring knowledge, skills and values; experiencing regular participation in physical activity; and promoting healthy nutrition choices to achieve life-enhancing health-related fitness.” Teachers should be able to identify how they will plan and teach lessons that allow students to gain knowledge through physical education experiences within each component of health-related fitness. For example, sixth-grade students participating in the Progressive Aerobic Cardiovascular Endurance Run (PACER) assessment should learn that they are exercising their heart muscle and link this activity to the purpose of cardiovascular fitness. Consistent reinforcement of health-related fitness principles within lessons throughout the year allows students to understand the importance of fitness assessment as a way to measure their current fitness levels.

A second recommendation for the proper use of fitness assessments is to help students understand why they are participating in a fitness assessment (Centers for Disease Control and Prevention [CDC], 2014; Fox & Biddle, 1988). Almost everyone can remember a school assignment that seemed like busy work. Imagine the difference in your attitude had you known why you were doing that homework. Students should be taught to understand that fitness assessment allows for a current level of fitness to be determined, that levels of fitness correspond to overall health, and that these levels can both increase and decrease. Students can be taught to understand what their score on a fitness assessment means, how it relates to their overall health, and how they can improve their score—thereby leading to an increase in their overall health. These concepts are important and can be applied throughout life. Allowing students to see the purpose of fitness assessment is vital to them reaping the potential benefits of this aspect of physical education.

It is important also that fitness assessment be made fun (Fox & Biddle, 1988; Morrow, Zhu, Franks, Meredith, & Spain, 2009), which is the third recommendation. As previously discussed, enjoying class can lead to positive attitudes toward physical activity, making it a critically important component and often the most challenging recommendation for teachers to implement. Students and adults are more likely to engage in activities they enjoy, so an attempt to make experiences with fitness assessment more enjoyable could yield long-lasting benefits.

Though several articles have presented additional ways to include fitness assessment as part of fitness education to promote physical activity (i.e., Corbin et al., 2014), a fourth and final recommendation, which aligns well with the second recommendation, is the selection of criterion-referenced assessments instead of norm-referenced assessments when selecting fitness assessments to use as part of fitness education programs (CDC, 2014; Freedson, Cureton, & Heath, 2000; Morrow, 2005). Criterion-referenced assessments, such as FITNESSGRAM®, provide an acceptable range of scores linked to indicators of health, and yield more meaningful information than norm-referenced assessments that compare students to a national average. This rationale is supported by the Presidential Youth Fitness Program and its decision to adopt the Fitnessgram battery of fitness assessments, which are criterion-referenced, and drop the previously-used President’s Challenge fitness assessments, which are most often implemented as a series of norm-referenced assessments.
Lesson Ideas

This section presents examples of lessons that are in line with the four recommendations described in the previous section for the proper use of fitness assessments. Ideas for lessons within the four areas of health-related fitness (i.e., cardiovascular endurance, flexibility, muscular strength, and muscular endurance) that affect the fifth area (body composition) are presented as examples of activities that promote positive experiences for students while preparing them for fitness assessment. These activities are often more enjoyable than fitness assessments and can easily be infused into a year-long curriculum. Some of these activities may be used as instant activities that get students moving upon entering class, while others may take longer and be part of a health-related fitness lesson.

Fitness assessment as part of year-long fitness education

The first recommendation is that fitness assessment should be a part of a year-long fitness education curriculum. This program can focus on teaching fitness concepts associated with each of the five areas of health-related fitness. For instance, students can participate in various activities that enhance muscular endurance throughout the school year, not just in a single unit of instruction.

Physical education teachers have long been asking their students to perform muscular endurance-based exercises as part of their class’s instant activities. What a great chance to make sure there is an opportunity for students to improve their fitness in every class. Perhaps during the allocated time for an instant activity, a student can lead and incorporate each area of fitness. One popular technique that personal trainers employ is to have clients track their workouts. This same technique can be incorporated in the school gymnasium. Students can record how many push-ups or sit-ups they are able to do during the beginning of class or how many kettlebell swings they can properly perform.

Another example of an activity that could be used as a station activity to practice techniques that increase muscular fitness throughout the school year is partner-assisted pull-ups. Students would have time to go to the pull-up bars and work in partners or groups to build upper-body endurance. Students would start at the lowest pull-up bar and hang with their knees bent, while their partner gets in position behind them. When they attempt a pull-up, their partner helps them and lifts them up by placing both hands on their back (not on the ankles, as often is done) to provide safe and effective support. Students learn the motion of a pull-up with this exercise and can develop muscular endurance and strength. Allowing students to work at their own pace and get practice at the pull-up bar helps them to develop the strength needed to perform a variety of activities. This activity can be done when expensive gym equipment that performs the same motion with a weight-assisted bench is not available. Another way to increase muscular endurance is the “arm saw” (Virgilio, 2012). The arm saw has students in pairs facing each other. Students clasp hands, and while keeping wrists stable, they start pulling with one arm and pushing with the other (like sawing a tree).

