

Physical Activity Benefits

Youth receiving additional physical activity tend to show improved attributes such as increased brain function and nourishment, higher energy/concentration levels, changes in body build affecting self esteem, increased self-esteem and better behavior which may all support cognitive learning (Cocke, 2002) (Tremblay, Inman, & Willms, 2000) (Dwyer, Coonan, Leitch, Hetzel, & Baghurst, 1983) (Shephard, 1997).

Improved brain attributes associated with regular physical activity consist of increased cerebral blood flow, changes in hormone levels, enhanced nutrient intake, and greater arousal (Shephard, 1997). Cocke (2002) states "a trio of studies presented at the 2001 Society for Neuroscience Conference suggest that regular exercise can improve cognitive function and increase levels of substances in the brain responsible for maintaining the health of neurons." Brain function may also indirectly benefit from physical activity due to increased energy generation as well as from time outside of the classroom/away from studying; The increased energy levels and time outside of the classroom may give relief from boredom resulting in higher attention levels during classroom instruction (Linder 1999).

Issue Brief – Relationship Between Physical Education & Academic Performance

In 2001, the Maryland Physical Education Study Group reported a positive relationship between physical activity, brain development and cognitive performance. The study demonstrated that regular aerobic exercise produced an increase in the number of capillaries serving tissues and organs, including the brain. Increased capillary density in the brain results in greater capillary exchange of nutrients and waste products. More oxygen and glucose are delivered to the brain and more waste products, such as carbon dioxide, are removed. This maximizes learning and academic performance, which would mean that some form of regular aerobic exercise should be an important component of any student's curriculum. Also, many studies in Sweden, Germany and Australia have supported the correlation between being physically active and improved cognitive ability.

Research Facts

Increasing physical activity has strong correlations to improvements in academic performance, attendance, and a reduction in disruptive behavior. Adding daily physical activity improves academic achievement with out taking away from academic performance.

- A student's health is a significant factor in their academic performance (Schoener, Guerrero & Whitney, 1998; Kelly &

Moag-Stahlberg, 2002; Hendy, 2000; Jenson, 2000; and Irandoust & Karlsson, 2002).

- Providing physical activity, healthy food choices, and good wellness role models at school improves student overall health and academic performance (Connell, Turner, & Mason, 1985).
- Daily physical activity has been shown to lead to lower disciplinary issues (Kolbe, 1986; Botivin, Griffin, Hill-Williams, 2001; Field, Diego, & Sanders, 2001).
- Physical activity triggers chemical changes in the brain that promote learning (Gage, 1999).
- School-based physical activity programs increased concentration, improved math, reading and writing scores and reduced disruptive behavior (Kolbe, 1986).
- Students who participate in exercise regularly are less depressed, use drugs less frequently, have higher attendance levels at school and higher grade point averages than students who do not engage in regular physical activity (field & Sanders, 2001).