Increased screen time” and “decreasing physical activity” are both commonly expressed phrases iterated when physical educators and their advocates make a case for physical education (PE) in the United States (U.S.). Often this argument is used when there is a threat to reduce PE time in local school districts, and PE is found once again on the chopping block, forced to defend its place in the U.S. educational system. The Surgeon General’s 60 minutes of physical activity (PA) per day (Strong et al., 2005) is the gold standard for today’s youth, a recommendation known for its ability to positively influence overall health. A PE class is one avenue to attain this 60-minute goal both in actuality and in providing the skills and knowledge base for children to explore PA outside of the school setting.

Sixty minutes of PA may at times seem ominous to a child. Also, the quality of this general notion of “activity” is wildly vague with no standard for intensity or skilled movement. It is not uncommon for school administrators to encourage students to walk around the parking lot after lunch just to say that they were doing their part in contributing to the requirement.

As physical educators we can do better than laps around the perimeter of the school parking lot! One option for enhancing PA with children is participating in high-intensity interval training (HIIT). This type of workout may be a great way to increase the vigorous portion of daily PA in a PE class and actually enhance some aspects of participants’ health-related fitness.

The State of Physical Activity in School-aged Children in the United States

Children in the United States spend on average 8–9 hours per day in school, most of which is spent engaging in what can be classified as sedentary behavior (CDC, 2000). Even so, most moderate-to-vigorous physical activity (MVPA) occurs during school hours compared to after-school and weekend PA (Brooke, Corder, Atkin, & van Sluijs, 2014). Though there has been a rise in efforts to increase daily PA of children, PA levels remain inadequate (Tremblay et al., 2016). Most countries, especially those with the highest income levels, do not meet pediatric health recommendations for PA (Tremblay et al., 2016) to counteract the negative health and ecological outcomes of physical inactivity. Yet high-income countries score better in PA delivered during school hour; furthermore, these activity times are typically taught by exercise specialists after grade six (Tremblay et al., 2016). In the United States, PE classes account for an average of nine additional daily min of MVPA, helping the U.S. get closer to the recommended 60 minutes of daily MVPA benchmark (Strong et al., 2005) but still falling short of the target (Yli-Piipari et al., 2016). Even though professionally trained phys-
cal educators are more likely to be conducting PE in the higher grades (Tremblay et al., 2016), the current global state of affairs is that throughout adolescence there is a 65% decline in PA (Dumith, Gigante, Domingues, & Kohl, 2011).

The Challenge for Physical Education Teachers

As physical educators strive to positively impact the health status of U.S. children, these professionals may find themselves at a crossroads among a myriad of standards with precious little instructional time. Teachers are torn between spending available time on skill development or health and fitness outcomes; pushing to enhance social and emotional learning skills while also providing foundational sport skills; offering dance and rhythmic activities but also wanting to squeeze in international games, outdoor adventure, and cooperative activities (Kohl & Cook, 2013; SHAPE, 2016). Teachers in many states must integrate math and English content into physical education supporting the Common
Core (Kohl & Cook, 2013; SHAPE, 2016). Also, physical educators strive to provide inclusive PE for all ability levels and mitigate preconceived biases about lowered expectations of overweight and obese children (Lynagh, Cliff, & Morgan, 2015). It is no wonder that the dichotomies faced by today’s PE teachers leave them struggling to help counteract challenging trends such as doubling obesity rates or even tripling numbers of extreme obesity seen in adolescents (Ogden et al., 2016) and increased sedentary behaviors of children today (CDC Youth Risk Behavior Surveillance, 2018).

The Society of Health and Physical Educators (SHAPE) America and the American Heart Association together recommend that elementary schools provide 150 minutes and secondary schools provide 225 minutes of PE each week and that the students are active for 50% or more of PE class time (SHAPE, 2016). Yet fewer and fewer children are participating in PE classes as they age. By the time children reach later adolescence, only half of U.S. high school students participate in one day or more of PE classes, and only 29% participated in PE all five days of the week (CDC Youth Risk Behavior Surveillance, 2018; Dumith et al., 2011). Since 2012, required PE courses have declined roughly 8% in elementary and junior high/middle schools (SHAPE America, 2016). Furthermore, many PE classes are frequently at the top of the list for restrictions when state budgetary goals need balancing (U.S. Census Bureau, 2018). With this in the background, one approach to countering the aforementioned issues is that health and physical educators deliver well-organized and focused fitness programs that can be tolerated across many different somatotypes and delivered efficiently to bulging class sizes.

