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Metaverse Experience as Heterotopia: An Autoethnography Study in the Framework of Emotion-Based Rhythmanalysis [1]

Heterotopya olarak metaverse deneyimi: duygu temelli ritimanalizi çerçevesinde bir otoetnografi çalışması

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Metaverse can be characterized as a revolutionary technological advancement that has the potential to contribute to various areas and to extend the physical world using extended, augmented, and virtual reality. In this article, we explore the relationship between the rhythm conceptualization of the metaverse experience as heterotopia space, and its users' emotions. We applied the collaborative autoethnography method to reveal emotion-based rhythms in metaverse characterized as a heterotopia place. The results of this study revealed six emotion-based rhythms titled "On the Rhythms of Uncertain Expectations", "The Change of Space Provoking Rhythms: Transition Rhythms", "Reflections of Metaverse Rhythm on Body and Mind Mobility", "Harmonization of Rhythms and the Emergence of Customary", "The Relativity Rhythm: Relative-rhythm" and "Dissociation of Mechanical Time and Space in the Rhythms Flow". The findings provide some implications for practitioners to develop strategies for metaverse or virtual reality and reveal key points for metaverse events, corresponding emotions and its potential influences.

Keywords: *Rhythmanalysis, Metaverse, Heterotopia, Leisure, Recreation, Event, Emotion*

Metaverse, birçok alana katkıda bulunma potansiyeline sahip ve genişletilmiş, artırılmış ve sanal gerçekliği kullanarak fiziksel dünyayı genişletme potansiyeline sahip devrim niteliğinde bir teknolojik gelişme olarak karakterize edilebilir. Bu makalede, heterotopia alanı olarak metaverse deneyiminin ritim kavramsallaştırması ile kullanıcılarının duyguları arasındaki ilişkiyi araştırıyoruz. Bir heterotopya yeri olarak nitelendirilen metaverse'de duygu temelli ritimleri ortaya çıkarmak için işbirlikçi otoetnografi yöntemini uyguladık. Bu çalışmanın sonuçları "Belirsiz Beklentilerin Ritimleri Üzerine", "Mekân Değişiminin Ritimleri Kışkırtması: Geçiş Ritimleri", "Metaverse Ritminin Beden ve Zihin Hareketliliğine Yansımaları", "Ritimlerin Uyumlanması ve Alışılagelmişliğin Ortaya Çıkışı", "Göreceli Ritim: Göritmi" ve "Ritim Akışına Kapılmanın Mekânik Zaman ve Mekândan Ayrışması" başlıklı altı duygu temelli ritmi ortaya çıkarmıştır. Bulgular, uygulayıcıların metaverse veya sanal gerçeklik için stratejiler geliştirmeleri ve metaverse olayları, ilgili duygular ve potansiyel etkileri için kilit noktaları ortaya çıkarabilecek bazı çıkarımlar sağlar.

Anahtar Kelimeler: *Ritimanalizi, Metaverse, Heterotopya, Boş Zaman, Rekreasyon, Etkinlik, Duygu*

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1. INTRODUCTION

The user or consumer experience is becoming more and more technology-based and/or technology-supported today (Anshu et al., 2022; Buhalis et al., 2022). In recent years, a great development and transformation has been observed in development of the virtual world. Ash (2015a) underlines this technological development and transformation, and argues that people's lives are increasingly interacting with a series of digital interfaces and are "enveloped" as this interaction takes place. Metaverse, one of these transformations, has a different effect on user experiences and radically changes many experiences by blending the physical and virtual worlds (Buhalis et al., 2022). As a concept used to express the development of the Internet, metaverse has pioneered a new culture, especially in the process of COVID-19. Today, various new platforms using metaverse environments continue to emerge with new contents (Lee, 2022).

Technology allows people to spend a long time in immersive virtual environments and interact with content that provides the shelter and illusion of an alternative reality (metaverse) (Han et al., 2022). Metaverse brings users together at a point between physical and virtual environments, revealing imaginary/misleading experiences. In this respect, it is possible to state that the metaverse is a different space, and it can be characterized as a heterotopia space today.

