

# Active Living Research

Building Evidence to Prevent Childhood Obesity and Support Active Communities  
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RESEARCH BRIEF | January 2012



## Increasing Physical Activity Through Recess

### INTRODUCTION

Regular physical activity promotes important health benefits, reduces risk for obesity and is linked with enhanced academic performance among students.<sup>1,2</sup> The U.S. Surgeon General recommends that children engage in at least 60 minutes of moderate physical activity most days of the week, yet fewer than half of children ages 6 to 11 meet that recommendation.<sup>3</sup> Numerous legislative efforts, including the Child Nutrition and WIC Reauthorization Act of 2004 [P.L. 108–265], and leading public health organizations, such as the Centers for Disease Control and Prevention and the American Heart Association, recognize that schools play a critical role in supporting physical activity among children.<sup>4,5</sup> Further, Healthy People 2020 objectives released by the U.S. Department of Health and Human Services underscore the importance of physical activity in schools, including daily physical education and regular recess.<sup>6</sup>



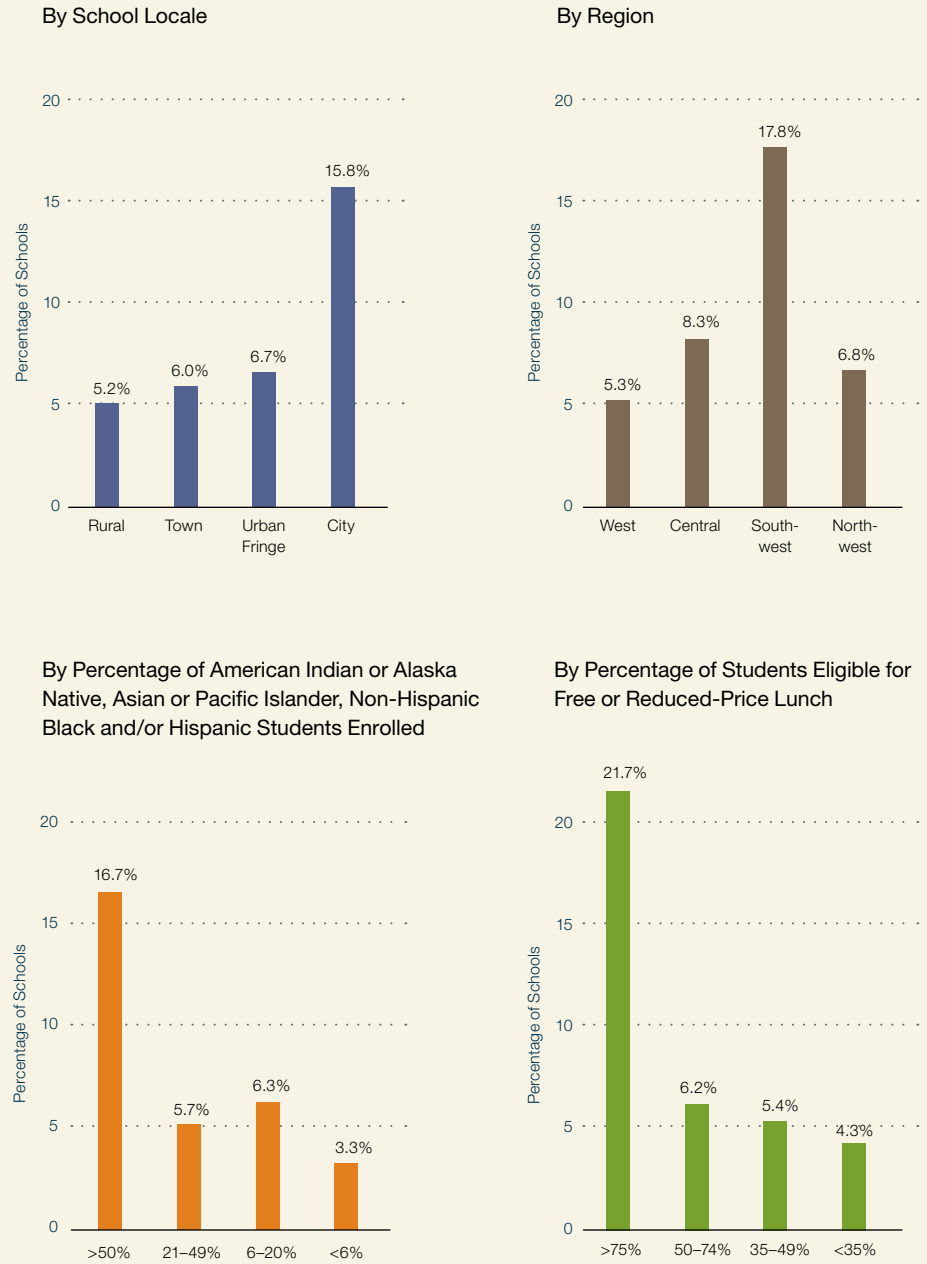
Recess is scheduled outside of class time and allows students to engage in physical and social activities of their choice. The National Association for Sport & Physical Exercise (NASPE) recommends that all elementary school students have at least 20 minutes of recess each day.<sup>7</sup> Short physical activity breaks, such as those offered during recess, have been shown to enhance cognitive performance and improve learning.<sup>8</sup> This brief summarizes the growing body of research examining recess, which shows that providing recess during the school day is an effective and efficient way to increase physical activity and improve academic performance among children.<sup>9</sup>

