

NeurotrackerX Cognitive Enhancement study

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The NTX intervention training leads to significant increase in both near and far transfer outcomes, in comparison with the effects of a training of an active control group.

Ethische beoordeling	Niet van toepassing
Status	Werving nog niet gestart
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON21107

Bron

NTR

Verkorte titel

TBA

Aandoening

NA

Ondersteuning

Primaire sponsor: This research has been made possible by the Dutch Ministry of Defense

Overige ondersteuning: Ministry of Defense and Netherlands Aerospace Centre

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Time to complete a flight simulation game/session and the number of hoops flown through while being distracted both auditory and visually

Toelichting onderzoek

Achtergrond van het onderzoek

Performance optimization can be brought about by improving/training the handling of stressful situations. Training can focus on improving performance on the (perceptual-cognitive) tasks themselves, or on skills that allow people to better deal with the associated stressors. An additional possibility concerns the strengthening of mental skills as a result of the improvement of internal or external information processing processes, also known as cognitive enhancement. Cognitive enhancement has received increasing attention in recent years through multiple systematic reviews (including Kelly et al., 2019 and Blacker et al., 2019). These showed that especially task-specific training leads to consistent, positive results, in particular on attention, working memory and spatial cognition. Blacker et al. (2019) conclude that working memory training has a clear effect on near-transfer tasks, and should also be used for that purpose. Future studies should however look at how and to what extent the improvement resulting from working memory training on near transfer tasks translates into practical, 'real-world' applications and outcomes. A specific training form that could be suitable for this is the Neurotracker training program (NTX). NTX claims that by means of an adaptive 3D multi-object tracking task, both the capacity and the processing speed of the working memory are trained. The program was originally developed in Canada (University of Montreal) as a perceptual-cognitive skills training program with the aim of promoting the performance of athletes. The underlying idea is that tracking multiple objects triggers multifocal attention mechanisms, anticipation, and adequate decision making. By means of the training, other mental/cognitive skills such as attention, processing visual information and working memory are stimulated (Parsons et al., 2016). In this study we aim to investigate, by means of a scientifically designed experiment (RCT), whether we can repeat the results described above in gamers, and find out if a transfer to real life specific performance takes place.

Doel van het onderzoek

The NTX intervention training leads to significant increase in both near and far transfer outcomes, in comparison with the effects of a training of an active control group.

Onderzoeksopzet

Baseline measurement (T0), training of 4 weeks, post-measurement (T1)

Onderzoeksproduct en/of interventie

The perceptual-cognitive NTX intervention has been developed in Canada, and consists of a digital, 3D multiple object tracking task, aimed to enhance both the capacity and the processing speed of the working memory. A basic training program consists of 30 trials of 5 minutes each. Within those trials, participants have to track and follow multiple objects during 8 seconds.

Contactpersonen

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

Substantial gaming experience

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

Familiarity with the training intervention

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	Gerandomiseerd
Blinding:	Enkelblind

Controle: Geneesmiddel

Deelname

Nederland

Status: Werving nog niet gestart

(Verwachte) startdatum: 01-10-2021

Aantal proefpersonen: 40

Type: Verwachte startdatum

Voornemen beschikbaar stellen Individuele Patiënten Data (IPD)

Wordt de data na het onderzoek gedeeld: Nog niet bepaald

Toelichting

To be discussed with funding authority

Ethische beoordeling

Niet van toepassing

Soort: Niet van toepassing

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	NL9708
Ander register	Ministry of Defense : NTP L1917

Resultaten

Samenvatting resultaten

There is an intention to publish the results of the RCT. Once the study has been published, the reference to the publication(s) will be added here.