Lefebvre's (1992; 2004) rhythmanalysis approach has started to attract significant attention in many fields, places or activities in recent years. Rhythmanalysis studies have been carried out in many different places/activities such as jogging (Edensor, 2012), bus tours (Edensor & Holloway, 2008), dance halls (Henriques, 2010), tourism destinations and shopping spots (Kärrholm, 2009). The number of studies on the metaverse and the experience of this space or medium in literature has increased significantly, particularly in recent years. However, there are still few studies that approach the metaverse phenomenon as a heterotopia space and concentrate on the rhythmanalysis in this space. Therefore, the aim of this study is to examine the metaverse event experience as a heterotopia space from an autoethnographer/research perspective within the framework of rhythmanalysis theory and its potential impact on possible user experience. It is aimed to investigate how and why users who experience an event in Metaverse as a heterotopic space feel different about this different space. To put it more precisely, within the scope of the research, it is aimed to deal with the emotional atmosphere in the event experience (Ash, 2015a) organized in the metaverse environment as a heterotopic space, with Lefebvre's rhythmanalysis approach. With this purpose, it will be possible to evaluate the effects of Metaverse as a heterotopic space separated from tradition in the context of leisure and recreation activity management.

2. LITERATURE

2.1. Metaverse as Heterotopic Space

The concept of metaverse was first used in Neil Stevenson's novel *"Snow Crash"* published in 1992 (Han & Kim, 2021). The game *"The Second Life"*, created in 1999, is shown as the first example of today's metaverse (Sivan, 2008). Zuckerberg brought the concept of metaverse back to the agenda by revealing the company's (Facebook) intention to move to the meta-universe by building an alternative world in a completely virtual space (Han et al., 2022). The

metaverse, which consists of the combination of the words "meta" and "universe", is an abstract concept, which stands for a space created by the convergence of virtual and augmented reality (Choi & Kim, 2017; Argan et al., 2022). In other words, the metaverse, which is the combination of the prefix "meta" (meaning beyond) and the suffix / word "universe" "universe", defines a hypothetical synthetic environment connected with the physical world (Lee et al., 2021, p. 1). Metaverse is considered to be a superior concept compared to virtual reality (VR) and augmented reality (AR) concepts (Lee, 2022). Metaverse, which is used to describe a three-dimensional universe, represents the place or space where people live, spend time, work and play (Sivan, 2008).

As a digital space, metaverse enables users to socially interact with those in the environment, generate value and create experiences through their digital avatars (Gursoy et al., 2022). It uses mixed reality (Mix Reality: MR) technology and combines technologies with ambient intelligence to provide a bridge between digital and real or physical universes, enabling users to integrate experiences holistically (Buhalis, 2020; Buhalis et al., 2022). The metaverse, which has the potential to provide three-dimensional (3D) immersive experiences, enables a strong social interaction that facilitates the blending of the virtual and real world (Buhalis & Karatay, 2022).

Metaverse is used as software for games, education, events and places through VR and AR technology. It is a space where the exchange of information is of even greater value than financial exchange, and where offline consumption of goods, services, and experiences is paired with online navigation of the interfaces required to unlock, access, and purchase those exchanges (Van der Merwe, 2021). The use of the metaverse as a place or event place (such as a concert) reveals new horizons in terms of experiences gained. Behaviors or experiences of users in metaverse spaces or activities make the space a viable space for rhythmanalysis. In this respect, the rhythms that emerge in metaverse events involving parks, museums or concerts are an important clue for designers of this medium or virtual world. Those who plan metaverse spaces or events can create strategies by following user behaviors in this virtual reality environment.

Originally a medical concept, heterotopia was also used in fields such as zoology and botany. This concept, which was used in the field of medicine in the 1920s, is used to express abnormal parts in tissue, abnormal position of organs, abnormality in structure or formation (Ural & Ozen, 2022). Heterotopia, etymologically, is a concept consisting of the combination of the words "topos" meaning "place" and "hetero" meaning different (Ural & Ozen, 2022). The concept of heterotopia, which is based on Foucault's work titled "Of Other Spaces" (Des espaces autres) (Karaman, 2018) and characterized as "places outside of places" (Foucault, 1986), is also considered valid for virtual spaces. Therefore, heterotopia, which represents what is different from existing forms, environments, and spaces, also represents marginal spaces such as cemetery, bath, museum, theater, prison (Çavdar, 2018) in terms of rhythmanalysis.

