



WHY IT MATTERS...

SPORT, EXERCISE & HEALTH



Loughborough University

Dr Sven Hoekstra

Research Associate

My research aims to develop interventions to promote cardiometabolic health in people with a limited exercise capacity, such as individuals with a disability. In collaboration with clinical and community partners I investigate strategies such as heat therapy, neuromuscular electrical stimulation and upper-body exercise.



Partly as a result of physical inactivity and the consumption of too many calories, it is estimated that 63% of the adult population in the UK is overweight or obese. Research in the past decades has revealed that fat not only adds to body mass, but also actively produces compounds that can damage other tissue in the body and result in chronic disease.

While exercise can help to maintain a healthy body mass and improve disease risk factors, not everyone is able to exercise regularly. My research has shown that heat therapy, using hot baths or the sauna, may also be a strategy to maintain or improve health. The use of heat therapy to treat health conditions is not a new concept. In around 3000 B.C., Egyptian physicians used it as part of their breast cancer treatment, and it is estimated that the Ancient Greeks began using it for medicinal purposes around 550 B.C.

My work has demonstrated that a single heat therapy session induces many of the same beneficial responses observed after exercise, such as an increase in key immune markers, while a long-term study showed it may also reduce chronic disease risk.

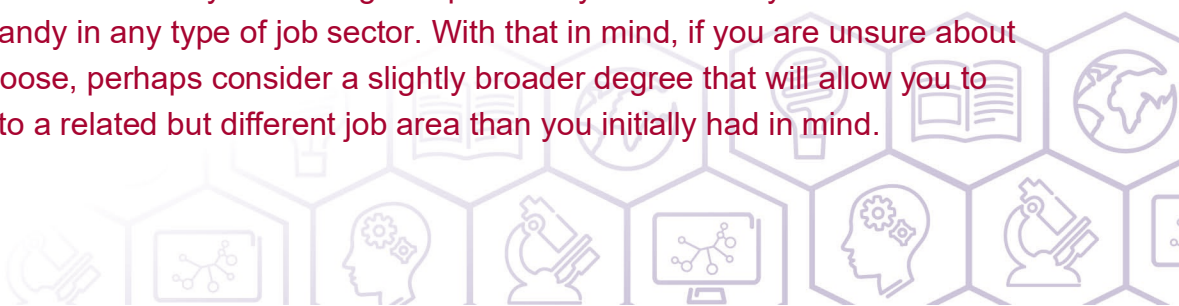
Post 16 Education:

I studied in the Netherlands where the system is different, the subjects I took that can be compared with A Level were: Economics, Geography, History. Then to study a Biology-related degree I had to go on to something like college to get my Chemistry, Maths & Biology certificates.

Higher Education:

B.Sc. Health & Life Sciences (VU University, NL)
M.Sc. Human Movement Sciences (Groningen University, NL)
PhD Exercise Physiology (Loughborough University)

Sven's advice: When having to choose a degree, it can feel like a decision that will determine the rest of your entire life. Be assured that this does not have to be the case. A degree teaches you a certain way of thinking and provides you with many transferable skills that will come in handy in any type of job sector. With that in mind, if you are unsure about what subject to choose, perhaps consider a slightly broader degree that will allow you to easily transition into a related but different job area than you initially had in mind.





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Sven's experience as a student

Lectures and seminars can sometimes get somewhat monotonous: you acquire a lot of knowledge, but at times it can be difficult to grasp its implications. Therefore, the time during my UG degree I enjoyed most was the research project I conducted as part of my final year's dissertation. Under the supervision of a Ph.D. student, I studied the effect of training status on the psychological responses to different forms of exercise. This project helped me to get familiar with laboratory-based research, what it is to be a researcher and got me motivated to pursue a career in this area.

Sven's Career

During my Masters at Groningen University I got involved in disability sport through a national handcycle event called The HandbikeBattle. This research project made me acutely aware of the power of exercise and all its related facets (e.g. social interactions, having a goal in life), in particular among people with a disability.

My research degree (PhD) in the Peter Harrison Centre for Disability Sport provided me with the opportunity to further pursue a career in disability sport and health research. While exercise remained part of my research focus, it was during this time that I started to explore heat therapy as an alternative or additional strategy to promote health; inspired by the many people I met during my studies that faced significant barriers to meet the exercise guidelines.

Following completion of my Ph.D. in 2019, I have held Postdoctoral positions at Loughborough University and Wakayama Medical University in Japan. At Loughborough I further investigated effective and tolerable heat therapy protocols. Alongside these studies, my research looks to gain more understanding into the consequences of a spinal cord injury on metabolic health and the response to physiological stress. Further, supported by a Kyoten Postdoctoral Fellowship from Wakayama Medical University, I investigated the effects of exercise on chronic pain in mice.

Together, I hope that the research I have conducted along this journey as well as my future work can contribute to more inclusive health promotion policies by developing effective strategies for people with ranging physical capacities.

Loughborough University offers undergraduate degrees in

Sport Science, Coaching and Physical Education / Sport and Exercise Science / Sport Management / Sport and Exercise Psychology / Psychology / Sport Technology

Please note: Degrees and their titles change over time. Some graduates may have studied degrees that have evolved and changed in response to changes in demand from employers.