The first 10–15 minutes of PE class may be a perfect time to capture productive PA time. There has been a recent push in PE classes to get students moving as quickly as possible to reduce physical inactivity during the times when students change clothes and attendance is recorded. In fact, strategies to bypass this sedentary portion of PE classes has been shown to reduce physical inactivity by 40% (Carrel et al., 2005) at least in smaller class sizes. Replacing a traditional PE warmup with a 10-minute HIIT protocol is a time-efficient method of enhancing health, leaving more time for other PE standards such as skill development, motor behavior development, and flexibility. Focused, well-designed workouts can increase the total PA time in a PE class from a 55% to 95% of the available activity time (Carrel et al., 2005). Furthermore, a HIIT protocol requires 70% less time for execution compared to traditional endurance training while providing similar health benefits as longer, moderately intense PA (Araujo et al., 2012). Finally, HIIT is well tolerated across a range of somatotypes in children, including overweight and obese children (Araujo et al., 2012; Lau et al., 2015; Tjonna et al., 2009). Given that HIIT is a resourceful use of time and seems to be well received across body types, HIIT is a sensible tool that new and experienced physical educators alike can include in their PE lesson plans.
**What Is HIIT?**

Though highly variable, the first HIIT research utilized workouts typically consisting of four to six bouts of 30-second bursts of all-out intense cycling, with each bout separated by a few minutes of rest (Gibala et al., 2006). Other HIIT workouts included other types of burst activity such as sprinting, sport drills, calisthenics, games, or combinations of all of these. The American College of Sport Medicine (ACSM) published their agreed-upon description of HIIT as “[HITs] may range from 5 seconds to 8 minutes long, and are performed at 80% to 95% of a person’s estimated maximal heart rate” (Kravitz, 2014). Thus HIIT is a form of vigorous physical activity (VPA). Pediatric HIIT meta-analyses and reviews report that the heart rates elicited by many HIIT studies on children and adolescents align with the ACSM’s description of VPA in that heart rates were 80%-95% of their maximum (Amigo, Gomez, Gallardo, & Palmeira, 2017; Costigan, Eather, Plotnikoff, Taaffe, & Lubans, 2015a; Eddolls, McNarry, Stratton, Winn, & Mackintosh, 2017; García-Hermoso et al., 2016; Logan, Harris, Duncan, & Schofield, 2014).

**How Can HIIT Make a Difference?**

Metabolic syndrome is the health-robbing intersection of five devastating cardiovascular risk factors: abdominal obesity, elevated fasting blood glucose levels, high levels of blood triglycerides, hypertension, and decreased high density lipoprotein (HDL) cholesterol. While recognizing the substantial importance of healthy food choices on metabolic syndrome, HIIT can make a positive difference, improving the lives of U.S. children by lowering the incidence of metabolic syndrome risk factors. In fact, risk factors common to heart disease and metabolic syndrome develop early in life, and regular PA, including VPA, can have a significant preventive effect (U.S. Department of Health and Human Services, 2008). Clinical diagnosis of metabolic syndrome is manifesting three of the five conditions noted above (Miller, Kaylor, Johannsson, Bay, & Churilla, 2014). Up to 10% of adolescents in the United States have metabolic syndrome, with more than 73% manifesting at least one symptom of metabolic syndrome (Costigan et al., 2015a; Eddolls et al., 2017; García-Hermoso et al., 2016; Logan et al., 2014). Over 5% of children 2–10 years old have metabolic syndrome (Ahrens et al., 2014). As in adults, 60 minutes or more of MVPA in children significantly and positively influences cardiometabolic risk factors (Poitras et al., 2016). In fact, physical activity can increase insulin sensitivity independent of body fatness and is just as important as body fatness in predicting overall health in children (Carrel et al., 2005). As such, HIIT can convey health-promoting effects on its participants. HIIT is experiencing a renewed interest in the exercise choices in adults and now in children. The health benefits of these HIIT protocols have been well reviewed (Amigo et al., 2017; Eddolls et al., 2017; Logan et al., 2014), including recent meta-analyses in both healthy-weighted (Costigan et al., 2015a) and overweight and obese (Costigan et al., 2015a; García-Hermoso et al., 2016) children and adolescents. A few of the findings from some key pediatric HIIT studies thus far are summarized below.