## Key Research Results

- **Providing recess breaks throughout the day can improve students' classroom behavior and attentiveness**, two often-cited barriers to student learning.<sup>10-12</sup> One study found that students demonstrated more inattentiveness as the length between recess periods increased, suggesting that the timing of recess is important.<sup>13</sup> Another study found that students who were provided at least 15 minutes of recess exhibited higher rates of on-task behavior in the classroom that day.<sup>14</sup>
- **Children can accumulate up to 40 percent of their total daily physical activity during recess.** The percentage of recess time during which children engage in physical activity ranges from 16 percent to 68 percent among boys, and 15 percent to 52 percent among girls.<sup>15</sup> Further, the contribution of recess to total daily physical activity ranges from 5 percent to 40 percent for boys and 5 percent to 31 percent for girls. These large ranges could be due to variations in the method of measuring physical activity, length or timing of recess, ethnic background of students, and/or the recess environment.
- **There are many effective strategies for increasing children's levels of physical activity during recess:**
  - **Providing inexpensive playground equipment encourages students to be more active.** In one study, providing students with equipment such as flying discs, plastic hoops, jump ropes, beanbags and balls increased time spent in moderate-to-vigorous physical activity during recess from 48 percent to 61 percent.<sup>16</sup> Among students in the control group, time spent in moderate-to-vigorous physical activity decreased from 55 percent to 44 percent. While there is limited research in this area, these findings suggest that providing low-cost equipment can help increase physical activity.
  - **Training recess supervisors to teach new games and interact with students may help increase physical activity.** Training staff to promote physical activity is essential to achieving this goal, as some data suggest untrained recess supervisors may reduce physical activity opportunities during recess.<sup>17</sup> Other research suggests that training staff to implement games during recess can promote physical activity among students.<sup>18</sup>

- **Painting playground surfaces with lines for recreation games (e.g., four square, hopscotch) or murals (e.g., castles, dragons, mazes) increases children’s physical activity during daily recess.**<sup>19–21</sup> In one study, children spent more than 50 percent of recess engaged in moderate-to-vigorous physical activity after the markings were painted compared with 38 percent before the intervention.<sup>22</sup> Further research showed that the increased level of physical activity persisted for six months among both boys and girls.<sup>23</sup>
- **Allocating playground space for designated “activity zones” can have a significant impact on moderate-to-vigorous physical activity among students.**<sup>24</sup> However, when variables such as the school or student age were considered, the results were not significant. It is possible that it may take some students more time to adapt to physical changes to the playground. Further, schools need to ensure that all students have access to these spaces.
- **Combining several low-cost approaches can be effective in increasing physical activity among students during recess.** For instance, combining activity zones with painting, markings and equipment resulted in children accumulating approximately 200 to 300 more steps in a 20-minute recess period than their peers in control schools.<sup>25</sup> Other research found success using a multifaceted approach that incorporated staff training, activity zones and equipment.<sup>26</sup> Students accumulated 4.5 more minutes of moderate-to-vigorous physical activity during a 20-minute recess after the combination of changes was implemented at school.
- **The number of school districts that require or recommend daily recess may be decreasing.** A national survey conducted by the Centers for Disease Control and Prevention in 2006 found that only 12 percent of states required elementary schools to provide daily recess.<sup>27</sup> It also found that 57 percent of school districts required, and 33 percent recommended, daily recess. More recent findings from the 2008–09 school year suggest that only 20 percent of districts nationwide had a wellness policy that required daily recess, and 18 percent recommended daily recess.<sup>28</sup>
- **Children at high risk for obesity are least likely to have recess.**<sup>29</sup> As shown in Figure 1, children who live in cities, reside in the southeast United States or attend schools with a high percentage of students from lower-income families are least likely to have recess. The same is also true for children who attend schools with a high percentage of American Indian or Alaska Native, Asian or Pacific Islander, non-Hispanic Black and/or Hispanic students.

FIGURE 1. Percentage of Schools Reporting No Recess<sup>30</sup>



## Conclusions

Providing recess is an important strategy for increasing health-promoting (i.e., moderate-to-vigorous) physical activity and improving behavior and concentration among students. Although many leading organizations recommend that elementary schools provide daily recess, most states and school districts do not require it. Further, students who are at highest risk for obesity are least likely to attend a school that offers recess. Among students who do have recess, there is a wide range in the amount of time they spend engaged in physical activity. Several strategies for increasing physical activity during recess have been successful, including providing playground markings, activity zones, recreational equipment and trained supervisors.

## Policy Implications

- Evidence-based recess regulations can be implemented to promote physical activity during the school day. Possible regulations could include those that call for providing a safe environment and ample recreational equipment to encourage physical activity, offering at least 20 minutes of recess per day, and training recess supervisors and staff to interact with students to better promote physical activity.<sup>31</sup>
- Schools could partner with local businesses or civic organizations to help implement evidence-based strategies for maximizing children's physical activity during recess. For example, a local business or nonprofit organization may agree to donate jump ropes or paint playground surfaces used during recess. High school or college students who are participating in a service program or enrolled in courses with a service-learning component could visit elementary schools to teach new activities during recess, oversee an activity zone as recess assistant supervisors, or help renovate a recess space.
- Schools could designate a physical activity director who would work to maximize time spent in physical activity during recess, physical education classes and other opportunities for students to be active at school.<sup>32</sup>
- State and federal education agencies could provide incentives for schools that use evidence-based approaches to increase students' levels of physical activity by giving credit in school quality scores, including on school report cards or school improvement plans.
- Creating an optimal environment for recess—one that is safe, well-supervised by trained staff and provides well-maintained recreational equipment—has potential to reduce injuries and improve behavior among children, both of which are often cited by administrators as deterrents to offering recess.<sup>33</sup>

## Endnotes

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*Active Living Research*, a national program of the Robert Wood Johnson Foundation, stimulates and supports research to identify environmental factors and policies that influence physical activity for children and families to inform effective childhood obesity prevention strategies, particularly in low-income and racial/ethnic communities at highest risk. Active Living Research wants solid research to be part of the public debate about active living.

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