

Appendix

Appendix I. List of Articles Analyzed.

Title of Paper	Author(s)	Journal(s)	Year Published	Database(s)
Superman vs. BAD Man? The Effects of Empathy and Game Character in Violent Video Games	Happ, C., Melzer, A., & Steffgen, G.	<i>Cyberpsychology, Behavior, and Social Networking</i>	2013	Google, EBSCO
How do presence, flow, and character identification affect players empathy and interest in learning from a serious computer game?	Bachen, C. M., Hernandez-Ramos P., Raphael C., & Waldron, A.	<i>Computers in Human Behavior</i>	2016	ACM
Games for Empathy for Social Impact	Papoutsi, C., & Drigas, A.	<i>International Journal of Engineering Pedagogy</i>	2016	EBSCO, Google
Revitalizing Japanese American Internment: Critical Empathy and Role-Play in the Musical Allegiance and the Video Game Drama in the Delta	Roxworthy, E.	<i>Theatre Journal</i>	2014	EBSCO, ProQuest

Playing with Trauma in Video Games: Interactivity, Empathy, Perpetration	Smethurst, T.		2015	Google, SAGE, ProQuest
The Design and Evaluation of a Body-Sensing Video Game to Foster Empathy towards Chronic Pain Patients	Tong, X., Ulas, S., Jin, W., Gromala, D., & Shaw, C.	<i>PervasiveHealth '17: Proceedings of the 11th EAI International Conference on Pervasive Computing Technologies for Healthcare</i>	2017	ACM
Someone Else's Shoes - Using Role-Playing Games for Empathy and Collaboration in Service Design	Vaajakallio, K., Lehtinen, V., Kaario, P., Mattelmäki, T., Kuikkaniemi, K., & Kantola, V.	<i>Swedish Design Research Journal</i>	2010	Google
Developing children’s cultural awareness and empathy through games and fairy tales	Muravevskaia, E., Gardner-McCune, C., & Tavassoli, F.	<i>IDC '16</i>	2016	ACM
A Breathtaking Journey. On the Design of an Empathy-Arousing Mixed-Reality Game	Kors, M. J. L., Ferri, G., van der Spek, E. K., Ketel, C., & Schouten, B. A. M.	<i>CHI PLAY '16</i>	2016	ACM

Playing with Empathy: Digital Role-Playing Games in Public Meetings	Gordon, E., & Schirra, S.	<i>C&T'11</i>	2011	ACM
Educating bicycle safety and fostering empathy for cyclists with an affordable and game-based VR app	Wang, W., Singh, K. P., Chu, Y. T., & Huber, A.	<i>MobileHCI '16 Proceedings of the 18th International Conference on Human-Computer Interaction with Mobile Devices and Services Adjunct</i>	2016	ACM
Violent computer games, empathy, and cosmopolitanism	Coeckelbergh, M.	<i>Ethics and Information Technology</i>	2007	ACM
Bringing empathy into play: on the effects of empathy in violent and nonviolent video games	Happ, C., Melzer, A., & Steffgen, G.	<i>ICEC'11: Proceedings of the 10th international conference on Entertainment Computing</i>	2011	ACM
Simulating REAL LIVES: Promoting Global Empathy and Interest in Learning Through Simulation Games	Bachen, C. M., Hernández-Ramos, P. F., & Raphael, C.	<i>Simulation and Gaming</i>	2012	ACM, Google, ProQuest, EBSCO, SAGE
Determining reactive and proactive aggression and empathy levels of middle school students regarding their video game preferences	Siyez, D., & Baran, B.	<i>Computers in Human Behavior</i>	2017	ACM

Measuring Empathy to Support Learning Design and Narrative Game: A Phenomenological Approach	Mangione, G. R., Discepolo, T., Di Tore, P. A., Di Tore, S., Cozzarelli, C., & Corona, F.	<i>CISIS '13: Proceedings of the 2013 Seventh International Conference on Complex, Intelligent, and Software Intensive Systems</i>	2013	ACM
Dream Lucidity: Yume Nikki and Learning the Empathy Dreamscape	Bommarito, C., & Dunlap, K.	<i>International Journal of Gaming and Computer-Mediated Simulations</i>	2014	ACM
A Model of Motivation Based on Empathy for AI-Driven Avatars in Virtual Worlds	Rebolledo-Mendez, G., de Freitas, S., & Gaona, A. R. G.	<i>VS-GAMES '09: Proceedings of the 2009 Conference in Games and Virtual Worlds for Serious Applications</i>	2009	ACM
Exposure to violent computer games and Chinese adolescents' physical aggression: The role of beliefs about aggression, hostile expectations, and empathy	Zhen, S., Xie, H., Zhang, W., Wang, S., & Li, D.	<i>Computers in Human Behavior</i>	2011	ACM, ProQuest, Directory of Open Access Journals (DOAJ), EBSCO, Google