**Effect of HIIT on Metabolic Syndrome in Children**

Short bursts of high-intensity exercise (intensities between 80% and 95% of maximum heart rates) increase cardiovascular and metabolic function and can favorably change body composition without the time investment of traditional aerobic training (Eddolls et al., 2017). HIIT has positive effects on one or more limbs of metabolic syndrome at least to the same degree as longer, moderate, constant-load workouts, if not better, in some instances (Lambrick, Westrupp, Kaufmann, Stoner, & Faulkner, 2016). HIIT can improve waist circumferences or prevent increases in waist circumferences seen in the general population. Healthy children that participated in HIIT for 7–12 weeks benefited with either lower BMI (Araujo et al., 2012; Baquet et al., 2010; Costigan et al., 2015b), lower percent body fat (Logan et al., 2016), lower waist circumference (Weston et al., 2016), and/or waist-to-height ratio (Logan et al., 2016). Obese and overweight children experience the same decreases in waist circumference (Lambrick et al., 2016), BMI (Tjønna et al., 2009), and percent body fat (Lau et al., 2015; Tjønna et al., 2009), perhaps even more so than children with a healthy body composition (Lambrick et al., 2016).

Additional benefits of HIIT that decrease the risk of metabolic syndrome are the maintenance of waist circumference (Finkelstein et al., 2012) and body mass index (BMI; Lau et al., 2015) in healthy and overweight children, respectively. In each of these studies, children who did not participate in HIIT increased in both measures (Finkelstein et al., 2012; Lau et al., 2015). Thus HIIT was an effective tool to prevent increases in unhealthy anthropometrics seen in the general population (Buchan et al., 2013; Lau et al., 2015). It should be noted that the conclusions from a meta-analysis of data from nine research studies on obese youth did not demonstrate a clear benefit of HIIT on body composition (García-Hermoso et al., 2016). However, the varied reported body composition assessment methods and the relatively low number of studies that met the criteria for the meta-analysis made it difficult to demonstrate the effectiveness of HIIT beyond that seen in the individual studies.

Another health-promoting effect of HIIT may include improvements in various blood indices. Plasma triacylglyceride levels were reduced after performing HIIT three times per week for 10 weeks (Weston et al., 2016). However, other HIIT studies have not confirmed similar blood lipid lowering benefits of HIIT (Buchan et al., 2013; Dias et al., 2018; Logan et al., 2016; Tjønna et al., 2009). Similarly, HIIT has yet to imply either cholesterol-lowering effects or reductions in fasting blood glucose in healthy children (Buchan et al., 2013; Logan et al., 2016; Weston et al., 2016). Yet HIIT may be effective in lowering insulin resistance (Araujo et al., 2012; Tjønna et al., 2009) in obese children. One consistent impact on metabolic syndrome is HIIT’s effect on lowering systolic blood pressure in both healthy (Buchan et al., 2011) and obese children (Tjønna et al., 2009). This beneficial effect was further supported by García-Hermosa and others (2016) when they finished their meta-analysis of HIIT studies on overweight and obese subjects. From the findings of these research studies, HIIT is a definitive exercise mode capable of eliciting many health promoting changes in children.

**HIIT in Research: How Often? How Much Time?**

**What Do Acute Studies Tell Us?** In adolescents, acute HIIT exercise bouts increased fat oxidation (Bond et al., 2015; Crisp, Fournier, Licari, Braham, & Guelfi, 2012), whereas work-matched moderate exercise did not (Bond et al., 2015), and HIIT was as effective in improving glucose tolerance and insulin sensitivity
as moderate exercise (Cockcroft et al., 2015). These effects can be seen with as little as two 1-minute bouts of HIIT (Bond et al., 2015; Cockcroft et al., 2015; Crisp et al., 2012). However, two sprint bouts lasting only 30 seconds did not increase fat oxidation in adolescents (Burns, Oo, & Tran, 2012). Thus the fat-oxidizing effects are measurable in exercise bouts between 30 and 60 seconds. Understandably, researchers are not conducting longitudinal studies in which subjects undergo a minute of HIIT. Most HIIT sessions last much longer as evidenced in the training/chronic studies below.

