



# Moderate to Vigorous Physical Activity in Physical Education to Improve Health and Academic Outcomes

Fact Sheet | November 2009

Schools play a central role in providing opportunities for students to engage in physical activity. Physical education (P.E) is the one time during the day when all students can be active.<sup>1</sup> School boards can consider policy and curriculum strategies to support increased physical activity in P.E.

## BENEFITS OF MODERATE TO VIGOROUS PHYSICAL ACTIVITY IN P.E.

Engaging students in moderate to vigorous physical activity (MVPA) in P.E. prepares them to lead physically active lives and can improve health and academic outcomes.<sup>2</sup> Physical activity does not have to compete with educational goals; in fact, it can help students learn content by enhancing concentration skills and on-task behavior.<sup>3</sup>

- Activity-focused P.E. can contribute to academic performance, improved attendance and positive classroom behavior.<sup>4</sup>
- Increasing MVPA in P.E. has the greatest potential for increasing health benefits for most students<sup>5</sup> as it generates more energy expenditure; contributes to obesity prevention and muscular and bone development; reduces anxiety and stress; improves self-esteem, mood and concentration; and reduces the risk of chronic disease.<sup>6</sup>
- Increasing MVPA in P.E. provides more opportunities to meet other P.E. goals such as motor development, increased fitness, skill enhancement and positive social interactions.<sup>7</sup>

## WHAT IS MVPA AND HOW MUCH DO STUDENTS NEED?

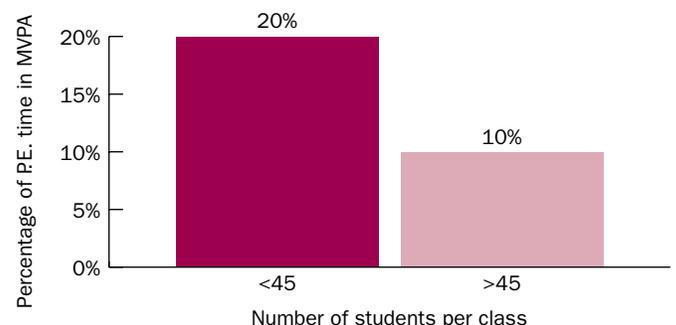
*Moderate physical activity* refers to activities equivalent in intensity to brisk walking or bicycling. *Vigorous physical activity* produces large increases in breathing or heart rate, such as jogging, aerobic dance or bicycling uphill.

The Physical Activity Guidelines for Americans recommend that children and adolescents participate in at least 60 minutes of MVPA most days of the week, preferably daily, in order to attain health benefits.<sup>8</sup> To help reach this goal, Healthy People 2010, an initiative of the Centers for Disease Control and Prevention and the President's Council on Fitness, recommends that students be engaged in MVPA for at least 50 percent of P.E. class time.<sup>9</sup>

## THE CURRENT STATUS OF P.E.: NOT ENOUGH MVPA

Many P.E. classes do not provide students with adequate opportunities to engage in MVPA. A recent study of California schools found that students are sedentary most of the time during P.E., with only four minutes of every half hour spent in vigorous physical activity. Moreover, active P.E. time decreases with larger class sizes. Students in classes with more than 45 students are half as active as students in smaller class sizes.<sup>10</sup>

**Percentage of P.E. time in MVPA, by class size for secondary school level**



Source: *Failing Fitness: Physical Activity and Physical Education in Schools*<sup>10</sup>



## COST-EFFECTIVE STRATEGIES TO INCREASE MVPA IN P.E.

The board can direct the superintendent or designee to explore low- to no-cost strategies to increase activity levels in P.E., including:

- Providing teachers with class management and teaching techniques to keep all students engaged and active (e.g. small-sided games and circuits, active role-taking, minimal transition times and concise instructions).<sup>11</sup>
- Utilizing inexpensive, discounted or donated equipment (e.g. aerobic games using flying discs, jump ropes or hula hoops).
- Identifying support staff for P.E. teachers.
- Using the expertise of P.E. staff to develop curriculum that meets state standards and has MVPA as a focus.
- Exploring funding opportunities to implement activity-based P.E, such as the federal Carol M. White Physical Education Program grant, local businesses, corporate sponsors, professional sports teams, community foundations, nonprofit health agencies, hospitals, physical activity clubs, health clubs and gyms and insurance companies.

