The ability to modulate the sensation of pain using augmented reality

Published: 29-03-2019
Last updated: 12-04-2024

The main objective of this study is to investigate whether perspective (i.e. first person vs. third person) directly influences the interplay between body ownership and pain perception.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Other condition
Study type	Interventional

Summary

ID

NL-OMON48970

Source
ToetsingOnline

Brief title
augmented reality pain modulation

Condition

- Other condition

Synonym
physical discomfort, visual processing

Health condition

human cognition

Research involving
Human

Sponsors and support

Primary sponsor: Academisch Medisch Centrum
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: augmented reality, pain modulation

Outcome measures

Primary outcome

- Augmented reality task, the main study parameters consist of self-reports measured by a VAS and physiological recordings of heart rate and Skin Conductance level (SCL) measured by the VU-AMS.

- Non-augmented reality task, the main study parameters consist of self-reports measured by a VAS and physiological recordings of heart rate and Skin Conductance level (SCL) measured by the VU-AMS.

Secondary outcome

N/A

Study description

Background summary

Head mounted display (HMD) technology can be defined as a pair of special computer goggles that can be used to render different forms of stereoscopic virtual content to the user. The two different types of content include both virtual reality (VR) and augmented reality (AR). Virtual reality can be defined as a non-invasive, stereoscopic, computer-generated reality that enables an individual to experience all three dimensions of a virtual environment from any perspective, i.e. the first or third person perspective. Therefore, VR entirely separates individuals from their natural environment. Virtual reality has been studied extensively in the context of managing chronic pain in both physically identifiable [Hoffman 2000, Hoffman 2001, Hua 2015, Gershon 2004, Schneider 2004] phantom pain [Cole 2009, Wake 2015] conditions. Collectively, these studies suggest that pain perception is influenced by multisensory information. Little research has been conducted within this field using augmented reality. Augmented reality can be defined as a non-invasive, monoscopic or stereoscopic, reality that is created by combining both the real world and a computer-generated world. This blended reality allows individuals to view

virtual images that are imposed over parts of their natural environment.

Study objective

The main objective of this study is to investigate whether perspective (i.e. first person vs. third person) directly influences the interplay between body ownership and pain perception.

Study design

This is a pilot study with behavioral outcome measures.

Intervention

Augmented reality

Study burden and risks

The risk and burden associated with participation can be considered minimal.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

The recruitment of participants takes place as follows. Practitioners at the department of Psychiatry will inform healthy participants via hand-outs and online flyers about our study. If someone is willing to participate in the study, we will email them to inform them of the entire procedure. This email will ensure that they have the opportunity to fully understand the procedure. If they are still interested in participating, they will sign an informed consent and we will perform screening for inclusion and exclusion criteria. Demographics and a clinician-related questionnaire (M.I.N.I) will be assessed to make sure that the individual can participate. If a participant meets any of the exclusion criteria, then they are excluded from participating in this study.;Inclusion criteria:
- Men and women.
- Age between 25-65.
- No previous diagnosis of a mental disorder
- No previous diagnosis of chronic pain

Exclusion criteria

- A DSM-V diagnosis for any mental disorder
- Diagnosed with having chronic pain

Study design

Design

Study type: Interventional

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	27-06-2019
Enrollment:	16
Type:	Actual

Medical products/devices used

Generic name:	Oculus Rift DK2
Registration:	No

Ethics review

Approved WMO Date:	29-03-2019
Application type:	First submission
Review commission:	METC Amsterdam UMC

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
CCMO	NL65263.018.18