

Young Adults Who Exercise Get Higher IQ Scores

ScienceDaily (Dec. 3, 2009) — Young adults who are fit have a higher IQ and are more likely to go on to university, reveals a major new study carried out at the Sahlgrenska Academy and Sahlgrenska University Hospital.

The results were recently published in the *Proceedings of the National Academy of Sciences (PNAS)*. The study involved 1.2 million Swedish men doing military service who were born between 1950 and 1976. The research group analysed the results of both physical and IQ tests when the men enrolled.

The study shows a clear link between good physical fitness and better results for the IQ test. The strongest links are for logical thinking and verbal comprehension. But it is only fitness that plays a role in the results for the IQ test, and not strength. "Being fit means that you also have good heart and lung capacity and that your brain gets plenty of oxygen," says Michael Nilsson, professor at the Sahlgrenska Academy and chief physician at the Sahlgrenska University Hospital. "This may be one of the reasons why we can see a clear link with fitness, but not with muscular strength. We are also seeing that there are growth factors that are important."

By analysing data for twins the researchers have been able to determine that it is primarily environmental factors and not genes that explain the link between fitness and a higher IQ.

"We have also shown that those youngsters who improve their physical fitness between the ages of 15 and 18 increase their cognitive performance," says Maria Åberg, researcher at the Sahlgrenska Academy and physician at Åby health centre. "This being the case, physical education is a subject that has an important place in schools, and is an absolute must if we want to do well in maths and other theoretical subjects."

The researchers have also compared the results from fitness tests during national service with the socio-economic status of the men later in life. Those who were fit at 18 were more likely to go into higher education, and many secured more qualified jobs.

The link between physical fitness and mental performance has previously been demonstrated in studies carried out on animals, children and old people. However, studies on young adults have been contradictory to date. Around the age of twenty our brain may still change rapidly as a result of both cognitive and emotional development.

The study was carried out at the Center for Brain Repair and Rehabilitation in Gothenburg in conjunction with the Swedish Twins Registry at the Karolinska Institutet.

Journal Reference: Åberg et al. **Cardiovascular fitness is associated with cognition in young adulthood.** *Proceedings of the National Academy of Sciences*, 2009;

Reference: University of Gothenburg (2009, December 3). Young adults who exercise get higher IQ Scores. *ScienceDaily*. Retrieved December 3, 2009, from <http://www.sciencedaily.com/releases/2009/12/091202101751.htm>