

Tourists and good places in the metaverse

A metaverzum jó helyei és turistái

Author: Pipih Nurjamilah¹

In tourism, good places are where destinations offer positive experiences, making tourists want to return, talk, and recommend them to others and even dream to migrate there. As technology evolves in the age of the metaverse, the question arises whether virtual destinations can provide such experiences. This study aims to understand how a good place is created in the metaverse by exploring the concepts of sense of presence and place. A literature review examined how place and destination in the metaverse relate to avatars and these senses. Insights were gathered on how current technology enhances immersive experiences in the metaverse, focusing on how avatars perceive themselves, how the sense of place is constructed, and how tourism activities generate enjoyment and happiness, turning virtual destinations into good places. The study found that the sense of presence is shaped by self-resembling avatars, immersive devices, and user interaction with the virtual environment, while the sense of place is influenced by interaction, time spent in the environment, and its design. Ultimately, the combination of an enjoyable sense of presence and place contributes to creating a good place in the metaverse.

A turizmusban azok a jó helyek, amelyek úti célként pozitív élményeket nyújtanak, ahova a turisták vissza akarnak térni, beszélnek róla, ajánlják másoknak, sőt, még arról is álmodoznak, hogy oda költözzenek. A technológia fejlődésével, a metaverzum korszakában felmerül a kérdés, hogy vajon a virtuális úti célok képesek-e ilyen élményeket nyújtani. A tanulmány célkitűzése a jelenlét és a hely érzésének fogalmain keresztül megérteni, hogyan jön létre egy jó hely a metaverzumban. A szakirodalmi feldolgozás azt vizsgálta, hogy a metaverzumban hogyan kapcsolódik a hely és az úti cél az avatárokhoz, illetve ezekhez az érzésekhez. Betekintést nyertünk abba, hogy a jelenlegi technológia hogyan fokozza a metaverzumban az immerszív élményeket, különös tekintettel arra, hogyan érzékelik magukat az avatárok, hogyan épül fel a hely érzése, és hogyan váltanak ki élvezetet és boldogságot a turisztikai tevékenységek, ezáltal a virtuális úti célokat jó helyekké alakítva. A tanulmány megállapította, hogy a jelenlét érzését a felhasználóra hasonlító avatárok, az immerszív eszközök és a felhasználók virtuális környezetben való interakciói formálják, míg a hely érzését a felhasználói interakciók, a környezetben eltöltött idő és annak kialakítása befolyásolják. Végül soron a jelenlét és a hely élvezetes érzése együttesen teremti meg a jó helyet a metaverzumban.

Keywords: metaverse, tourism, virtual presence; sense of place; avatar.

Kulcsszavak: metaverzum, turizmus, virtuális jelenlét, hely érzése, avatár.

1. Introduction

Information technology has significantly reshaped the tourism sector, influencing tourists' behaviours and experiences across all phases of travel (CSORDÁS et al. 2022). Virtual settings have also gained attention, for example, travel live streaming serves as a tool for destination promotion, enabling prospective tourists to engage with offerings in a virtual environment (FAN-RAFFAY-DANYI 2024).

Additionally, AI enriches hotel stays through personalized guest experiences (KÖKÉNY 2024). Alongside these innovations, the emergence of the metaverse tourism is taking travel to a new level, offering immersive experiences that allow users to step inside the internet and live destinations virtually.

In many science fiction storylines, the metaverse is built in response to dystopian scenarios of uninhabitable Planet Earth. From Neal Stephenson's *Snow Crash* novel in 1992 where the term metaverse firstly appeared to the *Ready Player One* movie in 2018, the metaverse is often depicted as an escape place (BALL 2023). Luckily, at the current moment, people can engage with the metaverse through

¹ PhD Candidate, Corvinus University of Budapest, pipih.nurjamilah@stud.uni-corvinus.hu

various available platforms, eliminating the need to wait for a cataclysmic event. Tourists can enjoy experiences in both virtual and physical worlds (CHAN et al. 2023).

