Supplementary Materials for

Serious games in child and adolescent health education campaigns: a systematic review

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Table S1. The literature search strategy used for each considered database.

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The literature search strategy used for each considered database

Database	Syntax
PubMed/ Medline	((((((((Adolescent OR Adolescents OR Adolescence OR Teens OR Teen OR Teenagers OR Teenager OR Youth OR Youths OR Juvenile OR Juveniles OR Students OR Student OR Minor OR Minors OR Child OR Children OR School OR "Primary Schools" OR "Primary School" OR "Secondary School" OR "Secondary Schools" OR "Educational Institution" OR "Schooling" OR "Child [Mesh]" OR "Adolescent [Mesh]") OR (school[MeSH Terms]))) AND ("interactive game*" OR "web game*" OR "Smartphone game*" OR "playful teaching" OR game OR "serious game" OR gaming OR games OR "serious games" OR "Video Game*" OR "Computer Game*" OR "Experimental Game*" OR Gamification OR "Video Games [Mesh]" OR "Videogame*" OR "Computer Game*" OR "Computergam*" OR "Games, Experimental [Mesh]" OR "Gamification [Mesh]"))) AND (("e-learning" OR "Health literacy [Mesh]" OR "Health Education [Mesh]" OR "Health Knowledge, Attitudes, Practice [Mesh]" OR "Early Intervention, Educational [Mesh]" OR "School Health Services [Mesh]" OR "Adolescent Behavior [Mesh]" OR "Child Behavior [Mesh]" OR "Education, Distance [Mesh]" OR "Health literacy" OR Education OR Knowledge OR Awareness OR Awarenesses OR Learning OR Attitude* OR Behavior* OR Behaviour* OR "Literacy Program" OR "Literacy Programs" OR "Health Education" OR "Community Health Education" OR "Health Promotion" OR "Promotion of Health" OR "Health Promotions" OR "Health Campaigns" OR "Health Campaign" OR "educational resources" OR "preventive measure*" OR prevention OR "Educational Early Intervention" OR "Education Early Intervention" OR "Early Intervention Education" OR "Knowledge, Attitudes, Practice" OR "School Health Services" OR "School Health Service" OR "School-Based Services" OR "School Based Services" OR "School-Based Service" OR "School-Based Health Services" OR "School Based Health Services" OR "School-Based Health Service" OR "School Health Promotion" OR "School Health Promotions" OR "Adolescent Behavior" OR "Adolescent Behaviors" OR "Adolescent Behaviour" OR "Adolescent Behaviours" OR "Child Behavior* " OR "Child Behaviour* " OR "preventive behavior*" OR "preventive behaviour*" OR "Distance Education" OR "Distance Learning" OR "Online Learning" OR "Online Education" OR "Online Educations" OR "Correspondence Courses" OR "Correspondence Course"))) AND ("sex education" OR "Respiratory hygiene" OR "oral hygiene" OR Vaccin* OR Antibiotic* OR "Anti Bacterial Agent*" OR "antibiotic non-susceptibility" OR "antibiotic nonsusceptibility" OR "Anti-Bacterial Agent*" OR "Antibiotic drug*" OR "Anti-Bacterial Agent*" OR "Antibacterial Drug Resistance" OR "Antibacterial Resistance" OR "antibiotic agent*" OR "bacterial drug resistance" OR "bacterial resistance" OR "bacterium resistance" OR "microbial drug resistance" OR "Antimicrobial Drug Resistance*" OR "Antibiotic Resistance" OR "Hand Hygiene" OR "Hand Cleansing" OR "Hand Drying" OR "Hand Sanitation" OR "Hand Sanitization" OR "Hand Scrubbing" OR "Handscrubbing" OR "Hand disinfection" OR "Handwashing*" OR "Hand Washing*" OR "Venereal Infection*" OR "Sexually Transmitted Disease*" OR "Venereal Disease*" OR STD OR STDs OR "Sexually Transmitted Infection*" OR STI OR STIs OR "Communicable Disease*" OR "Infectious Disease*" OR toothbrush