Establishing the length of physical activity needed to improve cognitive performance in Dutch adolescents (11-14 years).

No registrations found.

Ethical review	Positive opinion
Status	Pending
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON20170

Source
NTR

Health condition

Physical activity, exercise, cognitive performance, school grades, physical fitness, exercise intensity, exercise duration, gym, school, adolescents

Beweging, cognitieve prestatie, schoolcijfers, leren, school, adolescenten, bewegingsinspanning, bewegingsduur

Sponsors and support

Primary sponsor: VU University Medical Center (Performer)
Source(s) of monetary or material Support: NWO

Intervention

Outcome measures

Primary outcome

Cognitive performance on a task measuring selective attention and a task measuring working memory.

Secondary outcome

-Heart rate variability

-Physical fitness

-School grades (CITO scores)

Study description

Background summary

Participation in physical activity (PA) has received particular attention in the scientific literature, not only for its beneficial effects on physical and emotional health, but also for its positive effects on cognitive functioning. A single bout of physical exercise has been found to increase performance on tasks measuring higher order cognitive processes, such as attention and working memory.

The majority of studies performed to investigate the relationship between PA and cognitive performance, implement exercise sessions of approximately 30 minutes at a moderate to vigorous level of intensity. Such long exercise sessions are difficult to implement in a school setting, as such, it is necessary to assess whether the effects of physical activity on cognitive performance are present after shorter bouts of exercise.

In this study, we investigate PA-related effects on cognitive performance after engaging in physical exercise at 10, 20 and 30 minutes.

Study objective

In this study we will investigate whether the effects of physical activity on cognitive performance are present after short (10 minutes), medium (20 minutes) or longer (30 minutes) bouts of moderate exercise in order to establish the feasibility of implementing exercise programs in a school setting.

Study design

This is a cross-sectional study, therefore, the acute effects of physical activity will be measured at one timepoint per group.

Intervention

Group 1) Acute effects of 10 minutes of physical activity at a moderate level of intensity.

Group 2) Acute effects of 20 minutes of physical activity at a moderate level of intensity.

Group 3) Acute effects of 30 minutes of physical activity at a moderate level of intensity.

Control conditions

Group 1) Reading, filling in questionnaires and solving puzzels for 10 minutes.

Group 2) Reading, filling in questionnaires and solving puzzels for 20 minutes.

Group 3) Reading, filling in questionnaires and solving puzzels for 30 minutes.

Contacts

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Eligibility criteria

Inclusion criteria

Dutch adolescents following elementary and high school (11-14 years).

Exclusion criteria

-none-

Study design

Design

Study type:	Interventional
Intervention model:	Crossover
Allocation:	Randomized controlled trial
Masking:	Open (masking not used)
Control:	Active

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	04-11-2014
Enrollment:	80
Type:	Anticipated

Ethics review

Positive opinion

Date:	30-10-2014
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
NTR-new	NL4758
NTR-old	NTR4886
Other	METc VUmc: 2014.363 : EMGO+ institute: WC2014-020

Study results