In the real-world tourism, positive experiences define what a good place is. As MICHALKÓ (2023:46) stated: (translated from Hungarian) *“If we have had positive experiences while using a tourist service or in the destination we visited, we are happy to talk about it, willingly recommend it to others, return there with pleasure, and perhaps think about how happy it would be to live there. All of this can be easily described with a simple phrase: “good place”*”. In metaverse tourism, it has become one of the responsibilities of tourism providers to create such a good place. Interestingly, based on tourism research in metaverse, good place has not been studied. Therefore, this paper aims to gain insights into how good places can be created in the metaverse especially for virtual tourism destinations using avatars. To reach this goal, an extensive literature review has been executed, followed by a comprehensive manual analysis of the final 11 selected papers. This analysis specifically focused on exploring the avatar’s sense of presence and sense of place within virtual environments.

The paper is organized in the following way. The next section provides theoretical concepts that form the foundations for the study, followed by methodological details, while findings are presented in Section 4. Finally, the work concludes with a discussion and the implications for future research.

2. Background to the study

The way to start this is by understanding how users of the metaverse perceive themselves through their avatars and how virtual spaces build a ‘sense of place’.

2.1. THE AVATAR IN A NUTSHELL

An avatar is a virtual actor in real-time 3D digital worlds that is controlled by users and is able to interact with the digital environment (DAMER et al. 1996, TRIAS et al. 1996). An ideal avatar should satisfy graphic realism in appearance, illumination, and behaviour, all this with real-time movements and realistic interactions (SLATER et al. 2002). Anthropomorphically, the more humanlike in appearance and behaviour an avatar is, the more it is valued (KING-OHYA 1996). Several tools are already available to generate avatars and many experiments have been executed to explore

techniques to make avatars as representative as possible of their users (PONTON et al. 2023).

The degree of identification of users with their avatars can vary, depending on situations and audiences (LITVINOVA et al. 2023). Users tend to be more attached and connected with a realistic avatar (KIM et al. 2023). Users often design their avatars to be as close as possible to their actual physical and demographic self, with certain enhancements (ZIMMERMANN et al. 2023). For instance, disability users largely choose to have realistic avatars with a little idealized features and proudly present their disability side when the environment is safe (MACK et al. 2023).

Avatars’ sense of selves and presence can even explored further when serve as proxies, in which representing and acting on behalf of the users within the metaverse as SWEENEY (2023) explained. Gaming avatars exemplify representation, as they embody the presence of users, with the individual maintaining full control over the interactions and experiences of the avatar. However, there is also the potential for avatars to function as autonomous agents, acting independently on behalf of the user.

2.2. SPACE VERSUS PLACE IN THE PHYSICAL WORLD

In term of sense of place, the discussion surrounding the distinction between space and place has been present for decades in fields such as geography and psychology. One of the earliest definitions considers space as an abstract concept where one can perceive things and have room to move around, which then transforms into place when it becomes familiar and valuable (TUAN 1977). In brief, place has three characteristics covering location, material form, and meaning (GIERYN 2000). A meaningful place is constructed through experiences, and over time such experiences then shape sense of place (TUAN 1975). This sense of place is also related to place identity of an individual, especially when shared with others (CAMPELO et al. 2014). PROSHANSKY and coauthors (1983) argued that place identity is the way how people think and feel about different places both positively and negatively, which reflect on how people see themselves and are seen by others.

In digital technology, many research on *space and place* are inspired by theories of geography, psychology, sociology, architecture, and post-structuralistic semiotics (CIOLFI 2013). Understanding space and place as a concept is important for the design of interactive systems.

For instance, HARRISON and DOURISH (1996) stated that a digital environment provides space which then transforms into place through the dynamic utilization patterns of its users' social interactions.

TUAN (1977) described *sense of place* as the emotional and cognitive bond between people and place. In the context of tourism destinations, this concept reflects the unique identity which enriches experiences of tourists through elements such as history, heritage, and traditions (SMITH 2015). To make a destination appealing, a sense of place must be established. This connection between people and places can be achieved by offering experiential opportunities, such as organizing events (DERRETT 2002). A destination branding strategy can also be applied in the metaverse, largely by understanding sense of place of local residents which includes four key elements namely time, ancestry, landscape, and community (CAMPELO et al. 2014).

