Valuing physical activity in schools is reflective of a long standing American tradition:

“Give about two (hours) every day to exercise; for health must not be sacrificed to learning. A strong body makes the mind strong.”

Thomas Jefferson

The Office of Coordinated School Health is responsible for monitoring the implementation of T.C.A. § 49-6-1022:

(a) In accordance with § 49-6-1022, it shall be the duty of each LEA to integrate:
   (1) For elementary school students, a minimum of one hundred thirty (130) minutes of physical activity per full school week; and
   (2) For middle and high school students, a minimum of ninety (90) minutes of physical activity per full school week.

(b) Physical activity may include walking, jumping rope, playing volleyball, or other forms of physical activity that promote fitness and well-being; however, walking to and from class shall not be considered physical activity for purposes of this section. To satisfy the requirements of subdivision (a)(1), an LEA shall offer elementary students at least one fifteen-minute (15) minute period of physical activity per day.

The Tennessee Department of Education's Office of Coordinated School Health (OCSH) works with every school district in the state to address all aspects of student health with special emphasis on reducing Tennessee’s childhood obesity rates. Encouraging adequate physical activity and providing physical education for all students are one of the central tenets of the Coordinated School Health (CSH) model.

The CSH model is prevention focused. With prevention as the focus, our state's health costs will not rise as dramatically as projected as students' age.
According to Robert Wood Johnson's Trust for America's Health The State of Obesity 2014 report, Tennessee has the fourth highest adult (33.7 percent) and fifth highest child/adolescent (20.5 percent) obesity rates in the United States (Trust for American’s Health).

Coordinated School Health state grant funds are used by school districts to provide schools with physical activity/physical education equipment, physical activity/physical education curriculums, teacher professional development, walking trails, climbing walls, fitness rooms, and student fitness assessment systems/tools.


### U.S Physical Activity Guidelines for Children and Adolescents

According to the Centers for Disease Control and Prevention, **children and adolescents need 60 minutes (one hour) or more of physical activity each day.**

Aerobic activity should make up most of a child/adolescent's 60 or more minutes of physical activity each day. This can include either moderate-intensity aerobic activity, such as brisk walking, or vigorous-intensity activity, such as running. Children/adolescents should include vigorous-intensity aerobic activity at least three days per week.

Physical activity should include muscle strengthening activities, such as gymnastics or push-ups, at least three days per week as part of a child/adolescent's 60 or more minutes.

In addition, physical activity should include bone strengthening activities, such as jumping rope or running, at least three days per week as part of a child/adolescent's 60 or more minutes (CDC Physical Activity Guidelines for Children, 2008).

► **Tennessee’s physical activity law enables schools to supplement the one hour per day national recommendation by ensuring students receive at least 130 minutes per week for elementary schools, and 90 minutes a week for middle and high schools, of physical activity during the school day.**

### Positive Link Between Physical Activity/Physical Education and Academic Performance
According to the publication, *School-based Physical Activity, Including Physical Education, and Academic Performance* (Centers for Disease Control and Prevention U.S. Department of Health and Human Services, 2010), when children and adolescents participate in the recommended level of physical activity—at least 60 minutes daily—multiple academic benefits accrue. Substantial evidence shows physical activity can help improve academic achievement (including grades and standardized test scores) as well as have an impact on cognitive skills and attitudes including enhanced concentration and attention and improved classroom behavior. Also, research indicates increasing or maintaining time dedicated to physical education may help, and does not appear to adversely impact, academic performance.

Specifically, this report states:

**Physical education:** Devoting time to physical education may have a positive relationship to academic achievement or may not negatively affect it. There are also favorable associations with cognitive skills and attitudes.

**Physical activity breaks and activity offered throughout the day:** Offering breaks for physical activity may be associated with decreases in classroom misbehavior, increases in cognitive functioning (including memory and concentration), and academic achievement.