OR "hygiene" OR "dental hygiene" OR "mouth care" OR "mouth hygiene" OR "mouth washing" OR "mouthwashing" OR "oral care" OR "tooth hygiene" OR "Vaccines [Mesh]" OR "Vaccination [Mesh]" OR "Anti-Bacterial Agents [Mesh]" OR "Drug Resistance, Microbial [Mesh]" OR "Hand Hygiene [Mesh]" OR "Hygiene [Mesh]" OR "Sexually Transmitted Diseases [Mesh]" OR "Communicable Diseases [Mesh]" OR "Oral Hygiene"[Mesh])) NOT "systematic review"[pt] OR review[pt] OR "Meta-Analysis"[pt] OR "Clinical Trial Protocol"[pt] NOT ("COVID-19" OR "COVID 19" OR covid)
Scopus	((TITLE-ABS-KEY (adolescent OR adolescents OR adolescence OR teens OR teen OR teenagers OR teenager OR youth OR youths OR juvenile OR juveniles OR students OR student OR minor OR minors OR child OR children OR school OR "Primary Schools" OR "Primary School" OR "Secondary School" OR "Secondary Schools" OR "Educational Institution" OR "Schooling"))) AND (TITLE-ABS-KEY ("interactive game*" OR "web game*" OR "Smartphone game*" OR "playful teaching" OR game OR "serious game" OR gaming OR games OR "serious games" OR "Video Game*" OR "Videogame*" OR "Computergam*" OR "Computer Game*" OR "Experimental Game*" OR gamification)) AND ((TITLE-ABS-KEY ("Health literacy" OR education OR knowledge OR awareness OR awarenesses OR attitude* OR learning OR behavior* OR behaviour* OR "Literacy Program" OR "Literacy Programs" OR "Health Education" OR "Community Health Education" OR "Health Promotion" OR "Promotion of Health" OR "Health Promotions" OR "Health Campaigns" OR "Health Campaign" OR "educational resources" OR "preventive measure*" OR prevention OR "Educational Early Intervention*" OR "Early Intervention Education" OR "Knowledge, Attitudes, Practice" OR "School Health Services" OR "School Health Service" OR "School-Based Services" OR "School Based Services" OR "School-Based Service" OR "School-Based Health Services" OR "School Based Health Services" OR "School-Based Health Service" OR "School Health Promotion" OR "School Health Promotions" OR "Adolescent Behavior" OR "Adolescent Behaviors" OR "Adolescent Behaviour" OR "Adolescent Behaviours" OR "Child Behavior*" OR "Child Behaviour*" OR "preventive behavior*" OR "preventive behaviour*" OR "Distance Education" OR "e-learning" OR "Distance Learning" OR "Online Learning" OR "Online Education" OR "Online Educations" OR "Correspondence Courses" OR "Correspondence Course")))) AND ((TITLE-ABS-KEY (vaccin* OR antibiotic* OR "Antibiotic drug*" OR "Anti Bacterial Agent*" OR "Anti-Bacterial Agent*" OR "Antimicrobial Drug Resistance*" OR "antibiotic non-susceptibility" OR "antibiotic nonsusceptibility" OR "Antibacterial Drug Resistance" OR "Antibacterial Resistance" OR "Antibiotic Resistance" OR "antibiotic agent*" OR "antimicrobial resistance" OR "bacterial drug resistance" OR "bacterial resistance" OR "bacterium resistance" OR "microbial drug resistance" OR "Hand Hygiene" OR "Hand Cleansing" OR "Hand Drying" OR "Hand Sanitation" OR "Hand Sanitization" OR "Hand Scrubbing" OR "Handscrubbing" OR "Hand disinfection" OR "Handwashing*" OR "Hand Washing*" OR "Sexually Transmitted Disease*" OR "Venereal Disease*" OR "Sexually Transmitted Infection*" OR "Sexually Transmitted Infection*" OR "Venereal Infection*" OR "std" OR "stds" OR "Communicable Disease*" OR "Infectious Disease*" OR "sex education" OR "Respiratory hygiene" OR "oral hygiene" OR toothbrush OR "hygiene" OR "dental hygiene" OR "mouth care" OR "mouth hygiene" OR "mouth washing" OR "mouthwashing" OR "oral care" OR "tooth hygiene")))) AND NOT (TITLE-ABS-KEY ("COVID-19" OR "COVID 19" OR covid)) AND (LIMIT-TO (PUBYEAR , 2023) OR LIMIT-TO (PUBYEAR , 2022) OR LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019) OR LIMIT-TO (PUBYEAR , 2018) OR LIMIT-TO (PUBYEAR , 2017) OR LIMIT-TO (PUBYEAR , 2016) OR LIMIT-TO (PUBYEAR , 2015) OR LIMIT-TO (PUBYEAR , 2014) OR LIMIT-TO (PUBYEAR , 2013))