However, it is still not clear how avatars and metaverse spaces may be utilized to create a sense of place. Therefore, the goal of this study is to gain insight into how users perceive themselves through their avatars and how virtual environments create a *sense of place* within the metaverse.

3. Methodology

To achieve the set objective, this study developed the following three research questions:

- *Question 1:* How do users perceive themselves through their avatars in the metaverse?
- *Question 2:* What are the key elements of building virtual spaces that allow users to feel a sense of place in the metaverse?
- *Question 3:* In what ways can avatars and virtual spaces be used for metaverse tourism in order to create a *good place*?

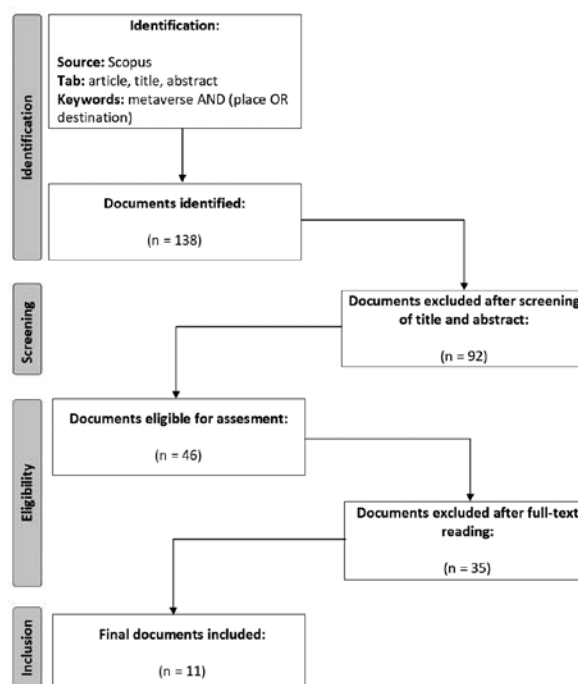
To address these research questions, a systematic two-phase literature review is selected as research methodology. The first phase followed the PRISMA method (MOHER et al. 2009) of searching, sorting, and selecting publications according to set criteria, while the second phase utilized a deep context analysis on the publications resulted from the first step. Summarising the findings of leading studies and their recommended further research would allow us to have a comprehensive understanding of the state-of-the-art in metaverse technology in relation to user's experiences of identity and place.

Data collection was conducted using the Scopus database on 10 October 2023 using

the search query "*metaverse AND (place OR destination)*" limited to articles and conference papers in English. The search resulted in a total of 111 documents. However, to get a more up to date collection, the search was rerun on 1 January 2024, resulting in 138 documents. These documents are reviewed and analysed using the flow diagram adapted from the PRISMA method of conducting systematic review (MOHER et al. 2009) where the goal was to find metaverse application related journal papers. Details of data selection steps used to find relevant articles and their outputs are explained in *Figure 1*. Titles and abstracts were screened to ensure the articles contain the related terms of avatar, space, sense of place, and good place, leading to the exclusion of 92 articles. The next step of full text reading excluded 35 articles as not relevant. Finally, this study included 11 articles which discuss the concept of virtual destination or place in the metaverse in general, and in relation to avatars.

Figure 1

Flow diagram of data collection and selection



Source: author's own creation

4. Results

4.1. RESEARCH RESULTS ANALYSIS

The analysis of the most relevant articles on destination and place, in relation to sense of