An enjoyable way to incorporate preparation for the cardiovascular fitness assessment and to add appropriate competition to the fitness assessment preparation is through the partner PACER assessment. The PACER assessment is an aerobic-capacity assessment in which students run back and forth across the gym, at a distance appropriate for their age, each time they hear a beep. These beeps get progressively faster. In this activity, students partner up, and then one student proceeds to make two passes (down and back) to the beeps on the PACER assessment while the other partner rests. This process is repeated until the team is unable to successfully make two passes on the assessment, indicating completion because one or both runners cannot keep up with that pace. Because of the rest time (while their partner is running), students can perform for much longer periods of time than when they perform the PACER by themselves. It has been the experience of the authors that students of many grade levels enjoy participating in this activity.

In the partner PACER assessment, students are still learning about the protocols for the PACER assessment and are practicing to complete the assessment in the future. Schools could keep track of high scores or improvement by grade, gender or class to add to the students’ enjoyment in this alternative to simply lining up and practicing for the PACER assessment. This alternative works well for students in any grade. Follow-up lessons could discuss the use of the frequency, intensity, time, and type (FITTT) principle to develop personal fitness plans aimed at improving students’ cardiovascular endurance.

Another way to incorporate cardiovascular fitness into an instant activity is to incorporate various tag games like “triangle tag” (Virgilio, 2012). For triangle tag, the teacher divides groups into fours and has three students hold hands in the shape of a triangle. One person is chosen to be “it.” The group then pro-
tects that one person from the tagger who is outside the group by rotating in a circle to avoid getting tagged. Rotate students as they get tagged so everyone plays all the roles.

**Promoting students’ understanding of the reasons for fitness assessment**

To address the second recommendation of ensuring that students understand the importance of the fitness assessment and how it relates to their overall health, an activity that may bridge the gap between assessment and understanding is recommended. It appears that teachers often have students complete fitness assessment items during the course of a couple of days without properly preparing students to perform the assessment to the best of their ability. As already mentioned, teachers should explain to students the purpose of fitness assessments, and it would be good practice to provide opportunities for students to take part in a variety of activities that teach about fitness.

There are several interesting ways to help students improve their lower-back and hamstring flexibility, such as yoga. Some districts will not approve yoga in the curriculum for religious reasons. In such instances, another term, such as restorative stretching, could be used. Yoga can be taught and implemented at the end of physical education lessons for a variety of grade levels. Yoga can also simply be defined as a series of poses and balancing exercises that develop strength and coordination without using the label of “yoga.” There are multiple benefits of utilizing this activity at the conclusion of lessons. Teachers can help students understand that stretching exercises should take place after an instant activity or an exercise period. Teachers also can benefit from teaching about flexibility during the cool-down portion of class. This time is a great, often-overlooked opportunity to conduct lesson closure and to cognitively assess student learning.

Yoga is a wonderful way for teachers to help their students learn about stretching, flexibility and their body through a po-
potentially new, lifelong activity. Though yoga may be outside of the comfort zone or knowledge base of some physical education teachers, there are many options available to help them learn about and gain materials to successfully teach yoga today.

Task cards are one such option. Yoga poses can be searched online and then printed to hang around the gym or placed at stations. It is suggested to instruct students to hold each pose for 30 seconds to start, with the challenge of increasing the time spent in the pose. Another way to extend the task is to post another, more difficult variation of the pose. For instance, the tree pose (standing with one foot on the inner opposite leg while arms are straight and hands are clasped above the head) can be made easier or more difficult depending on the height of the foot placement on the opposite leg. Having different levels of each pose allows all students to challenge themselves and provides them with the opportunity to succeed.

Another idea to incorporate flexibility exercises to help prepare students for fitness assessment and an overall healthier lifestyle, all while keeping it fun, is to do an activity like “knots of problems” (Virgilio, 2012). “Knots of problems” is a problem-solving skill that targets flexibility. Break up the class into groups of five or seven students standing shoulder to shoulder, and have all students reach across and clasp hands with two people. Students may not hold both hands of the same person or either hand of the person directly next to them. The goal is for students to unravel the knot, without releasing their grip and end in a circle.

Make fitness assessment fun

A third recommendation is to make sure that fitness assessment is fun. If students are not getting developmentally appropriate challenges in physical education, they are most likely not going to be having fun. Teachers should also focus on learning and improving skills to increase the “fun factor” in physical education (Garn & Cothran, 2006). Garn and Cothran (2006) put it well: “If teachers are concerned about student fun, they must plan for meaningful non-achievement extrinsic factors, such as social interaction or quality teacher-student interactions, especially in individual/dual and fitness activities in which these opportunities are not inherently present in the activity” (p. 295).

Fun activities that help students prepare for Fitnessgram assessment items can be added to the physical education curriculum. Teachers have reported that having students participate in more enjoyable fitness-based activities decreases the focus on preparing for the assessment, which students learn to dislike. The previously-presented partner PACER assessment is one such assessment preparation variation that students seem to enjoy.

