

Horses in Education & Therapy international Conference, Seoul 2021

(Special Themes for 2021: Robotics; Virtual Reality)

TheHorseCourse Abstract for Oral Presentation

A proposed study to shift TheHorseCourse proven equine-assisted intervention to VR platform for large-scale reach

Background/Aims:

TheHorseCourse (THC; Thehorsecourse.org) ReStart is a highly effective equine-assisted intervention supporting those with mental health or behavioural issues when talk-based treatment is ineffective (Hemingway, A; *J* 2019, 2(2), 236-246; <https://doi.org/10.3390/j2020017>)

The role of highly trained horses in THC is to provide accurate feedback as the participant is coached through tasks. The horses are trained to kick a ball, free jump, etc in response to subtle body cues and the emotional stance of the unmounted handler. The horses' reactions show the participant if they are too anxious, too aggressive, unfocused, communicating poorly. Success is achieved only when the participant provides calm self-leadership and thus functional behaviours are reinforced.

Despite being a highly effective intervention, the scaling of this programme is limited both logistically and economically by the high level of horsemanship skills the THC Facilitators require. For several years, THC has been exploring VR-based solutions to scaling their innovative programme. Until now unavailable, is the technology which would allow THC to replace the highly-trained horses in a meaningful way. A VR programme relying merely on narrative or user-specified responses would be poor. It is important to have a feedback loop, based on the 'inner life' of the user. Through experiments with Bournemouth University, THC has ruled out 'Emotibit' as inadequate (a wearable sensor for galvanic skin response). New work by Amber project (Honke et al, 2020; [arXiv:2010.15274](https://arxiv.org/abs/2010.15274)) shows real promise – a wearable EEG known as “the showercap” which has shown to correctly assess anxiety in real time.

We propose to build upon the work of the Amber Project in order to scale THC.

Methods

Pilot study: Firstly, the Amber Project's established protocol will be replicated with THC participants. Secondly, an assessment of whether measurable change is “visible” via the showercaps during key moments of the intervention will be conducted.

Following a successful pilot study, we will develop a highly-scalable intervention which takes place in a VR gamified context in which the horses' behaviour is determined by the data generated by the users' showercap in real time.

Lastly, the VR programme will be robustly evaluated by external academics before large-scale rollout.

Results

A digital approach has opportunities for improvement as the horses' moods and distractions can be eliminated. Conversely the loss of some 'real life' aspects of the horse such as touch and smell may be detrimental. We hope for broadly comparable impacts.

Discussion:

THC is highly effective with those displaying multiple complex needs. Should efficacy prove to be somewhat compromised by the digital shift, there is still potential to support millions of people at a lower level of need. Therefore, at worst the digitalisation of THC can be viewed as early intervention or a preventative resilience building measure.

Conclusions

The potential for this cheap and accessible mental health intervention is vast, providing a much-needed response to a sweeping mental health epidemic. The digitalisation of THC seeks to capture the healing power of horses whilst dramatically increasing its availability and therefore impact on society.

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