Table S1
Continued

Database	Syntax
Embase	('child'/de OR 'child':ti,ab,kw OR 'children':ti,ab,kw OR 'adolescent'/de OR 'adolescent*':ti,ab,kw OR 'teen*':ti,ab,kw OR 'teenager*':ti,ab,kw OR 'student*':ti,ab,kw OR 'school'/de OR 'educational institution':ti,ab,kw OR 'school':ti,ab,kw OR 'schooling':ti,ab,kw OR 'schools':ti,ab,kw OR 'minor (person)'/de OR 'minor':ti,ab,kw OR 'minors':ti,ab,kw OR 'juvenile'/de OR 'juvenile*':ti,ab,kw OR 'youth*':ti,ab,kw) AND ('game'/de OR 'game*':ti,ab,kw OR 'video game'/de OR 'computer game*':ti,ab,kw OR 'computergame*':ti,ab,kw OR 'video game':ti,ab,kw OR 'video games':ti,ab,kw OR 'videogame':ti,ab,kw OR 'videogames':ti,ab,kw OR 'gamification'/de OR 'gamification':ti,ab,kw OR 'interactive game*':ti,ab,kw OR 'web game*':ti,ab,kw OR 'smartphone game*':ti,ab,kw OR 'playful teaching':ti,ab,kw OR 'serious game*':ti,ab,kw OR 'experimental game*':ti,ab,kw OR 'gaming':ti,ab,kw) AND ('health literacy'/de OR 'health literacy':ti,ab,kw OR 'knowledge'/de OR 'knowledge':ti,ab,kw OR 'education'/de OR 'child education':ti,ab,kw OR 'education':ti,ab,kw OR 'awareness'/de OR 'awarenesses':ti,ab,kw OR 'awareness':ti,ab,kw OR 'literacy programs'/de OR 'health promotion'/de OR 'health promotion*':ti,ab,kw OR 'adolescent behavior'/de OR 'adolescent behavior* ':ti,ab,kw OR 'adolescent behaviour* ':ti,ab,kw OR 'prevention'/de OR 'prevention':ti,ab,kw OR 'early childhood intervention'/de OR 'early education intervention':ti,ab,kw OR 'early educational intervention':ti,ab,kw OR 'early intervention (education)':ti,ab,kw OR 'education early intervention':ti,ab,kw OR 'educational early intervention':ti,ab,kw OR 'attitude'/de OR 'attitude* ':ti,ab,kw OR 'preventive measure*':ti,ab,kw OR 'child behavior* ':ti,ab,kw OR 'child behaviour* ':ti,ab,kw OR 'healt campaign*':ti,ab,kw OR 'knowledge, attitudes, practice':ti,ab,kw) AND (('vaccination'/de OR 'vaccination':ti,ab,kw OR 'virus vaccination':ti,ab,kw OR 'vaccine'/de OR 'vaccin':ti,ab,kw OR 'vaccine':ti,ab,kw OR 'vaccines':ti,ab,kw OR 'hand washing'/de OR 'hand cleansing':ti,ab,kw OR 'hand drying':ti,ab,kw OR 'hand hygiene':ti,ab,kw OR 'hand sanitation':ti,ab,kw OR 'hand sanitization':ti,ab,kw OR 'hand scrubbing':ti,ab,kw OR 'hand washing':ti,ab,kw OR 'handscrubbing':ti,ab,kw) OR 'hand disinfection*':ti,ab,kw OR 'handwashing':ti,ab,kw OR 'sexually transmitted disease'/de OR 'bacterial sexually transmitted disease*':ti,ab,kw OR 'sexually transmitted disease':ti,ab,kw OR 'sexually transmitted diseases':ti,ab,kw OR 'sexually transmitted infection* ':ti,ab,kw OR 'std':ti,ab,kw OR 'stds':ti,ab,kw OR 'venereal disease':ti,ab,kw OR 'venereal infection*':ti,ab,kw OR 'viral sexually transmitted diseases':ti,ab,kw OR 'antibiotic agent'/de OR 'antibiotic':ti,ab,kw OR 'antibiotic agent':ti,ab,kw OR 'antibiotic drug':ti,ab,kw OR 'antibiotics':ti,ab,kw OR 'antibiotics and their derivatives':ti,ab,kw OR 'antibiotic resistance'/de OR 'antibacterial drug resistance':ti,ab,kw OR 'antibacterial resistance':ti,ab,kw OR 'antibiotic non-susceptibility':ti,ab,kw OR 'antibiotic nonsusceptibility':ti,ab,kw OR 'antibiotic resistance':ti,ab,kw OR 'antimicrobial drug resistance':ti,ab,kw OR 'antimicrobial resistance':ti,ab,kw OR 'bacterial drug resistance':ti,ab,kw OR 'bacterial resistance':ti,ab,kw OR 'bacterium resistance':ti,ab,kw OR 'microbial drug