Table 1

Summary of articles in sense of presence and place

Author(s)	Purpose	Tools/Methods	Key Findings
AYITER 2018	To integrate smooth/striated space concepts with place/non-place theory in relation to avatars within the metaverse.	Second Life	Virtual presence simulates the experience of physically visiting a location. Interacting with avatars and engaging in creative activities, such as manipulating virtual objects, transforms a 'non-place' into a personalized 'place'.
AYITER 2019	To integrate place/non-place concept with poetic space to avatars within the metaverse.	Second Life	Metaverse residents dedicate extensive time and resources to crafting highly personalized 'places' that echo Bachelard's 'poetics of space,' nurturing the daydream of constructing and residing within them.
CHUNG et al. 2022	To examine the design of virtual environments in social VR platforms.	Mozilla Hubs	In the virtual environment, social behavior took on greater prominence. In the reality-based environment, individual behavior took on greater prominence.
J. HAN et al. 2021	To observe how individuals from Generation M, Z, and Alpha utilize the metaverse to shape and cultivate new cultural phenomena.	Roblox, Zepeto	Users in the metaverse project themselves onto their avatars for expression and competition, shaping the metaverse into both a new playground and a distinct cultural space.
E. HAN et al. 2023	To analyze the diversity of avatar identities and virtual environments within digital spaces.	Engage VR	Users exhibit greater synchronization with their self-avatars, experience self-presence, and attribute a heightened sense of realism within the metaverse. Users find increased enjoyment when using non-self-avatars.
MYSTAKIDIS et al. 2021	To investigate AR/VR's role in education, specifically in teaching and learning processes.	AR/VR online professional development program (OPD)	Teachers and students express optimism regarding the use of AR/VR in educational activities. VR platforms have the capacity to generate a sense of co-presence.
RIVA-WIEDERHOLD 2022	To explain the connection between the metaverse and neuroscience.	literature	AR/VR technologies evoke a sense of presence and embodiment, activating brain-to-brain attunement during social interactions, which influences empathy, and stimulate brain-to-brain synchrony during social interactions, impacting collective performance and creativity.
OWENS et al. 2011	To examine the behavior of teams in virtual projects and the technological capabilities of the metaverse.	Second Life	Participants seamlessly blend communication techniques by utilizing the communication, rendering, and interaction capabilities, generating real-time, 3D visual artifacts.
WANG et al. 2023	To investigate the significance of spatial design in the metaverse, drawing insights from game worlds.	literature	Design recommendation of meaningful place in the metaverse based on orientation, identification, and time within the game world.
LEE 2022	To examine how the media richness of VR tourism content influences potential tourists' perceptions, satisfaction, visit intentions, and word-of-mouth intentions.	VR video in YouTube	The media richness of VR positively correlates with perceived usefulness and enjoyment, subsequently influencing satisfaction, which in turn affects destination visit intention and word-of-mouth.
TSAI 2022	To explore if the perception of holistic presence in metaverse tours influences actual visit intentions toward tourism destinations.	Metaverse tour "Experiencing Kyoto"	Holistic virtual presence (spatial, social, self) significantly contributes to happiness and influences actual visit intentions.

Source: author's own creation

presence and place revealed that most studies used AR/VR platforms, while a few relied on educational AR/VR module and literature. Table 1 provides detailed information on the purpose of the studies, tools and method used, and key findings.

Building on the summary of the 11 selected articles, this section reviews the key issues related to the research questions. The findings are organized according to these questions, as shown in Table 2, offering a clear overview of how each study addresses the research topics.

People and place in the metaverse

Research Question	People and place in the metaverse	Key References
RQ1	Avatar and Virtual Sense of Presence	OWENS <i>et al.</i> 2011, J. HAN <i>et al.</i> 2021, MYSTAKIDIS <i>et al.</i> 2021, RIVA-WIEDERHOLD 2022, E. HAN <i>et al.</i> 2023
RQ2	Virtual Sense of Place	AYITER 2018, AYITER 2019, J. HAN <i>et al.</i> 2021, CHUNG <i>et al.</i> 2022, WANG <i>et al.</i> 2023
RQ3	Sense of Presence and Place in Virtual Tourism	LEE 2022, TSAI 2022
	Good Places in Virtual Tourism and Other Contexts	J. HAN <i>et al.</i> 2021, LEE 2022, TSAI 2022, WANG <i>et al.</i> 2023