Playing with trauma: Interactivity, empathy, and complicity in the walking dead video game	Smethurst, T., & Craps, S.	<i>Games and Culture</i>	2015	SAGE, Google, ProQuest
Empathy at play: Embodying posthuman subjectivities in gaming	Wilde, P., & Evans, A.	<i>Convergence: The International Journal of Research into New Media Technologies</i>	2017	SAGE
Are Associations Between 'Sexist' Video Games and Decreased Empathy Toward Women Robust? A Reanalysis of Gabbiadini et al.	Ferguson, C., & Donnellan, M.	<i>Journal of Youth & Adolescence</i>	2017	EBSCO, ProQuest
Video games as virtual teachers: Prosocial video game use by children and adolescents from different socioeconomic groups is associated with increased empathy and prosocial behaviour	Harrington, B., & O'Connell, M.	<i>Computers in Human Behavior</i>	2016	EBSCO
Impact of an Aging Simulation Game on Pharmacy Students' Empathy for Older Adults	Chen, A. M. H., Kiersma, M. E., Yehle, K. S., & Plake, K. S.	<i>American Journal of Pharmaceutical Education</i>	2015	EBSCO, ProQuest

Gaming for Affect: Museum Online Games and the Embrace of Empathy	Kidd, J.	<i>Journal of Curatorial Studies</i>	2015	EBSCO, Google
Impact of the Geriatric Medication Game on nursing students' empathy and attitudes toward older adults	Chen, A. M. H., Kiersma, M. E., Yehle, K. S., & Plake, K. S.	<i>Nurse Education Today</i>	2015	EBSCO, ProQuest
Perception of Space, Empathy and Cognitive Processes: Design of a Video Game for the Measurement of Perspective Taking Skills	Di Tore, P.A.	<i>International Journal of Emerging Technologies in Learning</i>	2014	EBSCO
Do problematic and non-problematic video game players differ in extraversion, trait empathy, social capital and prosocial tendencies?	Collins, E., & Freeman, J.	<i>Computers in Human Behavior</i>	2013	EBSCO
Associations Between Game Use and Cognitive Empathy: A Cross-Generational Study	Shin, D., & Ahn, D.	<i>CyberPsychology, Behavior & Social Networking</i>	2013	EBSCO

Explaining altruistic sharing in the dictator game: The role of affective empathy, cognitive empathy, and justice sensitivity	Edele, A., Dziobek, I., & Keller, M.	<i>Learning & Individual Differences</i>	2013	EBSCO, ProQuest
Exposure to violent computer games and Chinese adolescents’ physical aggression: The role of beliefs about aggression, hostile expectations, and empathy	Zhen, S., Xie, H., Zhang, W., Wang, S., & Li, D.	<i>Computers in Human Behavior</i>	2011	EBSCO, Google, ProQuest, DOAJ, ACM
Observed bodies and tool selves: kinaesthetic empathy and the videogame avatar	Chin, G. P. W.	<i>Digital Creativity</i>	2017	EBSCO
Long-Time Exposure to Violent Video Games Does Not Show Desensitization on Empathy for Pain: An fMRI Study	Xuemei G., Wei P., Li, C., Weng, L., Yao, M., & Chen, A.	<i>Frontiers in Psychology</i>	2017	DOAJ
Games for Empathy for Sensitive Social Groups	Drigas, A., & Papoutsis, C.	<i>International Journal of Recent Contributions from Engineering</i>	2016	DOAJ, Google

