Project Details	
Project Code	MRCNMH26Br Bould
Title	Can experiences in Virtual Reality change body perception and satisfaction, in people with and without eating disorders?
Research Theme	NMH
Project Type	Dry lab
Summary	Current treatments for eating disorders only work for around two thirds 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 and eating disorder symptoms.
Description	**Background** Eating disorders are serious mental illnesses with significant associated morbidity and mortality, and they are increasing in prevalence. Current treatments work for less than half of those affected, so it is vital to develop novel interventions to help treat them. Disordered eating thoughts and behaviours can be conceptualised as part of a spectrum where diagnosable eating disorders are at the most severe end. It is therefore useful to study psychological mechanisms in people with symptoms or precursors of eating disorders such as high body dissatisfaction, to inform our understanding of underlying mechanisms and guide the development of novel interventions to prevent and treat eating disorders. Virtual Reality immerses users in a fully digital environment through a headset or surrounding display. Headsets are increasingly affordable, and ownership rates are rising. Virtual Reality-based interventions have been found to be effective in treating mental illnesses including phobias, anxiety disorders and PTSD; can be cheaper for health services to provide; and are preferred by many patients. Preliminary evidence suggests that Virtual Reality interventions may also be useful in treating eating disorders. Our team has substantial NIHR funding (£2 million in personal NIHR Advanced Fellowship to HB, and the Bristol Biomedical Research Centre), to co-design and feasibility test novel, Virtual Reality-based interventions to help treat eating disorders. We are working with an industry partner, Virtual Bodyworks, to do this. Some of our interventions make use of "embodiment", which describes the strong sensation that your virtual body is your own – an experience uniquely possible in Virtual Reality. Embodiment has potential to address key aspects of eating disorder psychopathology: the overevaluation of shape and weight, and fear of weight gain. 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**

	What is the effect of experiencing embodiment in VR on perception of and satisfaction with one's own body? Specific Objectives 1. Systematically review the literature on VR embodiment and its impact on body dissatisfaction for individuals with and without eating disorders. 2. Design and run studies exploring the effect of embodying an accurate version of one's own body in VR on body perception and satisfaction. 3. Design and run studies to assess the effect of embodying avatars of different sizes in VR on body perception and satisfaction. **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.
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