Source: author's own creation

4.2. AVATAR AND VIRTUAL SENSE OF PRESENCE

As a user-centric version of the internet, metaverse should put greater attention on avatar design. In social and game metaverse platforms such as Zepeto, customizing avatar's appearance is an important ritual for users before showing up in contests or challenges (J. HAN *et al.* 2021). More importantly, avatar design has strong influence on users' sense of presence. For instance, self-alike avatars highly impact self-presence (E. HAN *et al.* 2023). Sense of presence is also influenced by two factors namely embodied devices and interactions. Augmented and Virtual Reality (AR/VR) head-mounted devices can activate so called GPS neurons in the brain which allow users to orient themselves in virtual space through which they generate the sense of being present (RIVA-WIEDERHOLD 2022) and can stimulate a feeling of co-presence with other avatars (MYSTAKIDIS *et al.* 2021). Furthermore, a greater sense of presence can be achieved when the involvement with people, activities, and environment is enjoyable (OWENS *et al.* 2011).

4.3. SENSE OF PLACE IN THE VIRTUAL WORLD

In a virtual world, transforming space into a place involves multiple aspects. First is the identification with virtual places where connections can be created building on moments and intimate experiences through interactions with other users and the environment. In this case, environmental design and activities will be important to influence interaction in the metaverse. Environmental design can be divided into two key elements: a) virtuality-based space that influences freedom to the users to have more interactions with other users; and b) reality-based space that provides familiarity where users have more interactions with objects

(CHUNG *et al.* 2022). On the other hand, creative activities can transform a space into a personalized place that build a strong bond between users and the virtual environment (AYITER 2018). On social metaverse platforms like Second Life, these activities may involve building or playing in the virtual world, reflecting user engagement and self-expression. In gaming platforms such as Roblox, place is perceived as a reflection of users' culture, shaped through their game-related activities (J. HAN *et al.* 2021).

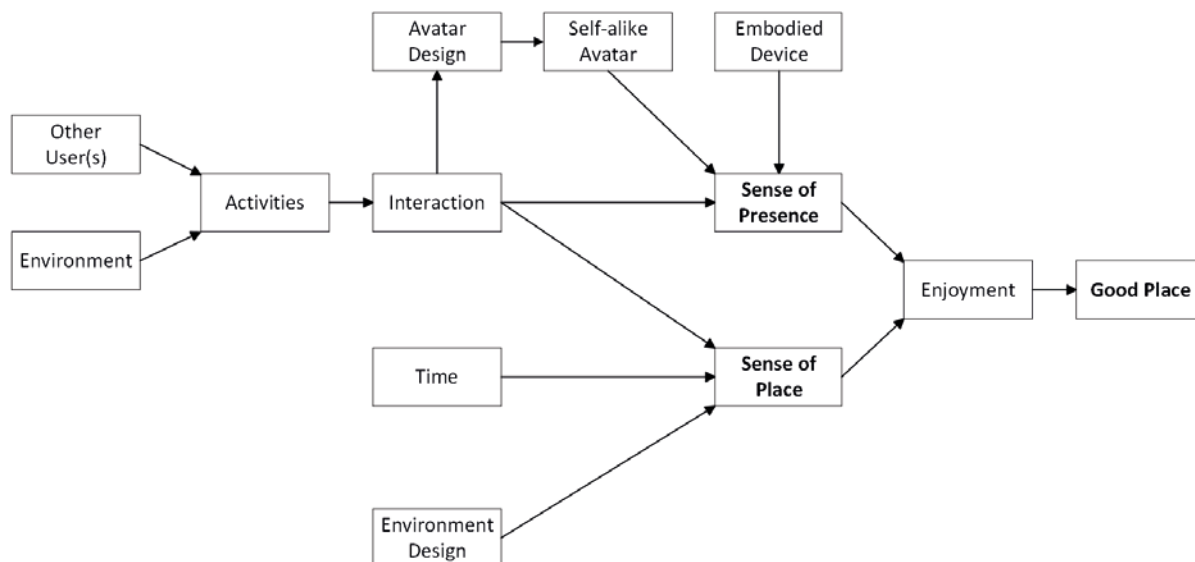
Another important aspect is time. Significant effort and time are required to develop both tangible and intangible elements in the metaverse, such as avatar identities, architecture, and landscapes (AYITER 2019). WANG and coauthors (2023) highlighted that the sense of place in virtual worlds can be drawn from video game designs, where the intensity of moments, rather than the total time spent, fosters place bonding. The study further explained that strong bonds can form during *paused time*, allowing users to immerse themselves in the game environment and engage with elements beyond the core mission, like cutscenes or saving game progress. Additionally, time plays a critical role in preserving virtual world experiences by capturing moments through in-game photographs.