To engage elementary school students, storytelling that incorporates yoga poses is an effective technique. Several resources incorporate storytelling, pictures and descriptions of poses that elementary school students can master. Here is an excerpt from one book (part of a continuing story about an adventure): “We will never climb that mountain again! (Students go into mountain pose here.) It is too dangerous!” (Khalsa, 1999, p. 24).

A fun activity that works on muscular endurance is “push-up pinny hockey.” In this game, partners face each other in a push-up position. One partner attempts to slide a rolled-up pinafore (pinny) between their partner’s hands for a goal. The partner is allowed to defend the shot with their hands but cannot have any other body part touch the floor. Increasing the distance or changing the object used as a puck can vary the difficulty of the game. Students in this example can be taught the proper starting position of the push-up and can work on their upper-body strength in an activity they would enjoy more than simply holding the up position or performing push-ups. Short games can advance to organized tournaments or simply an instant activity during roll call that continues to build strength in students throughout the year. This activity is great for all grade levels.

Another fun way to practice for the push-up assessment in Fitnessgram is with an activity called “team negative push-ups challenge.” In this game one person at a time completes the negative phase of a push-up. All students in a team hold a plank or modified plank position in a circle. The first student has to bend his or her elbows and, as slowly as possible, lower him or herself to the ground. The next person goes when the first person’s stomach touches the ground. Teams can attempt to stay up for a period of time and then try to extend that time in subsequent rounds. Teams also could compete against each other to see how long they can take to complete a negative push-up circle.

Use criterion-referenced assessments to promote positive attitudes

Finally, using criterion-referenced assessments instead of norm-referenced assessments is suggested and aligns well with the second recommendation, which is to help students understand the why of fitness testing. Criterion-referenced assessments, such as the Fitnessgram, have ranges of acceptable scores. These ranges of scores represent zones, which indicate whether or not a student is at risk for particular health problems (CDC, 2014; Corbin & Pangrazi, 1992) and what is needed for the student to achieve optimal health (Freedson & Rowland, 1992). These assessments are seen as an improvement over the norm-referenced fitness assessments because a student who is within the acceptable range of a criterion-referenced standard has demonstrated an optimal level of fitness. In contrast, with norm-referenced standards, a student is simply compared to a norm that may or may not correlate to a level of health or fitness.

Students have shown slightly positive attitudes toward fitness assessment and even more so when Fitnessgram was implemented instead of the Presidential Physical Fitness Challenge (PPFC; Mercier & Silverman, 2014; Vincent Graser, Sampson, Pennington & Prusak, 2011), as have teachers (Ferguson, Keating, Bridges, Guan, & Chen, 2007). In addition, girls were shown to prefer the PACER assessment (62%) to the mile run (38%); Wilkinson, Brown, Vincent Graser, & Pennington, 2012) — a finding that supports the decision to adopt the PACER assessment instead of the mile run to assess cardiorespiratory endurance. Even with this knowledge, the old PPFC
is still widely used in gymnasiums across the United States; teachers must work to change that and move in the direction of the Fitnessgram, which is part of the Presidential Youth Fitness Program. The Fitnessgram is viewed as an improvement over the PPFC in part because of the use of criterion-referenced assessment items and the administration of assessment items that do not promote embarrassing situations like hanging on the pull-up bar or finishing last in front of peers.

These examples are just a few from a plethora of activities available that follow the recommendations highlighted for the proper use of fitness assessment. These activities were selected for inclusion in this article because elementary or secondary physical education teachers have reported using these activities with success to accomplish the goals of fitness assessment. It is not expected that physical educators will need to reinvent the wheel by developing all their own activities, as there are several free and useful resources that can help physical educators and curriculum planners in implementing the four recommendations presented here.

Conclusion
With most students participating in fitness assessment as part of their experience in physical education, it is important that teachers evolve from outdated practices that often cause students to develop negative attitudes toward fitness. The purpose of this article was to inform health and physical education teachers of the recommendations for how to implement fitness assessment, to offer suggestions on ways to conduct fitness assessment that are meaningful and positive, and to provide fitness activities that can improve fitness, health and fitness assessment scores. These recommendations, lesson ideas, and resources can help teachers educate students on the benefits of physical fitness assessments and on how fitness assessment can be used in meaningful ways throughout life to develop fitness plans aimed at maintaining or improving overall health. Fitness assessment can be beneficial if implemented properly, and it is hoped that the information provided in this article, along with sound teaching practices, will help save current students from the same negative experiences with fitness assessment that previous generations encountered.

References
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Sharon R. Phillips (Sharon.R.Phillips@hofstra.edu) is an assistant professor in the Department of Health Professions at Hofstra University in Hempstead, NY; Riste Marttinen is an associate professor in the Department of Kinesiology at California State University–Fullerton, in Fullerton, CA; and Kevin Mercier is an assistant professor in the Department of Exercise Science, Health Studies, Physical Education and Sport Management at Adelphi University in Garden City, NY.