

Virtual reality utilization for optimizing working memory stimulation during EMDR therapy and PTSD treatment

Tjeu Theunissen

Maastricht University, Netherlands

Statement of the Problem: By overloading the working memory during EMDR(Eye Movement Desensitization and Reprocessing) therapy with dual attentional tasking, the quality of the traumatic memory is altered and its intensity weakened, leading to less symptoms of PTSD(Post-Traumatic Stress Disorder). Crucial to EMDR therapy is the adequate dosage of the secondary task (WM taxation) during recall of traumatic memories. In clinical EMDR, the secondary task consists of bilateral eye movements. However, the speed and width of EM's is not recorded, while they may have large effects on WM taxation and thus treatment outcome. It appears, then, that it would be helpful to have a secondary task of which the degree of WM taxation can be manipulated and adjusted to individual patients.

Method: A pilot feasibility study investigated whether a Virtual Reality EMDR intervention that titrates WM load per individual leads to more reduction of subjective distress towards trauma compared to other traditional (non-VR) interventions. PTSD patients were offered three conditions of EMDR administering as a choice.

Findings: The EMDR VR administering had positive effect on decreasing subjective distress within a single EMDR session, and more positive effect compared to traditional methods. In addition, a large proportion of patients preferred the VR as treatment method of choice. Overall, patients reported the VR to have better therapy outcome and subjective distress reduction, a more immersive experience, and less distraction by the therapist's presence.

Conclusion & Significance: Titrating WM load per individual could improve EMDR therapy effectivity. Moreover, VR would be a promising research environment to study EMDR and PTSD treatment because it allows for precise controlling and manipulating therapy variables to alter WM load. More data is needed to explore the effects of titrating WM load and VR administering on PTSD treatment. Future VR utilization in PTSD treatment is suggested.

Biography

Tjeu Theunissen is a PhD-candidate at Maastricht University (NL) and has completed several clinical trainings. He is working (part-time) as a therapist in the specialized health care at mental health clinic U-Center (NL), performing EMDR on international patients with PTSD (mostly NATO soldiers). He has experience as a therapist, researcher, and teacher in clinical psychology, in which a specialization in psycho-trauma is apparent. Highlights in his achievements are winning the FPN education prize for best teacher during his first year of teaching at Maastricht University, and being accepted in world's most top-rated incubator program 'Y-Combinator' with the presented EMDR-VR business concept. He has founded the company SiVRmind with the specific aim to improve trauma therapy via Innovation technology, with a strong focus on scientific research and clinical practice.

tjeu.theunissen@maastrichtuniversity.nl

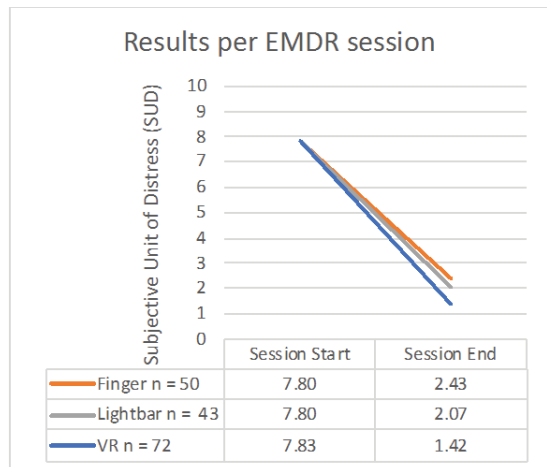


Fig. 1. Mean Subjective Unit of Distress (SUD) values for the traditional Finger condition, the EMDR Lightbar condition, and Virtual Reality (VR) condition across 165 EMDR sessions