**Recess:** Offering students recess has been associated with improved cognitive skills such as time on task, attitudes, and academic behavior. One study found that overall classroom behavior was better for students who had at least 15 minutes of recess every day.

**Extracurricular activities:** Providing extracurricular activities like intramural sports, interscholastic sports, and other physical activity outside of regular school time was found to have a positive association with academic performance, including higher grades and grade points averages, as well as lower high school dropout rates (*School-based Physical Activity, Including Physical Education, and Academic Performance*, Centers for Disease Control and Prevention Atlanta, GA: U.S. Department of Health and Human Services, 2010).

Another meta-analysis report, *Physical Activity and Performance at School: A Systematic Review of the Literature Including a Methodological Quality Assessment* (Angelika Singh et al., 2012), links physical activity with academic performance. The authors conclude by stating, “According to the best-evidence synthesis, we found strong evidence of a significant positive relationship between physical activity and academic performance. The findings of one high-quality intervention study and one high-quality observational study suggest that being more physically active is positively related to improved academic performance in children” (Singh et al., 2012).
Substantial evidence shows physical activity can help improve academic achievement (including grades and standardized test scores) as well as have an impact on cognitive skills and attitudes including enhanced concentration and attention and improved classroom behavior.

Increased Student Physical Activity/Physical Education Leads to Better Health Outcomes

According to the Centers for Disease Control and Prevention, regular physical activity:

► helps build and maintain healthy bones and muscles;
► helps reduce the risk of developing obesity and chronic diseases, such as diabetes, cardiovascular disease, and colon cancer; and

Long-term consequences of physical inactivity include:

► overweight and obesity, which are influenced by physical inactivity and poor diet, can increase one’s risk for diabetes, high blood pressure, high cholesterol, asthma, arthritis, and poor health status (Dietz, 2012); and
During the 2017-18 school year, 86 percent of all Tennessee school systems reported to the Office of Coordinated School Health that they were in compliance with the Physical Activity law for all students. Of these school districts, 42 percent report that their schools exceeded the minimum requirements of the Physical Activity law.

During the 2017-18 school year, 94 percent of all Tennessee elementary schools reported to the Office of Coordinated School Health that they were in compliance with the Physical Activity law for all students.

During the 2017-18 School year, 82 percent of all Tennessee middle schools reported to the Office of Coordinated School Health that they were in compliance with the Physical Activity law for all students.

During the 2017-18 School year, 66 percent of all Tennessee high schools reported to the Office of Coordinated School Health that they were in compliance with the Physical Activity law for all students.
The most common types of activities school districts reported as used most often in schools to meet the physical activity requirement were recess (97 percent of all school districts), walking either indoors or outdoors (73 percent of all school districts), and activities using balls (kickball, basketball, etc.) (73 percent of all school districts).

Source: Tennessee Department of Education – Office of Coordinated School Health, Annual School District CSH Applications, June 2018
Elementary School Barriers
The most often cited barrier to implementing physical activity in elementary schools is teachers/principals concerned about decreased academic time (73 school districts or 55 percent of all school districts), followed by lack of time available for implementation (47 school districts or 36 percent of all school districts), and lack of consequences for non-compliance to the law (43 school districts or 33 percent of all school districts).

Source: Tennessee Department of Education – Office of Coordinated School Health, Annual School District CSH Applications, June 2018
Middle School Barriers

The most often cited barrier to implementing physical activity in middle schools is teachers/principals concerned about decreased academic time (71 school districts or 54 percent of all school districts), lack of time available for implementation (67 school districts or 51 percent of all school districts), and lack of consequences for non-compliance to the law (46 school districts or 35 percent of all school districts).

Source: Tennessee Department of Education – Office of Coordinated School Health, Annual School District CSH Applications, June 2018
High School Barriers

The most often cited barrier to implementing physical activity in high schools is lack of time available for implementation (87 school districts or 66 percent of all school districts), teachers/principals concerned about decreased academic time (86 school districts or 65 percent of all school districts), and lack of consequences for non-compliance to the law (60 school districts or 45 percent of all school districts).

