NHS
Health Education England

Literature Search Results: Innovative technologies in talking therapies education

Research question or topic: Evidence review on the use of emerging innovative technologies (Virtual Reality, Extended Reality and Augmented Reality) and simulation in the delivery of talking therapies education (theory and practice)
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Completed by: HEE Knowledge Management Team (Jo McCrossan)
Date: 07/04/2021
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Search reference number (internal): 441

Contents

Search comments

There is a relative paucity of evidence regarding the use of innovative technologies in talking therapies education, with much of the literature focusing instead on the application of innovative technologies in the psychological treatment process. No date limits were applied to the literature search, and the results include journal articles dating as far back as 2004.

Complete numbered list of results with links

Number	Citation	Abstract/key themes
1	Virtual Reality in Psychotherapy Training L. E. Beutler, & T. M. Harwood Journal of Clinical Psychology; Mar 2004; vol. 60 (no. 3); p. 317-330 *Athens log in required**	The effective training or retraining of mental health providers has some parallels with the needs of pilot trainees. Effective mental health training also requires that trainees be exposed to patients that present with a variety of risk levels at a time when the trainees are still inexperienced in methods or strategies targeted on these patient's needs. When initially learning to apply psychotherapeutic procedures or when learning new procedures to address the needs of self-destructive and unstable patients, the trainee is often working in a potentially high-risk environment without the experience or expertise to meet acceptable and safe standards of performance. In learning to pilot an aircraft, fledgling pilots receive supervision from a "ridealong" instructor. This is not conventionally done in psychotherapy because of concerns with the sanctity of the therapeutic relationship. In psychotherapy, training both of novices and of seasoned practitioners is usually supplemented by some type of supervision following the student's contact with the patient. This practice leaves patients at the "mercy" of a relatively untrained therapist who receives instruction when it may be too late to be effective. […] To date, computer and VR technology have not been extrapolated to use for training skills that require a high level of flexible, interpersonal interaction (e.g., psychotherapy) largely because of the difficulties of programming believable interpersonal and vocal interactions. The process of psychotherapy is transacted within a dyadic situation that incorporates an almost infinite variation of facial expressions, verbal content, body postures, and tonal qualities. VR technology and basic research have not yet resolved many of the problems of presenting a believable and complex human image that conveys accurate facial expressions and accurately represents emotions. However, once developed, a computer-based system that presents a believable rendition of interactions, problems, emotions, and nonverbal expressions, and that is capable of programmable adjustment to safely present the myriad therapeutic permutations and

		combinations that occur in reality, would represent a near-ideal training environment.
2	Internet and video technology in psychotherapy supervision and training A. W. Wolf Psychotherapy (Chicago, Ill.); Jun 2011; vol. 48 (no. 2); p. 179-181 *Athens log in required**	As psychotherapy educators we need to ground these new developments to theories and models for psychotherapy training. The theory and models are there, and the two topics of these four articles, while apparently unrelated, operationalize one of the specific hypotheses articulated by Hill, Stahl and Roffman (2007) in their recommendations for psychotherapy training: Trainees learn to use skills more successfully from observing videotapes and transcribing and coding helping sessions at various points in time and reflecting on their experiences than from just instruction, modeling, practice, and feedback (p. 368). Through the microanalysis of video recorded psychotherapy, trainees will learn to differentiate information and create meaning from their observations to understand psychotherapy relationships as the culmination of specific contextual interactions between therapist and patient with the assistance of their near or distant supervisors. The increasingly sophisticated technology of the Internet needs to be guided and grounded in a theory of psychotherapy supervision as articulated by Hill and her colleagues.
3	Attitudes Toward and Familiarity With Virtual Reality Therapy Among Practicing Cognitive Behavior Therapists: A Cross-Sectional Survey Study in the Era of Consumer VR Platforms P. Lindner, et al. Front. Psychol., 08 February 2019	The present study surveyed attitudes toward and familiarity with VR and VRET among practicing cognitive behavior therapists (n = 185) attending a conference. Results showed that therapists had an overall positive attitude toward VRET (pros rated higher than cons) and viewed VR as applicable to conditions other than anxiety. … there were also concern about required training, technical difficulties in operating, financial costs in acquiring, low immersion, and low efficacy, as well as a general unfamiliarity with the technology… … training programs should include the technical skills required to conduct VR treatment. The perceived need for technical training, and willingness to even participate, was not explicitly covered by the current study and should be addressed in future research.

4	Acceptance of Serious Games in Psychotherapy: An Inquiry into the Stance of Therapists and Patients C. Eichenberg, et al. Telemedicine and e-Health (2016) VOL. 22, NO. 11 *Abstract only**	[Abstract] Current research demonstrates the potential role and effectiveness of serious games within a psychotherapeutic context. However, a limited understanding of patients' and therapists' existing knowledge and experience of serious games, as well as of their readiness to utilize and apply them for the treatment of psychological conditions, requires further investigation. […] The application of serious games is conceivable for patients and therapists, especially as a complementary element to traditional face-to-face psychotherapy. Acceptance is strongly related to therapeutic context. Only a small number of therapists and patients agree on the possibility of using a serious game instead of face-to-face therapy.
5	Immersive Virtual Reality in the Psychology Classroom: What Purpose Could It Serve? M. Coxon Psychology Teaching Review, 19(1), 21-30	With an increasing presence of IVEs in psychological research literature it is useful to ask what purpose it may also serve in the education of psychologists. Where the educational benefits of virtual environments generally have been evident, outside of psychology, the technology has allowed the individual to take part in an experience that could not be undertaken in physical reality. […] Asking how psychology education may be able to embrace such technology therefore involves speculating how best we could harness the opportunities it offers, where they have predominantly been used in the past to develop procedural skills in virtual classrooms. One point for consideration is whether an IVE is best suited to re-creating our psychology classroom in virtual form. […] On the surface there would not appear to be much overlap between a technology that has largely been used to train procedural skills and an academic area that often focuses upon conceptual and theoretical issues. As a starting point then we must note that in being used to train procedural skills, a key feature is that the trainee or student has the opportunity to experience something in a safe environment that they may not have experienced before and would not be possible in a normal classroom environment. This key aspect is paralleled in the research efforts of some psychologists who have also used the technology to place individuals in situations that are not possible within the normal constraints of an average research environment. If IVEs are to serve a purpose in the