4.4. SENSE OF PRESENCE AND PLACE AND GOOD PLACES

In metaverse tourism, VR technology can increase interactivity (LEE 2022) and VR destinations allow tourists to select and manipulate content based on their preferences. In a study of virtual tourism, it was shown that using VR headsets in a metaverse tour can actually result in a holistic presence of self, both spatial and social (TSAI 2022). LEE (2022) pointed out that adoption of head mounted devices is

Figure 2

Sense of presence and place and good place in the virtual world



Source: author's own creation

important to experience more realistic destinations that bring enjoyment. Furthermore, a virtual tour in the metaverse with the sense of presence positively impacts tourists' happiness and wellbeing (TSAI 2022). This indicates that metaverse tourism can provide good places (Figure 2).

Tourism can draw valuable insight from good places in the context of video games. For instance, users found their time being in the metaverse places through gameplay is enjoyable (J. HAN et al. 2021). Furthermore, WANG (2023) stated that a whole populated social environment within open-world game can be an appealing place to go.

5. Discussion and research implications

The aim of this study was to explore the question of how it would be possible to create good places in the metaverse used in tourism context. It was shown that this may be achieved through the avatar's sense of presence and sense of place. Having examined relevant literature closely, it can be concluded that the tourism industry has the potential to create such enjoyable places for tourists in the metaverse. Through cutting-edge devices and dedicated, advanced software solutions, tourists can find themselves experiencing near-realistic destinations where appearance, interaction and activities are customizable based on user preferences.

Several implications follow for designers of tourist destinations in the metaverse. The top strategies require the provision of interactive environments where tourists as avatars can interact with other avatars, as well as with attractions and their surroundings. Virtual tourists should also have flexibility to personalize their avatars and certain contents to meet their desire.

This study has certain limitations. Firstly, the review may not be comprehensive, as it was based solely on a single database, Scopus, although it is one of the most reliable and comprehensive sources for scientific publications. Future research could expand the scope by including other academic databases, such as Web of Science and Google Scholar. Secondly, only journal and conference papers written in English were considered, potentially limiting valuable insights from other publication types and non-English sources regarding avatars' sense of presence and sense of place.

References

- AYITER, E. (2018): Smooth/striated, place/non-place: Spaces for metaverse avatars. In: *1st International Conference on Digital Culture and AudioVisual Challenges: Interdisciplinary Creativity In Arts And Technology*. DCAC 2018, Corfu.

