

# The effects of exercise training on HPA-axis reactivity and autonomic response to acute stress - a randomized controlled study

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## Creator/Principal investigator(s)

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## Research principal

[Region Västra Götaland](#) - Institutet för stressmedicin

## Principal's reference number

917-12

## Description

The aim of the present trial was to study the effects of a six-month aerobic exercise intervention on the physiological response to acute laboratory stress. A two-armed RCT including untrained but healthy individuals aged 20-50 years was conducted. Assessments included a peak oxygen uptake test and a psychosocial stress test (the Trier Social Stress Test). A total of 88 participants went through both baseline and follow-up measures (48 in the intervention group and 40 in the control group) with an even distribution of women and men (20/28 in the intervention group and 18/22 in the control group, respectively). Outcome measures were adrenocorticotrophic hormone, cortisol, systolic- and diastolic blood pressure and heart rate responses to acute psychosocial stress.

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## Language

[English](#)

## Unit of analysis

[Individual/Patient](#)

## Population

Age 20-50 years; essentially healthy (not suffering from any known somatic or psychiatric disease such as diabetes, heart disease or stress-related diseases) and working or studying at least 50 % of full time, no regular exercise during the last year and rate themselves as mostly sedentary

## Study design

Experimental study

## **Description of study design**

Randomized controlled trial

## **Sampling procedure**

[Other](#)

## **Time period(s) investigated**

2013 – 2016

## **Variables**

110

## **Number of individuals/objects**

88

## **Data format / data structure**

[Numeric](#)

## **Data collection 1**

- Time period(s) for data collection: 2013 – 2016

## **Responsible department/unit**

Institutet för stressmedicin

## **Funding**

- Funding agency: Swedish Research Council for Health, Working Life and Welfare

## **Ethics Review**

Gothenburg - Ref. 917-12

## **Research area**

[Medical and health sciences](#) (Standard för svensk indelning av forskningsämnen 2011)

## **Keywords**

[Physical education and training](#), [Randomized controlled trial](#), [Physiological stress](#), [Hpa-axis](#), [Acute stress](#)

## **Publications**

Arvidson, E. (2019). Physiological responses to acute physical and psychosocial stress - relation to aerobic capacity and exercise training. Doctoral dissertation. Department of Food and Nutrition, and Sport Science. University of Gothenburg. <http://hdl.handle.net/2077/59602>

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Data are accessible by order

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Version 1.0. 2019-06-12

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