		classroom of the future then it is sensible to assume that it must take advantage of these properties. […] An immersive virtual environment could be a powerful tool to demonstrate to students, or one of their peers, specific psychological phenomenon that may not be normally physically possible given the constraints of a typical classroom. Providing the experience may enable the students to reflect upon the relationship between the phenomena and the theory in a more integrated way, potentially enhancing their critical analysis.
6	Developing technology to enhance learning interpersonal skills in counsellor education D. Murphy, et al. British Journal of Guidance & Counselling, Volume 47, 2019 - Issue 3 *Abstract only**	[Abstract] The integration of new technologies into counsellor education has progressed slowly. We present mPath: an online system designed to support iterative, multi-levelled and deep reflection on practice in skills training sessions. We propose the integration of new technologies to counsellor education as an area with scope for future research and development.
7	Emerging technologies and innovations in professional psychology training M. Constantino, et al. In W. B. Johnson & N. J. Kaslow (Eds.), Oxford library of psychology. The Oxford handbook of education and training in professional psychology (p. 510–528). Oxford University Press, 2014 *Abstract only**	[Abstract] The most effective and ineffective facets of professional psychology training remain largely unknown, and many questions remain about the field's traditional training models and how such models can be improved, restructured, or refocused. The present chapter focuses on such questions and improvement efforts in the forms of emerging training technologies and Innovations. Specifically, we address both technological advances and paradigmatic challenges to professional psychology training and their related implications across four main sections: (1) direct technological innovations for training; (2) non-technology-based innovations; (3) promising technological innovations for direct psychological care, which, by extension, require training schemes on those technologies (training that is mostly absent in current paradigms); and (4) challenges to integrating technological Innovations in professional training and direct practice. Finally, we offer several concluding comments on the state and future of training in professional psychology.
8	Simulation in Psychiatry	[Abstract]

	E. Goldfarb, & T. Gorrindo In: Levine A.I., DeMaria S., Schwartz A.D., Sim A.J. (eds) The Comprehensive Textbook of Healthcare Simulation. Springer, New York, NY, 2013 *Abstract only**	Simulation is used increasingly in psychiatry and mental health as a tool for clinician education, patient care, and research. Requiring realistic and evocative interpersonal interactions, as well as presentations of complex psychological symptom profiles for clinician training or emotionally salient stimuli for patient treatment, psychiatry pushes the boundaries of simulation design. Varying modalities, from simple audio tracks to immersive and interactive virtual environments, have been used to accomplish these goals. This chapter reviews current and future uses of simulation in psychiatry, focusing on the nuances of educational and therapeutic objectives as well as challenges inherent in using different simulation modalities.
9	Virtual Patients for Clinical Therapist Skills Training P. Kenny, et al. In: Pelachaud C., Martin JC., André E., Chollet G., Karpouzis K., Pelé D. (eds) Intelligent Virtual Agents. IVA 2007. Lecture Notes in Computer Science, vol 4722. Springer, Berlin, Heidelberg, 2007 *Abstract only**	[Abstract] Virtual humans offer an exciting and powerful potential for rich interactive experiences. Fully embodied virtual humans are growing in capability, ease, and utility. As a result, they present an opportunity for expanding research into burgeoning virtual patient medical applications. In this paper we consider the ways in which one may go about building and applying virtual human technology to the virtual patient domain. Specifically we aim to show that virtual human technology may be used to help develop the interviewing and diagnostics skills of developing clinicians. Herein we proffer a description of our iterative design process and preliminary results to show that virtual patients may be a useful adjunct to psychotherapy education.

Appendix

Sources and Databases Searched

Healthcare Databases Advanced Search (HDAS) was used to search the following databases: AMED; Medline; CINAHL; BNI; EMBASE; EMCARE; PubMed; HMIC and PsycINFO. Google Scholar was used to citation match and find further relevant papers.

Search Strategies

1. “virtual reality” OR VR
2. “extended reality” OR XR
3. “mixed reality” OR MR
4. “augmented reality” OR AR
5. “clinical simulation” OR “medical simulation” OR “health simulation”
6. tech* AND (immersive OR innovative OR emerging)
7. (“talking therap*” OR “talk therap*” OR “counselling” OR “counselling” OR “psychotherap*”)
8. (education OR training OR learning)
9. 1 OR 2 OR 3 OR 4 OR 5 OR 6 OR 7
10. 8 AND 9

Disclaimer

Searching the literature retrieved the information provided. We recommend checking the relevance and critically appraising the information contained within when applying to your own decisions, as we cannot accept responsibility for actions taken based on it. Every effort has been made to ensure that the information supplied is accurate, current and complete, however for various reasons it may not represent the entire body of information available.

*Help accessing article or papers

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