

Scientists: Soccer improves health, fitness and social abilities

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Led by Professors Peter Krstrup and Jens Bangsbo from the Department of Exercise and Sports Sciences, University of Copenhagen, the 3-year project covered several intervention studies involving both men, women and children, who were divided into soccer, running and control groups. The results from the studies are so remarkable that the *Scandinavian Journal of Medicine and Science in Sports* are publishing a special edition issue entitled "Football for Health" containing 14 scientific articles from the soccer project on Tuesday 6 April 2010.

Soccer for Health

The researchers studied the physical effects of [soccer](#) training for untrained subjects aged 9 to 77 years. The conclusion was clear. Soccer provides broad-spectred health and fitness effects that are at least as pronounced as for running, and in some cases even better.

Study leader Peter Krstrup concludes "Soccer is a very popular team sport that contains positive motivational and social factors that may facilitate compliance and contribute to the maintenance of a physically active lifestyle. The studies presented have demonstrated that soccer training for two-three hours per week causes significant cardiovascular, metabolic and musculoskeletal adaptations, independent on gender, age or lack of experience with soccer".

Professor Jens Bangsbo continues: "The effects can be maintained for a long period even with a reduced frequency of training to one to two times one hour a week. Recreational soccer, therefore, appears to be an effective type of training leading to performance improvements and significant beneficial effects to health, including a reduction in the risk of cardiovascular diseases, falls and fractures. In a number of aspects, soccer training appears to be superior to running training. Soccer training can also be used to treat hypertension and it was clearly superior to a standard treatment strategy of physician-guided traditional recommendations".

The two researchers foresee a great perspective in using soccer as a health promoting activity: "The studies have convincingly shown that soccer training is effective to enhance fitness and the health profile for the general population. Future studies are needed to understand what is causing the beneficial effects of football, how well football can be used to improve heart health in early childhood and how other patient groups such as those with type II diabetes or cancer can benefit from playing soccer".

Soccer creates we-stories and helps women stay active

One of the many aspects of the study was to examine the level of social capital for women gained from running and soccer. Even though both the soccer players and the runners trained in groups, there were

significant differences in the way they interacted and what they considered the most important aspects of the sport they were engaging in. The runners were more focused on themselves as individuals, whereas the soccer players developed "we"-stories as they began to see themselves as a team.

From the beginning, most of the women, both soccer players and runners, thought running would be an easier form of exercise to stick to after the intervention programme was over. That turned out not to be the case:

"The most important finding was the difference in social interaction and creation of we-stories between the groups, which may impact the possibilities of long-term compliance. A year after the study, many of the soccer players continue to play soccer, some have even joined an organised soccer club. Not many from the running group have continued their training. This can very well be due to the fact that the runners focussed on their health and on getting in shape, whereas the soccer players were more committed to the activity itself, including the fun and not letting down team mates", says Associate Professor Laila Ottesen.

Men worry less when playing soccer than when running.

Another study examined the exertion experienced during training for untrained adults and their experience of "worries" and "flow". This study, based on 6 groups of untrained men and women, showed that all groups experienced an overall high level of flow during the intervention, which underlines that the participants felt motivated, happy and involved to the point where they forgot time and fatigue. There was no difference in the level of worry for the female soccer players and runners, but the running men seemed to worry quite a lot more than their soccer playing

counterparts.

"The men that played soccer elicited lower levels of worry than during running, 2.8 vs 4.0 on a 0-6 scale, and although they are training at the same average heart rate they do not feel the exertion as strongly as during running" says Associate Professor Anne-Marie Elbe and adds: "Further research is needed to examine why men and women experience playing soccer differently but it could be that the men just have had more experience with football in earlier years than the women".

Documentation for FIFA, Michelle Obama and others

F-MARC, the research unit of FIFA, is a central partner in the project and the research provides scientific documentation for initiatives such as FIFA's newly launched "The 11 for Health" campaign that uses soccer as an educational health tool for children in order to raise awareness and improve health in African and South American communities.

Also Michelle Obama's "Let's Move" project aiming at eliminating obesity in American children through diet and sports have recently promoted soccer as a favourable activity. The research results are also used in Europe, where the research group is directly involved in implementing the results through projects focusing on adults and children, such as "The Open Soccer Club project", "The Soccer at Work project" and the "Intensity in Pupil School Sport project".

Sports Confederations, Football Associations, Ministries of Culture and Health and researchers from Universities, Hospitals and Centres for Working Environment are cooperating about the implementation and scientific evaluation of those projects.

About the project:

The project has received funding from, among others, FIFA - Medical Assessment and Research Centre (F-MARC), The Danish Ministry of Culture's Sports Research Committee, United Federation of Danish Workers, TrygFonden, The Danish Football Association, Team Denmark and The Danish Sports Confederation.

Provided by University of Copenhagen

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