

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)

Elin Arvidson - Region Västra Götaland, Institutet för stressmedicin

Ingibjörg H Jonsdottir - Region Västra Götaland, Institutet för stressmedicin

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

Use of data

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Version 1.0. 2019-06-12

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