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Research Ties Fitness to Mistakes

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Web story

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Research Ties Fitness to Mistakes

BLOOMINGTON, Ill. – What advice do you hear to help you avoid making mistakes? Slow down. Take it easy. Double-check your work.

How about – Go for a jog?

An Illinois Wesleyan University faculty member has been gaining attention for his studies connecting higher levels of fitness to improvements in correcting mistakes.

Assistant Professor of Psychology Jason Themanson has been studying the idea that fitness levels can affect the area of the brain that detects mistakes.

His study, which was originally published last year in *Neuroscience,* caught the attention of *Men's Health* magazine. In a June 2009 *Men's Health* article titled "Win the Mind Games," Themanson is quoted as saying study subjects with higher levels of cardiorespiratory fitness could better identify and correct more mistakes than those in the study who were less fit. "Fitter people can absorb more oxygen into their blood," said Themanson, noting fitness was related to improved the function of the part of the brain that detects errors, known as the anterior cingulate cortex. "When you make a mistake, the cingulate cortex sends a signal, letting you know," he said.

The *Men's Health* article offers tips on keeping a sharp mind, pulling together ideas from scholars the author describes as a "brain trust," combining Themanson's advice with experts from Duke University, UCLA, the University of Chicago and others.

Themanson knows brains. A neuroscientist, his primary area of research focuses on studying the relationship between physical fitness and a person's ability to detect and correct their own mistakes, a topic he has been exploring since his days as a doctoral student at the University of Illinois at Urbana-Champaign (U of I). He joined the Illinois Wesleyan faculty in 2007, where he has continued his studies.

The results offer a way to make a positive change, said Themanson. "When it comes to 'cognitive control' – or how your brain tries to help you meet goals – a lot of factors may be beyond your control," he said. "It may depend on personality, or the situation – things you

cannot do anything to change. Fitness is something you *can* control. You may not be able to change the fact that you are introverted or extroverted, but you can change how fit you are." For the study, Themanson observed how individuals from ages 18-25, and with differing fitness levels, caught mistakes they made, and how their brains worked to stop repeat mistakes.

The study is good news for younger generations, said Themanson. "There is a whole world of literature about how being fit can increase cognitive ability in older adults," he said. "Now, with this research, there is evidence that young people can do something to help themselves as well."

-30-