resistance':ti,ab,kw OR 'hygiene'/de OR 'hygiene':ti,ab,kw OR 'respiratory hygiene'/de OR 'mouth hygiene'/de OR 'dental hygiene':ti,ab,kw OR 'mouth care':ti,ab,kw OR 'mouth hygiene':ti,ab,kw OR 'mouth washing':ti,ab,kw OR 'mouthwashing':ti,ab,kw OR 'oral care':ti,ab,kw OR 'oral hygiene':ti,ab,kw OR 'tooth hygiene':ti,ab,kw OR 'communicable disease*':ti,ab,kw OR 'infectious disease*':ti,ab,kw OR 'sex education':ti,ab,kw OR toothbrush:ti,ab,kw) AND (2013:py OR 2014:py OR 2015:py OR 2016:py OR 2017:py OR 2018:py OR 2019:py OR 2020:py OR 2021:py OR 2022:py OR 2023:py) AND ('article'/it OR 'article in press'/it OR 'conference abstract'/it OR 'note'/it)
Web of Science	TS=(Adolescent OR Adolescents OR Adolescence OR Teens OR Teen OR Teenagers OR Teenager OR Youth OR Youths OR Juvenile OR Juveniles OR Students OR Student OR Minor OR Minors OR Child OR Children OR School OR Schools OR "Primary Schools" OR "Primary School" OR "Secondary School" OR "Secondary Schools" OR "Educational Institution" OR "Schooling") AND ALL=("interactive game*" OR "web game*" OR "Smartphone game*" OR "playful teaching" OR game OR "serious game" OR gaming OR games OR "serious games" OR "Video Game*" OR "Videogame*" OR "Computer Game*" OR "Computergam*" OR "Experimental Game*" OR Gamification) AND TS=("Health literacy" OR Education OR Knowledge OR Awareness OR Awarenesses OR Attitude OR Learning OR Behavior OR Behaviour OR "Literacy Program" OR "Literacy Programs" OR "Health Education" OR "Community Health Education" OR "Health Promotion" OR "Promotion of Health" OR "Health Promotions" OR "Health Campaigns" OR "Health Campaign" OR "educational resources" OR "preventive measure*" OR prevention OR "Early Childhood Intervention*" OR "Educational Early Intervention*" OR "Early Intervention Education" OR "Knowledge, Attitudes, Practice" OR "School Health Services" OR "School Health Service" OR "School-Based Services" OR "School Based Services" OR "School-Based Service" OR "School-Based Health Services" OR "School Based Health Services" OR "School-Based Health Service" OR "School Health Promotion" OR "School Health Promotions" OR "Adolescent Behavior" OR "Adolescent Behaviors" OR "Adolescent Behaviour" OR "Adolescent Behaviours" OR "Child Behavior*" OR "Child Behaviour*" OR "preventive behavior*" OR "preventive behaviour*" OR "Distance Education" OR "e-learning" OR "Distance Learning" OR "Online Learning" OR "Online Education" OR "Online Educations" OR "Correspondence Courses" OR "Correspondence Course") AND TS=(Vaccin* OR Antibiotic* OR "Antibiotic drug*" OR "Anti Bacterial Agent*" OR "Anti-Bacterial Agent*" OR "Antimicrobial Drug Resistance*" OR "antibiotic non-susceptibility" OR "antibiotic nonsusceptibility" OR "Antibacterial Drug Resistance" OR "Antibacterial Resistance" OR "Antibiotic Resistance" OR "antibiotic agent*" OR "antimicrobial resistance" OR "bacterial drug resistance" OR "bacterial resistance" OR "bacterium resistance" OR "microbial drug resistance" OR "Hand Hygiene" OR "Hand Cleansing" OR "Hand Drying" OR "Hand Sanitation" OR "Hand Sanitization" OR "Hand Scrubbing" OR "Handscrubbing" OR "Hand disinfection" OR "Handwashing*" OR "Hand Washing*" OR "Sexually Transmitted Disease*" OR "Venereal Disease*" OR "Sexually Transmitted Infection*" OR "Sexually Transmitted Infection*" OR "Venereal Infection*" OR "std" OR "stds" OR "Communicable Disease*" OR "Infectious Disease*" OR "sex education" OR "Respiratory hygiene" OR "oral hygiene" OR toothbrush OR "hygiene" OR "dental hygiene" OR "mouth care" OR "mouth hygiene" OR "mouth washing" OR "mouthwashing" OR "oral care" OR "tooth hygiene")