

Physical Education Fast Facts

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1. Background

- a) “Only 6% of U.S. high schools offer a daily physical education class” (Ratey, 2008, p. 19).

2. Evidence

- a) There is a growing body of evidence supporting a relationship between physical activity and improved student outcomes.
 - i) Dr. John Ratey, Associate Clinical Professor of Psychiatry at Harvard Medical School, has recently authored a book entitled *Spark: The Revolutionary New Science of Exercise and the Brain* (2008).
 - (1) Ratey argues that the relationship between exercise and improved school performance “is supported by emerging research showing that physical activity sparks biological changes that encourage brain cells to bind to one another. For the brain to learn, these connections must be made; they reflect the brain’s fundamental ability to adapt to challenges. The more neuroscientists discover about this process, the clearer it becomes that exercise provides an unparalleled stimulus, creating an environment in which the brain is ready, willing, and able to learn” (Ratey, 2008. p. 10).
 - ii) Naperville, Illinois has been the sight of a physical education initiative called *Zero Hour* in which students have the opportunity to participate in physical education before the start of the school day (Brooks, n.d.).
 - (1) Research over 17 years of this program has found that “learning is enhanced when preceded by exercise” (Brooks, n.d., p. 2). Social-emotional development and behavior also show improvement in schools that have implemented daily P.E.
 - (2) “In addition to improving mood, students involved in the Zero Hour program demonstrated a 17 percent improvement in reading and

comprehension compared with a 10.7 percent improvement for students who decided to sleep later and take a standard physical education course” (Brooks, n.d., p. 2).

- (3) Students are graded on effort rather than skill, with grades determined by how much time students spend in their target heart-rate zones. Unlike traditional P.E., in which students often feel like failures, an effort is made to help students find activities at which they can excel.
 - (4) The focus is on activities that keep the students moving. Students can choose from a variety of activities such as three-on-three basketball, four-on-four soccer, kayaking, dancing, and rock climbing, as well as typical team sports like volleyball and basketball.
 - (5) Students using the same program in Titusville, Pennsylvania showed equal academic improvement, with standardized test scores moving from below the state average to 17 percent above it. They also showed improvements in behavior, with no fistfights at the middle school.
- iii) Mahar, et al. (2006) found an 8 – 20% improvement in on-task behavior in classrooms that implemented a classroom-based physical activity program. The program, called *Energizers*, allows “students to stand and move during academic instruction” (Mahar et al, 2006, p. 2087). *Energizers* can be seen and heard on the National Public Radio website at <http://www.npr.org/templates/story/story.php?storyId=101149470> (Aubrey, 2009). In addition, free *Energizer* activities can be downloaded at <http://www.ncpe4me.com/energizers.html>.

References

- Aubrey, A. (2009). *Deskercise: Staying jazzed and focused at school*. Retrieved from National Public Radio March 9, 2009:
<http://www.npr.org/templates/story/story.php?storyId=101149470>.
- Brooks, R. (n.d.). *Physical exercise in school: Fitness for both body and mind*. Retrieved March 9, 2009 from:
<http://www.drrobertbrooks.com/writings/articles/0809.html>.
- Mahar, M., Murphy, S., Rowe, D., Golden, J., Shields, A., & Raedeke, T. (2006). Effects of a classroom-based program on physical activity and on-task behavior. *Medicine & Science in Sports & Exercise*, 38(12), 2086-2094.
- Ratey, J. (2008). *Spark: The revolutionary new science of exercise and the brain*. New York: Little Brown.