

**Self-Conversation in Virtual Reality Embodiment to Enhance  
Healthier Lifestyles among People with Obesity**

**NEWSLETTER #3  
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## **In this issue:**

### **Research activities**

- *UM*
- *VHIR*
- *Scientific publications*

### **Dissemination activities**

- *Social media posts*
- *Blog Posts*
- *Website publication*
- *Presentations*
- *Events*
- *Upcoming events*

### **Changes in Socrates Team**

## Research activities

In this newsletter, we start with updates on the research activities from the partners UM and VHIR.

### UM

The Maastricht University team (UM-team) has further fine-tuned their plans for the studies that will be conducted in Maastricht (a behavioral VR-study and an fMRI VR-study), and has presented them to the larger Socrates team in various group sessions. Using the feedback obtained during these meetings, the study proposals have been revised, improved, and finalized, and the proposals have been submitted to the Ethics Review Committee Psychology and Neuroscience (ERCPN) at UM. Ethical approval was obtained on 03-03-2022.

Parallel to this, the UM-team worked on the task design with VBW and had several online meetings to shape this. The VR task development for the behavioral study is almost finished. After piloting this task, UM will start recruitment. This is planned in April 2022. The UM-team has recruited and interviewed two master internship students that will assist with running the behavioral VR study until September 2022. The information obtained in this study will be used as the starting point for the VR fMRI study.



**Figure 1.** Trying out of the last updated task that includes physical exercises.

In preparation for this VR-fMRI study, the UM-team already researched options for MRI-compatible VR goggles. Two members of the UM-team went on a research visit to Aachen, to visit the Brain imaging

facility lab at Uniklinik RWTH, where they have gathered experiences on using MRI-compatible goggle systems. It will be followed up by purchasing a compatible goggle system and by exploring possibilities for a continued collaboration to share experiences with the researchers from Aachen.

### *VHIR*

After the usability study, which was concluded successfully in September 2021, several improvements to the ConVRself platform were carried out by VBW. Now, the VHIR team is recruiting patients for the RCT (15 patients recruited so far) and assigning them randomly to one of the 3 experiment conditions. Intensive preliminary training on Motivational Interviewing techniques is also being carried out for the participants of the experimental group who will use the ConVRself platform to engage in a self-conversation about how to achieve a healthier lifestyle.

### *Scientific Publications*

The following study protocol article by VHIR is awaiting an editorial decision at BMJ open:

Anastasiadou, D., Slater, M., Spanlang, B., Cano Porras, D., Comas, M; Ciudin, A., Parramon Puig, G., Vázquez-De Sebastián, J., Ramos-Quiroga, A., & Lusilla-Palacios, P. (2022). Clinical efficacy of a Virtual Reality tool for the treatment of obesity: Study Protocol of a Randomized Controlled Trial. *BMJ Open*, under review.

The Frontiers research topic team from the Socrates project has received six abstracts so far to be included in the research topic "Can Virtual Reality Be a Solution for Assessing and Treating Psychological Symptoms Caused by Eating and Weight Disorders? Besides, the Frontiers research topic team submitted three abstracts to be included in the aforementioned research topic (currently under review):

- The abstract entitled "Behavioural and neural mechanisms of virtual embodiment of a future healthy self " is submitted by the UM team
- The abstract entitled "Virtual Self-Conversation Using Motivational Interviewing Techniques To Promote Healthy Eating And Physical Activity: A Usability Study" is submitted by VHIR and Virtual Body Works.
- Planning to submit the abstract entitled "3D Human Body Shape Estimation and Virtual Reality Integration to Enhance Healthier Lifestyles Among Obese" by Virtual Body Works.

## **Dissemination activities**

### *Social media posts*

Several posts concerning the Socrates project (for example blogs, news and events) were published on the Instagram and LinkedIn group account. To see these posts visit:

[https://www.instagram.com/socrates\\_vr/](https://www.instagram.com/socrates_vr/).

### *Website publication*

The Socrates project was published on the VR4REHAB platform, which is a partner of EuroXR Association, see: <https://vr4rehab.org/>

### *Blog posts*

The Socrates team published several blog posts. Since august 2021, 9 blogpost have been published of which 3 were written by VHIR, 2 by VBW and 4 by UM. To read these interesting blogposts visit this webpage: <https://socratesvr.eu/blog/> . Two additional ones are currently being prepared.

