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

Topic	Content
Title	Improving Humanization through Metaverse-related technologies: A systematic review.
Authors	Maria Gonzalez-Moreno, Paula Andrade-Pino, Carlos Monfort-Vinuesa, Antonio Piñas-Mesa, and Esther Rincon.
Review team members and their organizational affiliations	• Prof. María Gonzalez-Moreno 1. Psycho-Technology Lab (Universidad San Pablo-CEU). 2. Departamento de Ciencias Médicas Básicas. Facultad de Medicina. Universidad San Pablo-CEU, CEU Universities. Campus de Montepríncipe, Urbanización Montepríncipe. Email: mgmoreno@ceu.es • Paula Andrade-Pino, MA. 1. Psycho-Technology Lab (Universidad San Pablo-CEU, CEU Universities). • Prof. Carlos Monfort-Vinuesa. 1. Psycho-Technology Lab (Universidad San Pablo-CEU). 2. Departamento de Psicología y Pedagogía. Facultad de Medicina. Universidad San Pablo-CEU, CEU Universities. Campus de Montepríncipe, Urbanización Montepríncipe, 28660 Boadilla del Monte (Madrid-Spain). 3. Hospital HM. Unidad de Medicina Interna. Madrid (Spain). Email: carlos.monfortvinuesa@ceu.es • Prof. Dr. Antonio Piñas-Mesa 1. Departamento de Humanidades. Facultad Humanidades y CC Comunicación. Universidad San Pablo-CEU, CEU Universities. Paseo Juan XXIII 8, 28040, Madrid, España (Spain). Email: anpime@ceu.es

	• Prof. Dr. Esther Rincón 1. Psycho-Technology Lab (Universidad San Pablo-CEU). 2. Departamento de Psicología y Pedagogía. Facultad de Medicina. Universidad San Pablo-CEU, CEU Universities. Campus de Montepríncipe, Urbanización Montepríncipe, 28660 Boadilla del Monte (Madrid-Spain).
Contact details for of corresponding author	Esther Rincon, PhD. Psycho-Technology Lab (Universidad San Pablo-CEU). Departamento de Psicología y Pedagogía, Facultad de Medicina, Universidad San Pablo-CEU, CEU Universities, Urbanización Montepríncipe, 28660 Boadilla del Monte, España. Phone: +34 913 724 700; ext 15076 Email: maria.rinconfernande@ceu.es
Organizational affiliation of the review	Psycho-Technology Lab (Universidad San Pablo-CEU, CEU Universities), Madrid (Spain).
Type and method of review	Systematic review
Contributions	ER led the conception and design of the study, screening, data analysis and interpretation and wrote the first draft of the manuscript. MG and PA were responsible for data extraction. MG, PA, CM, AP 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.
Sources/Sponsors	This work was supported by grant "MPFI20AP" from Universidad San Pablo-CEU, CEU Universities (Madrid, Spain).

Conflict of interest	Authors declare no conflict of interest.
Rationale	In this systematic literature review, we seek to answer the following 2 questions: (1) Are Metaverse-related technologies useful to enhance humanization skills in the healthcare environment? (2) Which are the advantages and disadvantages that should be addressed to successfully develop Metaverse-related technologies in the healthcare sector?
Eligibility criteria	Inclusion criteria: (1) Primary research studies (journal articles) that involved Metaverse-related technologies to enhance humanization skills acquisition in the healthcare environment. (2) Studies should be published in English or Spanish language, along the last decade (between 2012-November 2022), providing specific outcomes (quantitative results). Exclusion criteria: (1) Those studies which did not involve humanization training or did not include a Metaverse-related technologies (ie a digital newsletter) were discarded. (2) Protocols with unpublished results, narratives reviews, no journal articles (conference Proceeding, book chapters or Thesis). (3) Other language than Spanish or English.
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	Search strategy for all the database search:

	Filters: English and Spanish language; year of publication 2012-2022.
	Conducted in November 2022.
	The results were extracted with the keywords: "humanization AND Metaverse"; "humanization AND mixed reality"; "humanization AND extended reality"; "humanization AND augmented reality"; "humanization AND virtual reality"; "humanization AND app"; "humanization AND telemedicine"; "humanization AND digital health"; "humanization AND eHealth"; "humanization AND telehealth"; "humanization AND web-based"; "humanization AND website"; "humanization AND digital"; "humanization AND online"; and "humanization AND internet".
Type of included study	Only Journal Articles.
Studied domain	Digital education.
Population/Participants	Healthcare environment.
Data collection and selection process	ER led the conception and design of the study, screening of included studies, data analysis and interpretation and wrote the first draft of the manuscript. MG and ER were responsible for data extraction. MG, PA, CM, AP and ER substantially contributed to analysis, data interpretation, and revised the work critically. 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) targeted participants, (7) training using Metaverse-related technologies, (8) useful to enhance humanization

	skills, (9) main advantages/disadvantages, and (10) participants´ satisfaction.
Outcomes and prioritization	The primary outcomes were the type of training using Metaverse-related technologies, and its usefulness to enhance humanization skills. The secondary outcomes were the main advantages and disadvantages of the trainings developed, as well as the students' satisfaction levels after using Metaverse-related technologies.
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.

Adopted from:

Booth A, Clarke M, Dooley G, Ghersi 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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