

# Physical Activity Levels in Girls' Middle School Physical Education

## What Was the Question?

Increasing opportunities for children to engage in physical education is a critical intervention in combating such health problems as obesity and type 2 diabetes as stated by the Task Force on Community Preventive Services. However, relatively little is known about the quality, quantity, and intensity of activity that actually occurs in middle school classes. McKenzie et al. (2006) attempted to describe how an array of variables, including lesson context (i.e., topic or content), location (i.e., indoors or outdoors), teacher gender, and class gender composition, affect the activity levels of middle school girls.

## What Was Done?

Direct observations were made of physical education classes in 36 public middle schools participating in the Trial of Activity for Adolescent Girls. According to the authors, the participating schools represented diverse geographical areas, school sizes, and populations. The System for Observing Fitness Instruction Time, which has been shown to be a reliable and valid method for trained observers, was used to assess girls' physical activity levels at each school during three days of class-

es. Time spent in such activities as fitness, skills, drills, game play, and free play were recorded along with teacher behaviors related to group management, conveying information about activities, and promoting physical fitness. The girls' activity levels were observed throughout classes and coded (e.g., lying, sitting, standing, walking, and vigorous activity) using previously calibrated heart-rate monitoring that was validated with accelerometry.

## What Was Found?

The lesson time of the 431 classes observed averaged 37.3 minutes, even though the actual class time scheduled was longer (a result of managerial tasks such as dressing and taking attendance). Of this time, 13.9 minutes (14.1% of the lesson) was spent on moderate-to-vigorous activity (MVPA; i.e., some increase in breathing and heart rate, 3-6 METS), and 4.8 minutes (13.1% of the lesson) on vigorous activity (VPA; i.e., large increase in breathing and heart rate, greater than 6 METS). Students also spent 11.9 minutes sitting (31.9% of the time). It was found that girls engaged in the most vigorous activity during fitness contexts (36.4% of the time), followed by skill drills (22.2%), game play (13.6%), and free play (12.4%). Not surprisingly, students spent the most time sitting during lecture (65.9%) and management (51.3%) contexts. An interesting finding was that lessons conducted outdoors, although they were marginally shorter (47 seconds), provided more MVPA minutes than indoor lessons (16.5 vs. 12.5). The authors also reported that coeducational lessons averaged 7.9 minutes longer than girl-only lessons and provided 3.1 more minutes of

MVPA. Finally, data revealed that the gender of the teacher was not a significant factor for any of the variables examined.

## What Does the Study Mean?

While the authors convey that there were large differences between the lessons and schools studied, the mean percent of MVPA time observed in classes (37.9%) was less than the *Healthy People 2010* objective of 50 percent. They also noted that girls spend only 4.8 minutes in VPA, which makes it unlikely that they will enhance their cardiorespiratory fitness as a result of simply engaging in physical education. This investigation suggests that the amount of time students spend in MVPA and VPA can be increased if physical educators select more vigorous activities (e.g., more fitness, skill drills, and games playing), and attempt to reduce the amount of lesson time spent on managerial tasks (which was found to be 26% of time). Future research should also focus on how teacher tasks such as conveying knowledge about and promoting activities might affect students' involvement in physical activities outside of class.

## References

McKenzie, T. L., Catellier, D. J., Conway, T., Lytle, L. A., Grieser, M., Webber, L. A., Pratt, C. A., & Elder, J. P. (2006). Girls' activity levels and lesson contexts in middle school PE: TAAG baseline. *Medicine & Science in Sports & Exercise*, 38(7), 1229-1235.

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