

### Multimedia File S1: Study protocol

Adopted from PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) and PROSPERO.

Topic	Content
Title	Mixed Reality in Undergraduate Mental Health Education: A systematic review.
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Organizational affiliation of the review	<p>Psycho-Technology Lab</p> <p>(Universidad San Pablo-CEU, CEU Universities),</p> <p>Madrid (Spain).</p>
Type and method of review	Systematic review
Contributions	<p>ER led the conception and design of the study, screening, data analysis and interpretation and wrote the first draft of the manuscript. IR and PA were responsible for data extraction. IR, PA, CM and ER substantially contributed to analysis, data interpretation, and revised the work critically. All authors were responsible for critical feedback and final revisions of the manuscript.</p>
Sources/Sponsors	<p>This work was supported by grant “MPFI20AP” from Universidad San Pablo-CEU, CEU Universities (Madrid, Spain).</p>
Conflict of interest	Authors declare no conflict of interest.
Rationale	<p>In this systematic literature review, we seek to answer the following 2 questions:</p> <ul style="list-style-type: none"> <li>- (1) Is MR useful to enhance acquisition of knowledge and skill training in undergraduate mental health education?</li> <li>- (2) Which are the advantages and disadvantages that should be addressed to successfully develop MR in undergraduate mental health education?</li> </ul>
Eligibility criteria	Inclusion criteria:

	<p>(1) Primary research studies (journal articles) that involved training using MR for undergraduate mental health education.</p> <p>(2) Studies that involved MR training with no undergraduate mental health students (healthcare undergraduate students) but addressing a mental health-related variable in the training provided.</p> <p>(3) Published in English or Spanish language between 2012 and 2022.</p> <p>Exclusion criteria:</p> <p>(1) Studies that did not develop a MR training in undergraduate mental health students and that did not address any mental health-related variable in the training provided through MR.</p> <p>(2) Protocols with unpublished results, narratives reviews, no journal articles (conference Proceeding, book chapters or Thesis).</p> <p>(3) Other language than Spanish or English.</p>
Information sources	A systematic review was conducted, based on the scientific literature published in EBSCO, Ovid, PubMed, Scopus and Web of Science, throughout the last decade (2012-2022), was carried out in November 2022.
Search strategy	<p>Search strategy for all the database search:</p> <p>Filters: English and Spanish language; year of publication 2012-2022.</p> <p>Conducted in November 2022.</p> <p>The results were extracted with the keywords: “mixed reality AND education”, “mixed reality AND student”, “mixed reality AND undergraduate”, and “mixed reality AND mental health”.</p>
Type of included study	Only Journal Articles.
Studied domain	Digital education.

Population/Participants	Undergraduate mental health students.
Data collection and selection process	Two reviewers (IR and PA) independently evaluated and reviewed for completeness all titles and abstracts of identified references to determine their eligibility for study inclusion. In case of discrepancies, a third author was consulted (ER). Cohen kappa was computed after each step (title screening, abstract screening, full-text screening) to measure interrater agreement. Any disagreement will be discussed in person. If no consensus can be reached; a fourth reviewer (CM) was consulted to achieve an agreement.
Data items for coding	The following data will be extracted from the selected articles: (1) publication year, (2) country, (3) study design, (4) study aim, (5) sample size and mean participants' age, (6) college degree/level, (7) mental health-related variable targeted, (8) type of MR training provided, (9) useful to acquire knowledge -theoretical concepts, (10) useful as a training in new skills -practical concepts, (11) main advantages/disadvantages, and (12) students' satisfaction.
Outcomes and prioritization	The primary outcomes were the mental health-related variable targeted, the type of MR training provided, and its usefulness to enhance the knowledge acquisition and skill training in undergraduate students. The secondary outcomes were the main advantages and disadvantages of the trainings developed, as well as the students' satisfaction levels after using MR.
Data synthesis	The PRISMA statement will be followed for data synthesis and a narrative synthesis of the included studies will be performed.
Language	English.
Country	Spain.
Anticipated or actual start date	November 2022.

Anticipated or actual end date	November 2022.
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Adopted from:

Booth A, Clarke M, Dooley G, Gherzi D, Moher D, Petticrew M, Stewart L. The nuts and bolts of PROSPERO: an international prospective register of systematic reviews. *Syst Rev* 2012;1(1):2. PMID:22587842

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