## Presentations

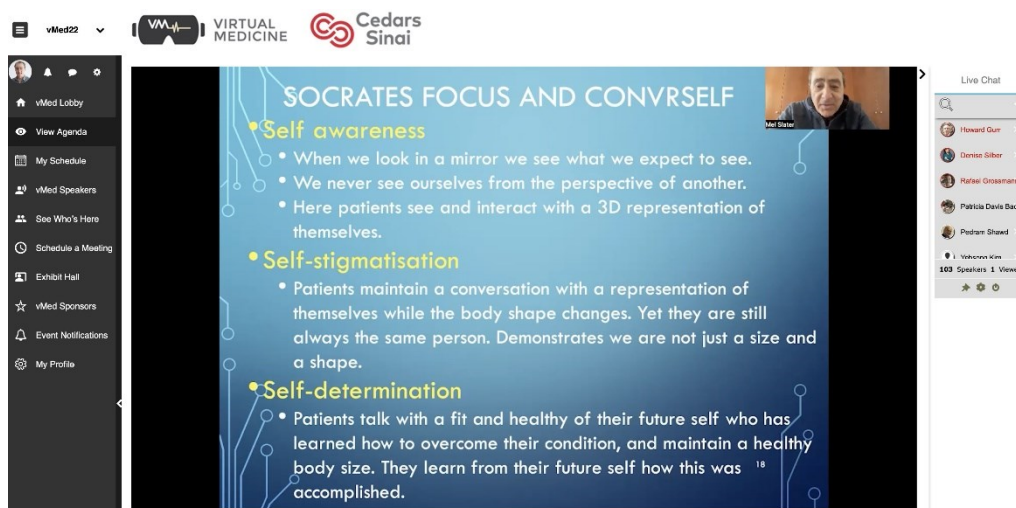
In September 2021, the first results of the usability study carried out by the VHIR team with healthy volunteers were presented by Dr. Dimitra Anastasiadou as an oral communication at the CYPsy25, which was held virtually.

Qualitative results of the training on Motivational Interviewing skills received by patients with obesity were presented by Dr. Dimitra Anastasiadou as an oral communication at the National Meeting on Motivational Interviewing (V Forum Getem, October 2021).

## Events

Several events have been organized or attended by the Socrates team.

Mel Slater participated in a Virtual Medical conference (on 24-03-2022, online) where he talked about SOCRATES. See the picture below:



Picture 2. Slide of Virtual Medical Conference on Socrates project.

In March 2022, VHIR also participated in 2 different events of Cervellat activity.

Last 22nd of February 2022 we could organize SOCRATES 1st face-to-face meeting in VBW facilities in the Barcelona Health Hub event. Here, in close cooperation with VHIR, we explained to participants the goal & objectives of the project and we had a practical session for those who wanted to try and test the Oculus experience. To see more info go to: <https://socratesvr.eu/enhancing-healthier-lifestyles-for-people-with-eating-disorders/>

An online symposium was (partly) organized by UM and attended by Socrates members. The title of the symposium was "Virtual Realities, real experiences. Perspectives from behavioral & neuroscience studies" and was held on 17-02-2022 organized by Prof. Beatrice de Gelder, Paris IAS and Maastricht University & Julie Grezes, ENS Paris. Mel Slater also participated in this online symposium as a presenter.

**Lotte Lemmens** hosted an event in which research master students were invited as members of a fictional advisory committee of the Dutch Health Council consisting of experts in overweight, obesity, and eating disorders. Using various sources and assignments (lectures, literature discussions, quizzes,

popular science writing) they had to find out whether national programs to prevent overweight and obesity increase the risk of the development of eating disorders. During the event meeting, each student pitched their findings, and students critically discussed what is known from empirical research into the association between the promotion of healthy nutrition, healthy exercise, and loss of overweight on the one hand and the causation of eating disorders on the other hand. Based on this, they formulated a final group advice. Students are currently working on a short paper, which will be published as a blog post soon.

#### *Upcoming events*

- **Sieske Franssen** and interns will present their study plans during in one of the weekly lab-meeting of the Eating Disorders and Obesity research group at Maastricht University
- **Sieske Franssen** and **Lotte Lemmens** will both give an oral presentation at the ECO obesity congress zoom forward on May 4-7 in Maastricht
- **Sieske Franssen** and **Lotte Lemmens** are planning to attend and give oral presentations at the Dutch Society of Behavioral and Cognitive Therapy Congress from 2-4 November 2022 in Veldhoven

#### **Changes in Socrates Team**

Socrates welcomes a new team member that will be working on dissemination activities, Pol Herrero (psychologist).

From the UM team, unfortunately the contract of the postdoc researcher Desiderio Cano Porrás has ended. We would like to thank him for all his fruitful contributions to the Socrates project up until now, and we are happy to mention that he still will be involved as a scientific VR advisor for the studies performed at UM.

Two internship students are recruited and will work as research assistants in the UM Socrates team: Felice Pechthold (04-2022 until 12-2022) and Charlie van Deursen (03-2022 until 07-2022).