Source: Tennessee Department of Education – Office of Coordinated School Health, Annual School District CSH Applications, June 2018

*The most often cited barriers to implementing physical activity in Tennessee schools are teachers/principals concerned about lack of time available for physical activity implementation, decreased academic time, and lack of consequences for non-compliance with the law.*
During the 2017-18 school year, the most common types of innovative methods used by school systems to ensure compliance with the Physical Activity law were use of walking tracks (76 school districts), physical activity information provided to parents/guardians (48 school districts), and annual training for teachers/principals concerning integration of physical activity into the classroom (40 school districts).

Additional innovative methods used by school systems include use of mini-grants to support classroom physical activity, integration of physical activity with core subject areas, student-led physical activity events and use of student physical activity fitness rooms.

Source: Tennessee Department of Education – Office of Coordinated School Health, Annual School District CSH Applications, June 2018

► Since the implementation of Coordinated School Health in all Tennessee school districts in the 2007-08 school year, CSH school district coordinators have used CSH state or federal grant funds and/or community partners to provide 477 schools with walking tracks, 285 schools with in-school fitness rooms for students, and 406 schools with new and/or updated playgrounds.
During the 2017-18 school year, CSH school district coordinators received federal or state grants or worked with community partners to fund physical education and or physical activity efforts to the tune of $1,875,244.

### School Districts Use of Denying Physical Activity, Physical Education or Recess As Punishment

When asked if your school system prohibits or actively discourages schools from using physical activity as punishment for bad behavior, **66** school districts out of **132** replied affirmative. When asked if school districts prohibit or actively discourage schools from excluding students from physical education classes as a punishment for bad behavior in another class, **73** out of **132** school districts replied affirmative.

Source: Tennessee Department of Education – Office of Coordinated School Health, Annual School District CSH Applications, June 2018

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**NUMBER OF SCHOOL SYSTEMS WHO PROHIBIT OR ACTIVELY DISCOURAGE FROM:**

- **Excluding students from PE as a punishment for bad behavior in another class:**
  - **No:** 66
  - **Yes:** 73

- **Using physical activity as punishment for bad behavior in PE:**
  - **No:** 66
  - **Yes:** 66
Professional Development Provided on Integrating Physical Activity in the Classroom

School districts reported a decrease from 2016-17 (1067 schools) to 2017-18 (1033 schools) in the number of schools providing professional development to teachers so they could integrate physical activity in their classroom. This represents 60 percent of all Tennessee public schools. Of these, 64 percent (652 schools) were in elementary schools, 56 percent (184 schools) in middle schools, and 54 percent (197 schools) in high schools.

Physical Education in Tennessee – Survey Responses

In compliance with T.C.A. § 49-6-1021, the department shall work with a nationally recognized nonprofit heart association to develop a survey to generate data on physical education in the state of Tennessee. The survey was sent to the lead physical education teacher in each school. Of the 1,714 schools where physical education teachers received the survey, 1,405 completed the questionnaire for an overall response rate of 82 percent. The following data is based on these results.

During the 2017-18 school year, only eight percent of students are withheld from physical education as a form of punishment.

During the 2017-18 school year, 27 percent of students are withheld from physical education class for academic remediation.

During the 2017-18 school year, 89 percent of Tennessee physical education teachers stated that physical education-specific professional development was offered.

During the 2017-18 school year, 71 percent of Tennessee physical education teachers stated that they use a planned K-12 sequential curriculum.

