

# Train the brain: changing learning processes in children with ADHD

Gepubliceerd: 22-09-2015 Laatste bijgewerkt: 13-12-2022

The purpose of the study is to investigate whether we can ameliorate (associative) learning processes in children with ADHD by training working memory. We predict that children in the active working memory training condition will show improved...

<b>Ethische beoordeling</b>	Positief advies
<b>Status</b>	Werving gestart
<b>Type aandoening</b>	-
<b>Onderzoekstype</b>	Interventie onderzoek

## Samenvatting

### ID

NL-OMON21790

### Bron

Nationaal Trial Register

### Aandoening

ADHD

### Ondersteuning

**Primaire sponsor:** The study will be conducted at the Faculty of Psychology and Educational Sciences, KU Leuven, Belgium

**Overige ondersteuning:** FWO

### Onderzoeksproduct en/of interventie

### Uitkomstmaten

#### Primaire uitkomstmaten

- Associative learning as measured by a matching to sample task with condition discrimination
- Working memory/short term memory capacity measured through the Corsi Block Tapping Task (backward/forward)

# Toelichting onderzoek

## Achtergrond van het onderzoek

The purpose of the study is to investigate whether we can improve basic (associative) learning processes in ADHD by training the working memory through a game-based working memory training. Previous research has shown that children in the active condition improved in working memory whilst those in the non-active did not (Dovis et al., 2015), however effects of training this working memory on basic learning processes is to date unclear. Children with ADHD (N=60) will be randomized to either an active game based working memory training or a non-active working memory training. Pre, post and 3 months follow-up tests will be conducted. Primary outcomes are associative learning & working/short term memory, secondary outcomes are academic performance, and parent/teacher rated ADHD symptoms.

## Doel van het onderzoek

The purpose of the study is to investigate whether we can ameliorate (associative) learning processes in children with ADHD by training working memory. We predict that children in the active working memory training condition will show improved short term memory, working memory & learning processes, whilst children in the non-active working memory training condition will show no improvements in these parameters.

## Onderzoeksopzet

pretest

posttest

3 months follow-up

## Onderzoeksproduct en/of interventie

Braingame Brian is a game based working memory training consisting of 25 sessions with a duration approximately around 45 minutes. It consist of an interactive game world in which children with ADHD solve problems through completing tasks training working memory, inhibition and cognitive flexibility, which can be adaptive (active) or non-adaptive (non-active/placebo).

In the current study, at random half of the children with ADHD will receive a non-adaptive (placebo condition) training of working memory, cognitive flexibility and inhibition. The other half of the Children will receive an adaptive (active) working memory training and a non-adaptive cognitive flexibility and inhibition training.

## Contactpersonen

### Publiek

Department of Psychology<br>  
K.U.Leuven<br>  
Tiensestraat 102  
Saskia Oord, van der  
Leuven BE-3000  
Belgium  
+32 (0)16 325824

### Wetenschappelijk

Department of Psychology<br>  
K.U.Leuven<br>  
Tiensestraat 102  
Saskia Oord, van der  
Leuven BE-3000  
Belgium  
+32 (0)16 325824

## Deelname eisen

### Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

- Between 8 and 12 years old
- The presence of a primary clinical diagnosis of any subtype of ADHD
- The presence of a clinical score on the ADHD scales of the Questionnaire Behavior problems for Children from 6 to 16 (VvGK 6-16)
- The presence of a primary clinical diagnosis of any subtype of ADHD based on the Diagnostic Interview Schedule for Children (DISC-IV) - module E (Behavioral disorders): Parents' form.
- IQ > 80 measured by the short version of the Wechsler Intelligence Scale for Children (WISC-III-NL)
- Medication (e.g. Methylphenidate) has to be stable for at least four weeks before pretest and

stopped 48 hour before the testing sessions.

## **Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)**

- The presence of a clinical diagnosis on conduct disorder (CD) as measured by the Diagnostic Interview Schedule for Children (DISC-IV) - module E (Behavior disorders): Parents' form
- The presence of a diagnosis of Autism Spectrum Disorders (ASD) as indicated by the parents
- The presence of a neurological disorder, a sensory or motor deficit as indicated by the parents on the general questionnaire.
- Medication that causes behavioral changes or has an influence on attention or concentration, except for methylphenidate and dexamphetamine.

## **Onderzoeksopzet**

### **Opzet**

Type:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	Gerandomiseerd
Blinding:	Dubbelblind
Controle:	Placebo

### **Deelname**

Nederland	
Status:	Werving gestart
(Verwachte) startdatum:	01-10-2015
Aantal proefpersonen:	60
Type:	Verwachte startdatum

## Ethische beoordeling

Positief advies

Datum: 22-09-2015

Soort: Eerste indiening

## Registraties

### Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

### Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

### In overige registers

Register	ID
----------	----

NTR-new	NL5334
---------	--------

NTR-old	NTR5444
---------	---------

Ander register Grant provider nr: G073814N : Ethical Committe nr: G-2015 01 156

## Resultaten

### Samenvatting resultaten

n/a