**What Do Training/Chronic Studies Tell Us?** One way to observe the effects of HIIT would be to look at the accumulative effect of VPA throughout the day in epidemiological research. Accumulating between one and eight minutes of VPA daily has health-promoting effects in children (Carson et al., 2014). Dose-response effect for VPA ranging from one to eight minutes is associated with better body composition factors such as lower body mass index, blood pressure, and waist circumference and improved cardiovascular fitness such as a higher VO₂ max (Carson et al., 2014). In agreement with this, Hay and others (2012) determined that accumulating more than seven minutes of VPA per day is associated with decreased incidence of overweight and elevated blood pressure.

Interpreting HIIT research can sometimes be challenging because the workouts in the studies vary in frequency, time, and work-to-rest ratio. The only consistent exercise parameter across HIIT studies is frequency and intensity. In order to be a HIIT workout, the intensity is between 80% and 95% of maximum heart rate (Kravitz, 2014). With regard to frequency, HIIT sessions are typically two (Araujo et al., 2012; Lambrick et al., 2016; Tjonna et al., 2009) to three (Baquet et al., 2010; Buchan et al., 2011; Buchan et al., 2013; Costigan et al., 2015b; Dias et al., 2018; Lau et al., 2015; Weston et al., 2016) times per week. Beyond fairly consistent frequency and intensity of HIIT protocols, the variability among the studies begins, especially with regard to total time of a HIIT workout session and the work-to-rest ratio.

The most often employed workout session duration is six to ten minutes per HIIT session (Buchan et al., 2011; Buchan et al., 2013; Costigan et al., 2015b; Lau et al., 2015; Logan et al., 2016; Weston et al., 2016), which supports the observation of epidemiology studies in that seven minutes of VPA conveys many health benefits (Hay et al., 2012). However, there are a few studies in which the children exercised 30 minutes or longer per session (Araujo et al., 2012; Baquet et al., 2010; Carson et al., 2014; Lambbrick et al., 2016, 2016; Tjonna et al., 2009). In the one dose-response study, children who underwent as little as one minute and 20 seconds per session of HIIT experienced the same visceral fat reduction benefits as those participating in nine minutes of HIIT (Logan et al., 2016). It should be noted that these subjects also participated in one resistance training session per week that was not distinct among the groups and may have confounded the lack of a dose response observed between the low and high HIIT volumes.

The work-to-rest ratio varies considerably across the literature. The exercise-to-rest ratio for HIIT in research that is used most commonly is 30 seconds of HIIT followed by 30 seconds of rest (Baquet et al., 2010; Buchan et al., 2011; Buchan et al., 2013; Costigan et al., 2015b) and similar protocols including 15 seconds HIIT followed by 15 seconds of rest (Lau et al., 2015) and 45 seconds of HIIT with 90 seconds of rest (Weston et al., 2016). Beyond these studies, HIIT work-to-rest intervals deviate notably from 30 seconds on and 30 seconds off especially in those studies involving overweight and obese children (Araujo et al., 2012; Dias et al., 2018; Tjonna et al., 2009). In these latter studies, the work-to-rest ratio ranged from one minute of work with three minutes of active rest (Araujo et al., 2012) to four minutes of work followed by four minutes of active rest (Dias et al., 2018; Tjonna et al., 2009). In a game-based HIIT study, children participated in six HIIT games each six minutes long with two minutes of recovery between games (Lambbrick et al., 2016). Typically, these longer work-to-rest ratios were in studies that employed longer total exercise protocols (greater than 30 minutes of total exercise time) as well (Araujo et al., 2012; Dias et al., 2018; Lambbrick et al., 2016; Tjonna et al., 2009).

The next question that arises is: “How long until the benefits of HIIT become apparent?” Changes occur along a similar timeline as traditional aerobic training in that measurable outcomes are seen with as little as 6–8 weeks of HIIT (Costigan et al., 2015b; Lau et al., 2015; Logan et al., 2016). However, metabolic changes such as increased maximal oxygen consumption and substrate utilization can be detected in as little as two weeks consisted of only six total HIIT sessions (Barker, Day, Smith, Bond, & Williams, 2014). However, this short duration of HIIT is not associated with the demonstrable health benefits as in the aforementioned studies.