During the 2017-18 school year, 74 percent of Tennessee physical education teachers stated that they require some type of physical assessments.
Physical Activity and Physical Education in Tennessee Compared to U.S. Rates

CDC Youth Risk Behavior Survey
In 1991 the Center for Disease Control and Prevention developed the Youth Risk Behavior Surveillance (YRBS) survey, a national survey system to monitor the prevalence of youth behavior that most influences health. The priority health risk behaviors that contribute markedly to the leading causes of death, disability, and social problems among youth and adults in the United States include tobacco use; unhealthy dietary behaviors; inadequate physical activity; alcohol and other drug use; sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases including HIV infection; and behaviors that contribute to unintentional injuries and violence. High school students reported the following weighted YRBS data related to physical activity:

Percentage of High School students who were physically active for a total of at least 60 minutes per day on five of the past seven days
Between 2005 and 2017, the percentage of Tennessee students who reported being physically active for a total of at least 60 minutes per day on five of the past seven days substantially increased from 25 percent to 44 percent. Male students reported a significantly higher rate of physical activity at 53 percent compared to female who were at 35 percent. White students reported the greatest amount of increase in this area increasing from 24 percent in 2005 to 47 percent in 2017. Both black and Hispanic students showed an increase on this measure from 31 percent to 38 percent and 26 percent to 40 percent, respectively.

<table>
<thead>
<tr>
<th></th>
<th>TN</th>
<th>males</th>
<th>females</th>
<th>white</th>
<th>black</th>
<th>hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>25.7</td>
<td>18.3</td>
<td>33.3</td>
<td>23.6</td>
<td>31.4</td>
<td>26.5</td>
</tr>
<tr>
<td>2017</td>
<td>44.1</td>
<td>52.8</td>
<td>35.2</td>
<td>46.9</td>
<td>38.1</td>
<td>40.3</td>
</tr>
</tbody>
</table>

* Hispanic data was collected during CDC’s 2007 YRBS survey administration
The rate of Tennessee students reporting they attended daily physical education classes in an average week declined from 30 percent in 2005 to 26 percent in 2017. Male students (29 percent) reported attending daily physical education at nearly the same percentage as female students (23 percent); however, male students for the second time in two years experienced a sharper decline in participation from 2005 to 2017, decreasing from 34 percent in 2005 to 29 percent in 2017. The most significant decrease was reported by Hispanic students whose participation rate declined from 35 percent in 2005 to 29 percent in 2017. Black and white students also had a decrease in this area from 31 percent to 28 percent and 29 percent to 25 percent, respectively.

Since 2005 the percentage of high school students reporting they attended physical education classes on one or more days in an average week when in school increased slightly from 37 percent in 2005 to 38 percent in 2017. Male students reported attending classes more than female students; however, female students have increased in this area by one percent since 2005. Black students have the highest percentage of participation over Hispanic and white students at 43 percent.
Percentage of students who played video or computer games or used a computer for something that was not school work three or more hours a day in an average school day

The percentage of Tennessee high school students who played video or computer games or used a computer for something not related to school work for three or more hours a day in an average school day increased from 30 percent in 2005 to 44 percent in 2017. Female students (45 percent) were slightly more likely to be engaged in this activity compared to male students (44 percent). Black students (43.8 percent) and Hispanic students (43.8 percent) reported lower rates than white students (44.2 percent). This behavior has an upward trend across all races and both sexes since 2005, suggesting that Tennessee students are increasing the amount of screen time daily.

* Hispanic data was collected during CDC's 2007 YRBS survey administration
**CDC School Health Profiles Survey**

*CDC’s School Health Profiles* is a system of surveys assessing school health policies and practices in states, territories, and large urban school districts. *Profiles* surveys are conducted biennially among representative samples of middle and high school principals and lead health education teachers.