The Associations between Perceived Parenting Styles, Empathy, and Altruistic Choices in Economic Games: A Study of Chinese Children	Guo, Q., & Feng, L.	<i>Frontiers in Psychology</i>	2017	DOAJ ProQuest, Google, ACM
Acting like a Tough Guy: Violent-Sexist Video Games, Identification with Game Characters, Masculine Beliefs, & Empathy for Female Violence Victims	Gabbiadini, A., Riva, P., Andrighetto, L., Volpato, C., & Bushman, B. J.	<i>PLoS One</i>	2016	ProQuest
Empathy Emerges Spontaneously in the Ultimatum Game: Small Groups and Networks	Iranzo, J., Floría, L. M., Moreno, Y., & Sánchez, A.	<i>PLoS One</i>	2012	ProQuest
Observers versus agents: Divergent associations of video versus game use with empathy and social connectedness	Ahn, D., & Shin, D.	<i>Information Technology & People</i>	2016	ProQuest
Disease dynamics in a stochastic network game: a little empathy goes a long way in averting outbreaks	Eksin, C., Shamma, J. S., & Weitz, J. S.	<i>Scientific Reports (Nature Publisher Group)</i>	2017	ProQuest

The Impact of Emotions and Empathy-Related Traits on Punishment Behavior: Introduction and Validation of the Inequality Game	Klimecki, O. M, Vuilleumier, P., & Sander, D.	<i>PLoS One</i>	2016	ProQuest, DOAJ
Playing prosocial video games increases empathy and decreases schadenfreude	Greitemeyer, T., Osswald, S., & Brauer, M.	<i>Emotion</i>	2010	Google
Designing Games to Foster Empathy	Belman, J., & Flanagan, M.	<i>Cognitive Technology</i>	2009	Google
Like the good or bad guy--empathy in antisocial and prosocial games	Happ, C., Melzer, A., & Steffgen, G.	<i>Psychology of Popular Media</i>	2015	Google
Unraveling fairness in simple games? The role of empathy and theory of mind	Artinger, F., Exadaktylos, F., Koppel, H., Sääksvuori, L.	<i>Jena economic research papers</i>	2010	Google
Empathy and Identity in Digital Games: Towards a New Theory of Transformative Play	Tanenbaum, J., & Tanenbaum, K.	<i>Proceedings of the 10th International Conference on the Foundations of Digital Games (FDG 2015)</i>	2015	Google
Playing at Empathy: Representing and experiencing emotional growth through Twine games	Salter, A.	<i>SeGAH 2016 (Conference Proceedings)</i>	2016	Google

Barriers to learning about mental illness through empathy games-results of a user study on perfection	Harris, B., Shattell, M., Rusch, D. C., & Zefeldt, M.J.	<i>Well Played Journal</i>	2015	Google
Are newgames better journalism? Empathy, information and representation in games on refugees and migrants	Plewe, C., & Fürsich, E.	<i>Journalism Studies</i>	2017	Google
Online Videogames in an Online History Class	Martin, V. S.	DIGITEL '08: Proceedings of the 2008 Second IEEE International Conference on Digital Game and Intelligent Toy Enhanced Learning	2008	ACM

Appendix II. Coding Scheme.

Label for the Code	Code Number Used
Database	600
ACM	601
ProQuest	602
Sage	603

EBSCO	604
DOAJ	605
Google Scholar	606

Search Keywords	700
Empathy AND games	702
Empathy AND videogames	703

Discipline	100
Psychology (psychological effects; social; behavioral aspects of games)	101
Nursing/Health	102
Economics/social science	103
Gaming/game studies	104
Communications/Media Effects	105
HCI/user-centered Design	106
Philosophy/Ethics	107
Computer science	108
Civics/social studies	109
Art/performing arts	110
Education/Learning	111
Humanities/Media Studies	113

Associated Themes	200
Reflection	201
Communication	202
Perspective-taking/perspective/put self in other's shoes	203
Prosocial	206
Critical thinking	207
Cultural awareness/Global /cultural understanding	208
Agency	209
Narrative/storytelling	210
Feelings/emotional understanding/emotion/Empathetic concern	211
Civics/civic engagement	212
Identification with others/relate to others	213
Immersion/engagement	217
Violence/violent	220
Altruism	225
Ethics/values/fairness/justice	226

How empathy is defined/	300
Type of empathy terms used	
Cognitive empathy	301
Emotional/affective empathy	304
Psychological/psychoanalytic empathy	305

Reactive empathy	306
Global empathy	307
Other (auto, critical, player-specific)	308
General empathy also (general term of empathy)	309
Parallel empathy	310
Fantasy empathy	311
Cultural empathy	312
Trait Empathy	320
Game/gameplay empathy	321
Critical empathy	322

Game genre/category	800
CoTs	801
Educational Game	802
Sport/outdoor game	803
Indie game	804
Analog game	805
LARPs	806
Other	807
Games for Change/Social impact	808
Digital game	809
Role-playing games	810
Their own game used for testing	811
Economics/game theory game	820