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Fit Children May Make Better Students

Physical Fitness Linked to Academic Achievement in Children

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Oct. 22, 2004 -- Physically fit children may be better prepared to compete in the classroom as well as the playing field, according to new research.

In a series of studies, researchers have found that physical fitness may enhance the academic achievement of children by improving their attention and working memory skills.

"We have found a strong relationship between academic achievement and fitness scores," says researcher Darla Castelli, professor of kinesiology at the University of Illinois at Urbana-Champaign, in a news release. "Those who scored well in academics also did well in physical fitness. We're not suggesting that if we run more laps it will make us smarter, but there does appear to be a correlation."

The results of the latest study were presented this week at the annual meeting of the Society for Psychophysiological Research, in Santa Fe, N.M. Preliminary findings were also published in the *Journal of Sport & Exercise Psychology* earlier this year.

Physical Fitness Pays Off in the Classroom

In their initial studies, researchers found an association between the physical fitness levels of nearly 500 elementary school students and their performance on standardized academic achievement tests and stimulus response tests.

To further examine the relationship between age, physical fitness level, and attention and memory, researchers then compared the mental processing abilities of a group of sedentary and physically fit adults and children in another study.

They used a "visual oddball" test to assess the participants' ability to recognize, respond to, and discriminate between different visual stimuli.

In the "visual oddball" test, researchers presented the participants with one of two pictures, a cartoon

drawing of a dog or a cat. One of the images appeared four times more often than the other. The participants were instructed to respond only to the rare image by pressing a button and ignore the more common image.

The study showed that physically fit children devoted more brain power and resources towards identifying the stimuli than adults or sedentary children. And adults and fit children were faster and more accurate in completing the task than sedentary children.

Reaction times were faster among the adults than the children, but the fit children were faster than sedentary children.

"Behaviorally, these effects showed up in that these fit children made fewer errors than sedentary ones," says researcher Charles Hillman, also a kinesiology professor at the University of Illinois, in the release.

Researchers say more study is needed to confirm the relationship between physical fitness and academic achievement, but these findings indicate the two may be related.

"If evidence existed that physical education contributed to intellectual development, it may gain credibility and instructional time," says Castelli.

SOURCES: Buck, S. *Journal of Sport & Exercise Psychology*, June 2004; vol 26. Press release, University of Illinois at Urbana-Champaign.

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