**2016 Selected Physical Activity/Physical Education Data from School Health Profiles**

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of Secondary Schools that offered Physical Activity breaks outside of Physical Education during school day</td>
<td>70.4 percent</td>
</tr>
<tr>
<td>Percentage of schools that taught 13 key physical activity topics in a required course</td>
<td>66.2 percent</td>
</tr>
<tr>
<td>Percentage of schools in which those who teach physical education were provided with key materials for teaching physical education</td>
<td>86.2 percent</td>
</tr>
<tr>
<td>Percentage of schools that offered opportunities for all students to participate in intramural activities or physical activity clubs</td>
<td>66.3 percent</td>
</tr>
<tr>
<td>Percentage of schools in which children or adolescents used the school’s indoor physical activity or athletic facilities for community-sponsored physical activity classes or lessons</td>
<td>58.6 percent</td>
</tr>
<tr>
<td>Percentage of schools that provided parents and families with health information to increase parent and family knowledge of physical activity</td>
<td>59.6 percent</td>
</tr>
</tbody>
</table>

*Source: CDC School Health Profiles. Tennessee 2016*
Physical Activity Law Compliance Rates Among Urban School Districts

Among Tennessee’s eight urban school districts (districts serving 25,000 or more students), the rate of compliance with the Physical Activity Law is **78 percent** for the 2017-18 school year. **One out of eight** urban school districts reported **100 percent** compliance for all schools in their district.

The eight urban school districts include Hamilton County Schools, Knox County Schools, Metropolitan Nashville Public Schools, Montgomery County Schools, Rutherford County Schools, Shelby County Schools, Sumner County Schools, and Williamson County Schools.

Overall Summary and Recommendations

Schools play a pivotal role in their capacity to support the development of life-long habits of physical activity behaviors among their students. By developing and implementing physical activity policies and practices for students, schools can create environments supportive of not only the development of healthy American adults but also increase student academic outcomes. Therefore, CSH Coordinators, teachers, coaches, school administrators, and school district officials need to take a leadership role in implementing the following strategies in Tennessee schools.

**CDC School Health Physical Activity Guidelines**

The Centers for Disease Control and Prevention (CDC) synthesized research and best practices related to promoting physical activity in schools culminating in the development of several guidelines. The guidelines serve as the foundation for developing, implementing, and evaluating school-based physical activity policies and practices for students. (Sarah M., 2011)

Each of the guidelines is accompanied by a set of implementation strategies developed to help schools work towards achieving each guideline. To access the CDC strategies, click on the underlined text below.

After each strategy is a short vignette from Tennessee school districts illustrating how some Tennessee schools are already implementing national strategies.

Although the ultimate goal is to implement all guidelines in Tennessee, not every strategy will be appropriate for every school, and some schools, due to resource limitations, might need to implement the guidelines incrementally.

Best Practices
Lebanon Special School District

The Lebanon Special School District (LSSD) recognizes the importance of establishing school environments that promote physical activity. Implementing the Coordinated School Health (CSH) model, Healthy School Teams have been established in every school that focus on childhood obesity prevention efforts and the eight components of CSH. Healthy School Teams develop yearly action plans and goals to improve student health and increase academic achievement. These action plans have yielded several successful programs addressing physical activity at the elementary and middle school levels through the support of administrators in the LSSD. The following is a list of childhood obesity prevention efforts for 2017-18: Elementary K-5 - Walking field trips - Students that complete 30 miles throughout the school year in addition to recess earn a one-mile walking field trip to Don Fox Park; All Sports Camp - CSH collaborates with Wilson County Sports Council and Cumberland University coaches and athletes to provide a free sports camp to elementary students; Walk Across Wilson - Community Event to increase daily physical activity; Spring Olympics - Physical Education teachers use fitness tests to select students to represent their school and compete in the LSSD Olympics; Fundraisers- CH Fun Run; Incentive Program - 9-Week School Wide Positive Behavior Support events promote physical activity (inflatable obstacle course, activity stations, etc.); Blue League - 4th and 5th grade boys/girls basketball program; and Kids Rock Marathon - Physical education teachers organize weekend trainings with students and complete the 1-mile in Nashville; and Run 4 Water. Middle School 6-8 - Walk Across Wilson; Pacer Training/ testing- students are trained in Pacer and set personal goals to improve physical fitness levels; Incentive Program - 9 week School Wide Positive Behavior Support events promote physical activity (walk to park, fitness stations, dance); Blitz days - RTI reward earns students additional physical activity time; Activity Logs - students design an individual health plan to include nutrition and physical activity goals; and Run 4 Water; Safe Routes to Schools - students participate in bicycle safety and a walking to school program with safety precautions to promote helmet safety and an active lifestyle.

