

# Chapter 6

## Ethical Considerations of Using VR in Mental Health Training

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### ABSTRACT

*Mental health students, who are still undergoing training, might find it challenging to visualise and fully understand what their patients experience. For this reason, the authors created a virtual reality simulator which mimics the symptoms of a person suffering from schizophrenia at a virtual workplace. The simulation is managed by an artificial intelligence system which asks the user to attempt simple tasks, while simultaneously facing both visual and auditory hallucinations. The AI also adapts the storyline and character behaviour dynamically to increase the immersiveness of the experience. A pilot study was carried out, and the initial results were very encouraging. In fact, the absolute majority of the users stated that the simulation has helped increase their understanding of schizophrenia. In this chapter, the authors evaluate this experiment but from a different perspective. They focus mainly on the use of emerging technologies such as AI and VR and discuss the ethical considerations of their use within the field of mental health.*

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## **INTRODUCTION**

The amount of people that suffer from mental health illnesses is around 13% of the global population according to the Global Health Metrics published by the Institute for Health Metrics and Evaluation (IHME) at the University of Washington. Of course, this was before the 2020 global pandemic hit us. Today, the world is currently experiencing a surge in mental health issues (Torales et al., 2020, Gruber et al., 2020, Cullen et al., 2020) and because of this, it is extremely important that governments invest in Mental Health professionals capable of supporting all those people in need. To do so, we need to train students in a professional yet timely manner. Educational institutions are doing their best to satisfy these needs, yet they have their own limitations. Students cannot simply gain access to patients as they please but have to go through rigorous processes in order to safeguard their own well-being and that of their patients.

A work around this issue would be to use emerging technologies such as Artificial Intelligence (AI) and Virtual Reality (VR) to simulate virtual patients, environments and situations. AI can give virtual characters a personality and make them act and interact in specific ways using natural languages such as English or French. It can adjust the environment based upon the needs of the simulation and ensure that the reactions experienced by the users are realistic enough. So if the user needs to collect an object, the virtual object is placed in the room and it is ensured that the user can interact with it. Finally, the AI can orchestrate particular situations and trigger them based upon specific needs. This might include a phone ringing when the user approaches it or even the triggering of the hallucinations based upon the progression within the story line. VR is a very powerful technology and several studies (V. Camilleri et al., 2017, J. Camilleri et al., 2016, V. Camilleri et al., 2019) have shown that not only are users much more immersed in the experience if they use VR simulations, but they also tend to alter their perspective. When one walks in another person's shoes, the person's empathy increases and they better understand what another person is experiencing because they can relate to the issues directly.

In this project, that is what we tried to achieve. We aimed to assist the students to better understand what their patients are experiencing, whilst enabling them to become more empathic. To do so, we decided to simulate a mental health condition commonly referred to as Schizophrenia, which is characterized by a distorted perception of reality. This may include hallucinations, confused thinking, hearing voices, and distorted emotions. We chose this specifically because the visual and auditory simulations can be easily simulated using VR technologies.

Even though there have been various attempts in the past to use AI and VR in such a domain, the results were rather limiting. The major reason for this was that both technologies were not mature enough to handle such a task. AI has been around

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