**Practical HIIT Recommendations**

For the purpose of implementing HIIT into PE classes, duplicating some elements of the above studies would not have practical application. Combining the research and the desire to keep the HIIT inside the parameters of existing PE classes, the authors recommend the following:

<table>
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<th>Frequency: at least 3 times per week</th>
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<tr>
<td><strong>Intensity:</strong> 80%–95% of maximum heart rate, 160+ BPM</td>
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<tr>
<td><strong>Type:</strong> any reasonable activity that will elicit the desired intensity: sprinting, cycling, sport/agility drills, games, calisthenics without a lot of time spent on instruction</td>
</tr>
<tr>
<td><strong>Time:</strong> 30–60 seconds of activity bursts with equal rest for a total time of 7–15 minutes</td>
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A typical HIIT workout in a middle or high school physical education class might look like this: start HIIT stations with whole-body lower-intensity exercises or a two-minute walk/jog warmup. On a signal, students begin with 30–45 seconds of mountain climbers followed by 30 seconds of transition to a mat to perform crunches. The pattern of 30–45 seconds of high-intensity activities followed by 30 seconds of rest continues until the desired length of your HIIT is achieved (7–15 minutes). Exercises may be selected from categories of variables such as high-intensity total body and upper body, lower body, and core muscular endurance (see Figure 1 for specific ideas). A balanced selection of each category should be selected. Various activities can be swapped out and the format may change. For example, participants may perform the HIIT while following an instructor in the front of a room one day or performing activities at stations arranged around the perimeter of the basketball court another. The exercises above can be adapted to accommodate younger children in elementary school. Once the HIIT is completed, the remainder of the PE class can be devoted to other types of PA.
Enjoyment

Though not grounded in data, many researchers hypothesize about the potential adherence benefit of HIIT. Lau and others (2015) postulated that HIIT program will likely have greater adherence because of the short time investment over the period of a week. They also postulate improved self-efficacy as a motivational tool for overweight children as they are more able to complete short bursts of activity compared to a 30-minute continuous running exercise session (Lau et al., 2105).

Spontaneous, intermittent VPA (i.e., HIIT) with activity bursts typically lasting fewer than 15 seconds is more consistent with child play behavior compared to sustained moderate PA (Bailey et al., 1995). Interval PA was determined to have more reinforcing value compared to constant intensity activity, and children prefer burst activity over longer, less intense exercise modes (Barkley, Ep-
stein, & Roemmich, 2009). Physical activity that mimics play is associated with a greater sense of enjoyment and potentially greater motivation and adherence (Sebire, Jago, Fox, Edwards, & Thompson, 2013). Many HIIT studies up to this point have employed running and cycling sprints to achieve the desired intensities, more often than not, in a laboratory setting (Araujo et al., 2012; Barker et al., 2014; Lau et al., 2015; Logan et al., 2016; Tjønna et al., 2009). Implementing HIIT into the existing school schedule paradigm and reproducing play-based PA has some promising results (Baquet et al., 2010; Buchan et al., 2011; Buchan et al., 2013; Weston et al., 2016). Game-based HIIT within schools is an effective strategy that improves aerobic capacity, economy (as defined by a lower oxygen cost at a submaximal exercise intensity), and body composition (Lambrick et al., 2016). When administered the Physical Activity Enjoyment Survey (Kendzierski & DeCarlo, 1991), these children responded favorably to game-based interval exercise, rating the exercise routine an average Likert response of 4.45 out of 5 (Lambrick et al., 2016).

Other researchers who studied enjoyment feedback data after HIIT-style workouts have measured positive results in children. Exercise mode preference was given to the sessions in which sprinting was added to moderately intense cycling compared to continuous cycling (Crisp et al., 2012). When HIIT was introduced in a PE class in Scotland, students responded with trepidation initially, but as weeks passed this was replaced by confidence and a sense of accomplishment (Buchan et al., 2013). Costigan and others (2015b) used the self-determination theory to motivate students by tapping into students’ need for autonomy (exercise selection, achievable and adequately challenging workouts, feedback). Their program was well received as shown by a Likert scale score mean of 4.2 out of 5, indicating that students agreed that the program was enjoyable (Costigan et al., 2015b). Similarly, the teachers were willing to embed HIIT into future PE lessons, indicating a favorable reception by the educators (Costigan et al., 2015b). Adolescents found that short bouts of high-intensity exercise were as enjoyable as longer, moderate bouts when performed in a laboratory setting (Bond et al., 2015; Cockcroft et al., 2015). From these few studies that reported student enjoyment, HIIT seems to be well received among children. Yet, in general, there is a significant lack of feedback regarding the enjoyment of HIIT.