Hawkins County Public Schools

Hawkins County Public Schools’ current BMI data shows that 45.6 percent of students are overweight or obese. Annually, we provide educational materials to parents regarding the importance of maintaining a healthy weight via information distributed at Back to School Bashes, on the CSH webpage, and via the Menu Magic health education information distributed on school lunch menus. Our elementary students engaged in 806,415 minutes of GoNoodle time this year. Likewise, eight elementary schools participated in the Niswanger Children’s Hospital’s Morning Mile Program, in which students earn points and rewards for participating in physical activity before school. A total of 992 students participated this year, walking/running a total of 11,003 miles before school!
Likewise, at Joseph Rogers Primary, CSH assisted in providing supplies for Morning Choice, which includes an opportunity for students to choose between several different before-school activities after eating breakfast. These included Morning Mile, GoNoodle time, yoga, or the construction center (blocks/legos). CSH provided updated PE equipment and/or playground upgrades at six schools. Twenty-five PE teachers attended the Kingsport City Regional Wellness Institute in June 2017, with registration fees paid for by CSH. CSH also purchased water bottle filling stations for every school.

**Monroe County Schools**

In Monroe County Schools, we started a pilot in 2012 at Madisonville Intermediate School called Monroe in Motion. Monroe in Motion is a before- and after-school physical activity program with licensed trainers. At our pilot site, we had over 150 participants participating in physical activity before school. Some things that teachers observed in this first year included an increase in positive behavior and students with improved attention span., and more. In a six-year period, we have brought in over $80,000.00 in grant funds to continue this program. A majority of that funding came from the Tennessee Department of Health Project Diabetes Initiative grant. We are also receiving United Way funds, and they have allocated funds to Monroe in Motion for two years now. We were also recipients of the 3 star grant for two years. From our Monroe in Motion pilot, we've grown from one site to six sites including a staff site and a free summer camp for three weeks with up to 75 campers. We've grown from one trainer to over 10 licensed and certified trainers. We have approximately 350 people participating in our programs.

**Warren County Schools**

We recognize that a healthy teacher is vital to the classroom, and we have placed an emphasis on staff wellness. Programs this year include a Fall Fit Challenge that encouraged participants to do "purposeful" physical activity. We had 80 teacher and staff participants who walked 41,521,402 steps during the two-month program. That is over 20,000 miles! Participants reported weight loss, better mental health, and an overwhelmingly positive response to the program. We will also do a community-wide "May Marathon" physical activity challenge to end the school year encouraging teachers and staff to walk the equivalent of a marathon (26.2 miles) during the month of May and compete against local businesses and agencies.

Additionally, we provided our staff with a half-price Weight Watchers At Work Program spanning from January to March. During the 12-week time frame, 42 teachers and staff lost a total of 656 pounds! Our teachers and staff know they are role models for our students' health, and they are working on being the most positive influence they can. Another staff wellness initiative available to our teachers and staff this year is the LT360 Program.
Coordinated School Health worked with the LT360 Program to negotiate a significant discount, $790 off the yearly program cost, for teachers and staff. Twenty-nine employees signed up for the program and have lost 823 pounds (28.4 pounds per person on average).

**Conclusion**

Implementing and sustaining school-based physical activity policies and programs will make a powerful contribution toward a healthy future for students in Tennessee. By adopting these guidelines, schools can ensure all students have the opportunity to attain their maximum educational potential and pursue a lifetime of good health.
References


Centers for Disease Control and Prevention, Overweight and Obesity Fact Sheet; Retrieved from website: http://www.cdc.gov/obesity/data/adult.html