- AYITER, E. (2019): Spatial poetics, place, non-place and storyworlds: Intimate spaces for metaverse avatars. *Technoetic Arts*. 17(1-2). pp. 155-169. https://doi.org/10.1386/TEAR_00013_1
- BALL, M. (2023): *The Metaverse and how it will revolutionize everything*. Liveright Publishing Corporation.
- CAMPELO, A. - AITKEN, R. - THYNE, M. - GNOTH, J. (2014): Sense of Place: The Importance for Destination Branding. *Journal of Travel Research*. 53(2). pp. 154-166. <https://doi.org/10.1177/0047287513496474>
- CHAN, S. H. M. - QIU, L., - XIE, T. (2023): Understanding experiences in metaverse: How virtual nature impacts affect, pro-environmental attitudes, and intention to engage with physical nature. *Computers in Human Behavior*. 149. 107926. <https://doi.org/10.1016/j.chb.2023.107926>
- CHUNG, S. J. - JO, H. JAE - LEE, H. (2022): A Comparison of Behaviours and Responses towards Different Social VR Environments in Initial Social Interaction. *Archives of Design Research*. 35(3). pp. 53-67. <https://doi.org/10.15187/adr.2022.08.35.3.53>
- CIOLFI, L. (2013): Space and place in digital technology research: A theoretical overview. *The SAGE Handbook of Digital Technology Research*. pp. 159-174.
- CSORDÁS, T. - IRIMIÁS, A. - KISS, K. (2022): Digitalizáció-vezérelt innovációk a turizmusban - fókuszban a fogyasztói magatartás. *Turizmus Bulletin*. 22(4). pp. 16-25. <https://doi.org/10.14267/TURBULL.2022v22n4.2>
- DAMER, B. - KEKENES, C. - HOFFMAN, T. (1996): Inhabited Digital Spaces. *Conference on Human Factors in Computing Systems - Proceedings*. Common Ground, CHI '96, Vancouver, BC, Canada, April 13-18, 1996. Conference Companion. pp. 9-10. <https://doi.org/10.1145/257089.257094>
- DERRETT, R. (2002): Making sense of how festivals demonstrate a community's sense of place. *Journal of Sport and Tourism*. 7(3). pp. 51-52. <https://doi.org/10.1080/10295390208718739>
- FAN, M. - RAFFAY-DANYI, Á. (2024): New way to travel: Travel Live Streaming. *Turizmus Bulletin*. 24(2). pp. 14-20. <https://doi.org/10.14267/TURBULL.2024v24n2.2>
- GIERYN, T. F. (2000): A Space for Place in Sociology. *Annual Review of Sociology*. 26. pp. 463-496. <https://doi.org/10.1146/annurev.soc.26.1.463>
- HAN, E. - MILLER, M. R. - DEVEAUX, C. - JUN, H. - NOWAK, K. L. - HANCOCK, J. T. - RAM, N. - BAILENSON, J. N. (2023): People, places, and time: a large-scale, longitudinal study of transformed avatars and environmental context in group interaction in the metaverse. *Journal of Computer-Mediated Communication*. 28(2). <https://doi.org/10.1093/jcmc/zmac031>
- HAN, J. - HEO, J. - YOU, E. (2021): Analysis of metaverse platform as a new play culture: Focusing on roblox and ZEPETO. *2nd International Conference on Human-Centered Artificial Intelligence, Computing4Human*. 3026.
- HARRISON, S. - DOURISH, P. (1996): Re-Placing Space: The Roles of Place and Space in Collaborative Systems. *Conference on Computer Supported Cooperative Work, June*. pp. 67-76. <https://doi.org/10.1145/240080.240193>
- KIM, D. Y. - LEE, H. K. - CHUNG, K. (2023): Avatar-mediated experience in the metaverse: The impact of avatar realism on user-avatar relationship. *Journal of Retailing and Consumer Services*. 73. 103382. <https://doi.org/10.1016/j.jretconser.2023.103382>
- KING, W. J. - OHYA, J. (1996): The Representation of Agents: Anthropomorphism, Agency, and Intelligence. *Conference on Human Factors in Computing Systems - Proceedings*. pp. 289-290. <https://doi.org/10.1145/257089.257326>
- KÖKÉNY, L. (2024): The smart hotel: Challenges and opportunities for collaboration relating to AI and the hotel industry. *Turizmus Bulletin*. 24(3). pp. 5-14. <https://doi.org/10.14267/TURBULL.2024v24n3.1>
- LEE, U.-K. (2022): Tourism Using Virtual Reality: Media Richness and Information System Successes. *Sustainability*. 14(7). 3975. <https://doi.org/10.3390/su14073975>
- LITVINOVA, Y. - RILKE, R. M. - GUENTHER, C. (2023): Me, myself, and I: Image concerns and honesty in immersive VR. *Computers in Human Behavior*. 149. 107950. <https://doi.org/10.1016/j.chb.2023.107950>
- MACK, K. - HSU, R. C. L. - MONROY-HERNÁNDEZ, A. - SMITH, B. A. - LIU, F. (2023): Towards Inclusive Avatars: Disability Representation in Avatar Platforms. *Conference on Human Factors in Computing Systems - Proceedings*. 3. <https://doi.org/10.1145/3544548.3581481>
- MICHALKÓ, G. (2023): A jó hely - egy turizmusorientált koncepcióvázlat. ["The good place - a tourism-oriented conceptual outline"] *Tér és Társadalom*, 37(4), pp. 30-50. doi: 10.17649/TET.37.4.3519.
- MOHER, D. - LIBERATI, A. - TETZLAFF, J. - ALTMAN, D. G. (2009): Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *BMJ (Online)*. 339(7716). pp. 332-336. <https://doi.org/10.1136/bmj.b2535>