Feasibility of Incorporating HIIT in Schools, and Better Yet, into a PE Class

As one moves forward in considering HIIT with a group of children, it is necessary to investigate its feasibility in the school setting. Clearly HIIT is an effective way to bring about favorable body composition, metabolic, and cardiovascular changes. Yet most of
the studies that are able to demonstrate these effects have been conducted under the stringent conditions of a laboratory study. As stated above, schools are an optimal place to implement change in the fitness behaviors of children because it is a safe environment, supported by peers, with a dedicated time invested in health for all children, not just athletes. Yet adding additional PE classes or adding time to existing PE classes is not feasible with budget shortfalls and what has been described as “an already crowded curriculum” (Hills, Dengel, & Lubans, 2015).

Adding HIIT to a PE class is a structured, focused method to increase VPA without requiring an extensive investment of class time. There have been a handful of studies that have conducted HIIT programs in non-U.S. school settings such as France (Baquet et al., 2010), Austria (Costigan et al., 2015b), and the United Kingdom (Buchan et al., 2011; Buchan et al., 2013; Weston et al., 2016). These researchers have shown us that it may be feasible to implement HIIT into an existing PE curriculum, but it will take well-designed, focused lessons. However, it should further be taken into consideration that in most of the studies in which the HIIT was implemented into a PE course, the number of subjects ranged from as little as eight (Weston et al., 2016) to as many as 42 (Buchan et al., 2013) with the majority of group sizes less than 25 (Baquet et al., 2010; Buchan et al., 2011; Costigan et al., 2015b). The number of students, the available space, and the equipment available may be a significant challenge for some PE programs in the U.S.

Along with planning a well-organized PE lesson, it is important to plan motivational content as well. Researchers and physical educators have utilized a variety of ways to motivate students, including student-selected exercise choices (Lambrick et al., 2016; Weston et al., 2016), game-based exercise (Lambrick et al., 2016), partner support (Costigan et al., 2015b), certificates and prizes (Costigan et al., 2015b), and displaying heart-rate data while exercising (Buchan et al., 2013; Costigan et al., 2015b). A list of suggested extrinsic factors for increasing HIIT implementation success has been compiled in Figure 2.

**Is HIIT Safe? What Is the Injury Rate?**

There is a significant gap in the literature with regard to injury rates in children who undertake HIIT workouts. One style of exercise that has been compared to and even termed “high-intensity interval training” is the popular CrossFit workout. The injury rates of adults participating in HIIT have been reviewed recently, and the findings are that HIIT-style workouts (CrossFit) are comparable to similarly demanding sports such as Olympic weightlifting, football, gymnastics, and soccer (Klimek, Ashbeck, Brook, & Durall, 2018). The most common reported injury in adults participating in CrossFit was to the shoulders (Klimek et al., 2018). A parallel injury meta-analysis has not been completed in children participating in HIIT workouts. However,
it should be understood that HIIT workouts in the studies presented here are not necessarily the same as CrossFit workouts. Yet when physical educators think about what type of workouts to include in a HIIT routine, CrossFit-style exercises may become part of the routine.

The exercises utilized by various HIIT researchers were primarily running/sprinting (Araujo et al., 2012; Baquet et al., 2010; Buchan et al., 2011; Buchan et al., 2013), cycling (Barker et al., 2014), or sport/other/combination movements (Costigan et al., 2015b; Lambrick et al., 2016; Logan et al., 2016; Weston et al., 2016). Of these studies with a combined subject pool of 321, the researchers either reported the absence of injuries directly or reported no attribution reasons due to injuries, providing informal evidence that HIIT workouts implemented in schools and labs may not be associated with an increased injury rate. In fact, HIIT was shown to improve functional walking ability in obese children, which hypothetically could lead to lower injury rates when participating in all physical activity (Lau et al., 2015).

Conclusion

The enigma faced by today’s physical educator is a dichotomous intersection between available time and positive, sustainable benefits of PE. Because of its time efficiency, tolerance, and enjoyment factor, HIIT can change crossroads into a unidirectional highway leading toward health, fitness, and inclusion for our school children as well as empowerment of physical educators who are passionate about the well-being of children. Though the childhood obesity crisis is one rooted in many facets of modern lifestyles, HIIT may add significant mortar to the wall holding back the tide of declining health and increasing obesity and physical inactivity seen in our U.S. children.

References


