



# Children Move More and Sit Less During an Outdoor Garden Lesson, Compared to Indoor Classroom Lesson

In New York State, a study of elementary schools with school gardens finds that outdoor garden-based lessons are associated with more movement and physical activity than indoor, classroom lessons. With epidemic levels of inactivity and overweight among youth, gardens may be one strategy to promote children's movement.

## The School Garden Study

As part of a larger study examining the effects of school gardens on physical activity, 4th - 6th grade students at four NY elementary schools were observed during a 60-minute outdoor garden-based lesson and during a 60-minute indoor classroom lesson. Trained researchers recorded elementary school students' movements and postures using a valid and reliable direct observation tool (Myers & Wells, in press). The same children were observed indoors and outdoors, so that each child was compared to him or herself.

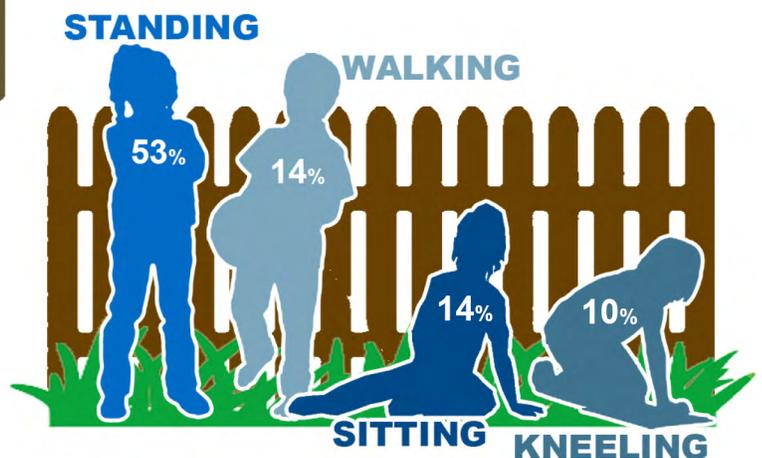
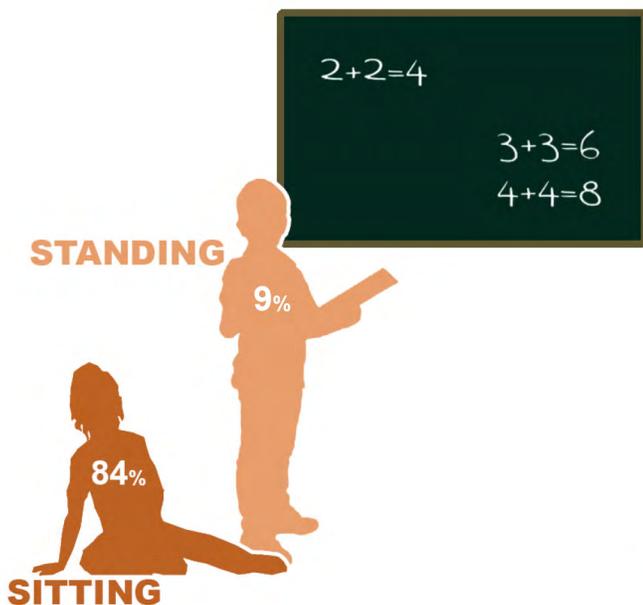
## Do Children Move More During an Outdoor Garden Lesson?

Children were significantly more active during the outdoor garden-based lesson, compared to the indoor classroom lesson and engaged in more varied postures and movements. On average, during the indoor lesson, children were sitting 84% of the time and standing 9% of the time. During the outdoor garden-based lesson, children were sitting only 14% of the time, and spent 53% of the time standing, 14% walking, 10% kneeling.

This finding is consistent with prior research indicating that spending time outdoors is one of the most effective and consistent ways to promote movement and physical activity among children. The study is among the first, however, to specifically examine indoor classroom lessons versus outdoor garden lessons.

## Conclusions

Children move more, and sit less during an outdoor, garden lesson than during an indoor, classroom-based lesson. This finding suggests that efforts to deliver more curricula outdoors in the garden can further increase physical activity and range of postures.





This study builds on the larger USDA-funded “Healthy Gardens, Healthy Youth” study examining the effects of school gardens on children’s diet and related outcomes.

**Acknowledgements:** Support for this study was provided by the Robert Wood Johnson Foundation through its Active Living Research Program (#69550); U.S. Department of Agriculture, Food & Nutrition Service (FNS), People’s Garden pilot program #CN-CGP-11-0047 (B. Gaolach, PI); Cornell University’s Atkinson Center for a Sustainable Future (ACSF), Academic Ventures Fund; Cornell University Agricultural Experiment Station (Hatch funds) (NYC-327-465) and Cornell Cooperative Extension (Smith Lever funds) from the National Institutes for Food and Agriculture (NIFA) USDA; Cornell Cooperative Extension Summer Intern Program, 2011 – 2014; College of Human Ecology, Cornell University, Cooperative Extension Seed funds.

We’d like to express our gratitude to: the dozens of dedicated Cornell University students who served as research assistants on this project; Cornell Cooperative Extension Educators who led garden interventions and assisted with data collection; NY State collaborators Gretchen Ferez and Caroline Tse, Cornell University Cooperative Extension New York City; as well as collaborators in the larger Healthy Gardens, Healthy Youth USDA-funded study carried out in Washington, Iowa, Arkansas, and New York.

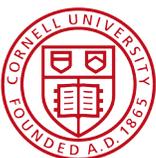
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**Reference:**

Wells, N.M., Myers, B.M., & Henderson, C.R. (2014). School gardens & physical activity: A randomized controlled trial of low-income elementary schools. *Preventive Medicine, 69S*, S27-S33.

**Reference for the physical activity direct observation tool (PARAGON – the Physical Activity Research & Assessment tool for Garden Observation):** Myers, B.M. & Wells, N.M. (in press). Children’s physical activity while gardening: development of a valid and reliable direct observation tool. *Journal of Physical Activity and Health*.



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