- MYSTAKIDIS, S. – FRAGKAKI, M. – FILIPPOUSIS, G. (2021): Ready teacher one: Virtual and augmented reality online professional development for k-12 school teachers. *Computers*. 10(10). pp. 1-16. <https://doi.org/10.3390/computers10100134>
- OWENS, D. – MITCHELL, A. – KHAZANCHI, D. – ZIGURS, I. (2011). An empirical investigation of virtual world projects and metaverse technology capabilities. *Data Base*. 42. pp. 74-101. <https://doi.org/10.1145/1952712.1952717>
- PONTON, J. L. – CEBALLOS, V. – ACOSTA, L. – RÍOS, A. – MONCLÚS, E. – PELECHANO, N. (2023): Fitted avatars: automatic skeleton adjustment for self-avatars in virtual reality. *Virtual Reality*. 27(3). pp. 2541-2560. <https://doi.org/10.1007/s10055-023-00821-z>
- PROSHANSKY, H. M. – FABIAN, A. K. – KAMINOFF, R. (1983): Place-identity: Physical world socialization of the self. In: Gieseking, J. J. – Mangold, W. – Katz, C. – Low, S. – Saegert, S. (eds): *The People, Place, and Space Reader*. <https://doi.org/10.4324/9781315816852>
- RIVA, G. – WIEDERHOLD, B. K. (2022): What the Metaverse Is (Really) and Why We Need to Know about It. *Cyberpsychology, Behavior, and Social Networking*. 25(6). pp. 355-359. <https://doi.org/10.1089/cyber.2022.0124>
- SLATER, M. – STEED, A. – CHRYSANTHOU, Y. (2002): Computer Graphics and Virtual Environments: From Realism to Real-Time. *Harlow: Addison-Wesley*.
- SMITH, S. (2015): A sense of place: Place, culture and tourism. *Tourism Recreation Research*. 40(2). pp. 220-233. <https://doi.org/10.1080/02508281.2015.1049814>
- STEPHENSON, N. (1992): *Snow Crash*. New York, Bantam Books.
- SWEENEY, P. (2023): Avatars as Proxies. *Minds and Machines*. 33(3). pp. 525-539. <https://doi.org/10.1007/s11023-023-09643-z>
- TRIAS, T. S. – CHOPRA, S. – REICH, B. D. – MOORE, M. B. – BADLER, N. I. – WEBBER, B. L. – GEIB, C. W. (1996): Decision networks for integrating the behaviors of virtual agents and avatars. *Virtual Reality Annual International Symposium – Proceedings*. pp. 156-162. <https://doi.org/10.1109/vrais.1996.490523>
- TSAI, S. P. (2022): Investigating metaverse marketing for travel and tourism. *Journal of Vacation Marketing*. 30(3). pp. 479-488. <https://doi.org/10.1177/13567667221145715>
- TUAN, Y.-F. (1975): Place: An Existential Perspective. *The Geographical Review*. 65(2). pp. 151-165.
- TUAN, Y.-F. (1977): *Space and Place: The Perspective of Experience*. Minneapolis: University of Minnesota Press.
- WANG, B. – GAO, Z. – SHIDUJAMAN, M. (2023): Meaningful Place: A Phenomenological Approach to the Design of Spatial Experience in Open-world Games. *Games and Culture*. 19(5). pp. 587-610. <https://doi.org/10.1177/15554120231171290>
- ZIMMERMANN, D. – WEHLER, A. – KASPAR, K. (2023): Self-representation through avatars in digital environments. *Current Psychology*. 42(25). pp. 21775-21789. <https://doi.org/10.1007/s12144-022-03232-6>