## BOARD ACTIONS TO INCREASE MVPA IN P.E.

School boards have an opportunity to support physical activity in P.E. through each of their major areas of responsibility: setting direction, establishing an effective and efficient structure, providing support to staff during implementation, ensuring accountability and acting as community leaders. For example, they can:

- 1) Develop an understanding among the board, district/county office of education (COE) staff and the community of the importance of MVPA in P.E. and its link to student learning.
- 2) Adopt curriculum goals to increase physical activity in P.E. by considering evidence-based P.E. programs which have been documented to effectively increase MVPA in P.E. (For more information, visit [www.csba.org/PhysicalActivity.aspx](http://www.csba.org/PhysicalActivity.aspx).)

- 3) Adopt and align policies related to increasing MVPA in P.E. (See CSBA's sample policy BP 5030 - Student Wellness and BP/AR 6142.7 - Physical Education.) Through policy, boards can set expectations that:
  - Ensure that all students engage in MVPA at least 50 percent of P.E. class time and that adequate time is provided for P.E. at every grade level.
  - When possible, ensure P.E. class sizes are consistent with core curriculum courses or do not exceed 45 students per class.
  - Ensure qualified P.E. teachers are hired and that teachers responsible for instructing P.E. receive professional development opportunities such as in-service days devoted to P.E. training.
- 4) Monitor implementation of the P.E. policy and schedule regular reports to the board, program partners and the public from the superintendent or designee, such as:
  - Ensure schools are compliant with state-required P.E. minutes.
  - Develop strategies to monitor activity levels in P.E. through measures such as activity monitors (e.g. heart rate monitors) or observation tools (e.g. using stopwatches to estimate time spent in MVPA or partnering with a university or health department to use a comprehensive tool such as the System for Observing Fitness Instruction Time (SOFIT)).<sup>12</sup>
- 5) Recognize district/COE efforts to develop and implement activity-focused P.E.
- 6) Cultivate strong partnerships among the district/COE and outside community to maximize resources and develop cost-effective solutions for increasing physical activity in P.E.

For case studies, see "Physical Education Matters—Success Stories from California Low Resource Schools that Have Achieved Excellent PE Programs" [www.calendow.org/Article.aspx?id=3920](http://www.calendow.org/Article.aspx?id=3920)

## FOR FURTHER INFORMATION

### California School Boards Association

[www.csba.org](http://www.csba.org)

### California Project LEAN (Leaders Encouraging Activity and Nutrition)

[www.CaliforniaProjectLEAN.org](http://www.CaliforniaProjectLEAN.org)

## REFERENCES

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- <sup>2</sup> San Diego State University. (January 2008) *Physical Education Matters: Activity Matters for California Kids Policy Brief and Physical Education Matters: A Full Report*. Funded by The California Endowment. Los Angeles, CA <http://www.calendow.org/Article.aspx?id=3920>.
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- <sup>8</sup> U.S. Department of Health and Human Services. (October 2008) 2008 Physical Activity Guidelines for Americans. <http://www.health.gov/paguidelines/>.
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- <sup>11</sup> Partnership for Prevention. (2008) *School-Based Physical Education: Working with Schools to Increase Physical Activity Among Children and Adolescents in Physical Education Classes—An Action Guide*. Washington, DC: Partnership for Prevention. <http://www.prevent.org/actionguides/SchoolPE.pdf>.
- <sup>12</sup> Partnership for Prevention. (2008)