

Project Details	
Project Code	NMH27Br Bould
Title	Can Virtual Reality (VR) embodiment experiences be used as part of treatment for eating disorders?
Research Theme	Neuroscience & Mental Health
Project Type	Dry lab
Summary	Current treatments for eating disorders work for less than half of those affected, so it is vital to develop novel treatments. Virtual Reality enables a unique experience of “embodiment”: the strong sensation that your virtual body is your own. This has the potential to help treat key aspects of eating disorders, such as the overevaluation of shape and weight and/or fear of weight gain. This interdisciplinary PhD focuses on understanding the impact of embodying bodies of different shapes and sizes on perception of and satisfaction with own body, amongst individuals with eating disorders.
Description	Eating disorders are serious mental illnesses. They increase the risk of early death, are associated with many other mental and physical illnesses, and are becoming more common. Current treatments work for less than half of those who need them, so it is important to develop better options. Virtual Reality allows people to enter a digital environment using a headset. Headsets are becoming cheaper and more widely used. VR treatments have been shown to work when they are used to treat several mental illnesses including phobias, anxiety and PTSD. They can be cheaper for health services, are popular with patients, and are especially engaging for young people. NICE has already approved one VR treatment for psychosis in the NHS. Early evidence suggests that VR treatments may also help for people with eating disorders and HB has NIHR Advanced Fellowship funding to study this. We have experience of working with people with lived experience, clinicians, and our industry partner, Kiin. Together, we have created a VR intervention to help people return to social eating. We have recently started an NHS study to test whether this intervention is feasible for 14–25-year-olds with eating disorders. Body image concerns are a key part of most eating disorders. For people with anorexia nervosa, fear of weight gain is also central. These problems are hard to treat and increase the risk of relapse. VR can create the feeling of “embodiment”: where users feel as if the virtual body is their own. We have already carried out early qualitative research with people with eating disorders, parents, carers, and clinicians to explore how this might be used in treatment. Our findings suggest that people are enthusiastic about trying VR; that interventions need to be designed with people who have lived experience; that they should be personalised and that they must be delivered with proper clinical support. In this PhD, the student will work with team of experts from different fields (eating disorders psychiatry, experimental psychology, human-computer interaction, qualitative methodology and digital design). They will study how VR embodiment affects body image concerns and fear of weight gain in people with eating disorders. Our industry partner – via

	funding from HB's NIHR Fellowship – will create personalised VR avatars to support this work. This interdisciplinary project, with cross-institution supervision from experts in eating disorders psychiatry, experimental psychology, human-computer interaction and digital intervention design will explore embodiment processes and their impact on body dissatisfaction in people with high levels of body dissatisfaction and those with eating disorders. The project crosses disciplinary boundaries and has potential for significant knowledge transfer and impact through addressing key priorities around improving mental health by prevention and/or treatment of eating disorders. Key Research Question Research question: Can VR embodiment experiences be used as part of treatment for eating disorders? Specific Objectives 1. Systematically review existing research on VR embodiment and how it affects body image in people with and without eating disorders. 2. Run studies with people with eating disorders to explore what it is like to embody a virtual version of their own body, and how this affects how they experience their own body. 3. Run studies with people with eating disorders exploring what it is like to embody avatars of different sizes, and how this affects how they experience their own body. 4. Work with clinicians, commissioners and regulators to understand what would be needed to use VR interventions routinely in clinical services. Student Ownership The objectives are deliberately broad, so the student can use their review of this fast-moving literature to guide their choices as we support them to design their experimental work. They will also be encouraged and supported to participate in PPI work to enable collaborative generation and refining of research ideas. The student will be supported in choosing whether to use qualitative methodologies to understand participant experiences of embodiment, alongside quantitative measures. Whilst the student will be supported to learn key research methodological skills including critical appraisal of literature, systematic review and meta-analysis, experimental design and analysis, they will also be able to choose to focus to a greater or lesser extent on learning VR programming skills using Unity.
Can be completed part time?	Yes
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