According to Harvey (2013), practices that reveal what people do, feel and sense as part of their search for meaning in their daily lives produce heterotopic spaces (Çavdar, 2018). Virtual spaces created by today's technological developments can also be characterized as heterotopia for people to experience, realize and feel. As a matter of fact, metaverse spaces that Foucault characterizes as semi-utopian spaces have been evaluated as heterotopia by Van der Merwe

(2021) and Avcı (2022). While Foucault (1986) defines that the age we live in will be the "space age", his semi-prophetic words underline the fourth industrial revolution, which has established new frontiers within the unmanaged and undefined boundaries of virtual space. Gibson (1984) in his sci-fi fable speaks of another layer of reality that we can see, touch, and experience, an entirely separate realm that limits access to the "advanced" or physiologically modified ones to interface with it. These virtual spaces connected with sci-fi movies (Gibson, 1984) are called "alternative reality" (AR) or "matrix". They can be categorized as the precursors of today's metaverse world. Metaverse evokes a paradox and a space that is both lived and animated, as well as a temporary interface between the digital and physical realms. The metaverse (Gaggioli, 2017), called '*phygital* ' in experience-based research, can be characterized as a different place that integrates the digital world and the physical world. In this context, this community of online worlds has been called *"placeless place*" (Foucault, 1986: 24), but it has been stated that even this will not be enough (Van der Merwe, 2021).

Van der Merwe (2021) mentions six principles of heterotopia. The first of these is compatible with the concept of inclusivity and global connectedness, which is expressed in various forms, however, heterotopic spaces are found in every human culture. The second principle of heterotopia is that one existing function in space can very often switch to another. In nature, the microcosm often mirrors the macrocosm. The third principle which can be expressed as spaces within space is the illusionist reflection of reality. The virtual music performance of Travis Scott, which is the subject of this research, in the Fortnite world, like Astronomical, is an example of the second principle. The phenomenon of *'mirror worlds'* occurring in the meta-universe is related to this principle. Foucault (1986) described the mirror of heterotopic environments as "*placeless… unreal, virtual space*" (p. 24). Thus, in reality, metaverse space is defined as an animated place superimposed on what we perceive as the 'real' world. The fourth principle of heterotopia is the "spirit of time", the worlds within the Metaverse operate according to their own laws, and the passage of time is no exception. Just as the heterotopia of a textbook reflects a fixed portion of time (or heterochrony), metaverse interactions are constrained by certain time-related constraints. The vision of "what could be" drives more than "what is" as in the Metaverse and the future replaces the present (Van der Merwe, 2021). As Ihde (2001) theorized more than two decades ago, there are many levels of interaction with digital technologies that have yet to be experienced. The Metaverse is created as an arrangement, even a form of prosthetics, in heterotopic virtual environments that users visualize and imagine before they live. Technology is used to perform functions on a daily basis, the hermeneutic level of interaction has long been established, technology has become a sign in itself as purely digital worlds, from gaming environments to marketplaces and beyond, have become the norm. As the role of the real world in physical relationships becomes less and less important, the metaverse itself is slowly transforming, eventually leading to the spirit of a new time in which human interactions are often completely overshadowed by digital spaces. The fifth principle is defined as the dominant common feature between the worlds of metaverse and heterotopic spaces, underlining that both worlds are isolated from the others, requiring a kind of gatekeeping function and possibly some kind of ritual to gain access. The last feature of heterotopia is relativity. The Metaverse may exist outside of the real world, but this interface is getting blurrier every day. Kelly (2016) states that the human relationship with technology is a step-by-step procedural and pragmatic improvement, and it also changes the

ways of accessing these developing technology environments. Heterotopias share a relative function with the worlds they are separate from, either as misleading mirrors reflecting an easily recognizable variant on the real world, or as an idealized construct that mimics but improves the already established version of reality (Van der Merwe, 2021).

2.2. Rhythmanalysis

According to Lefebvre (2004), "Everywhere where there is interaction between a place, a time, and an expenditure of energy, there is rhythm" (p. 15). While rhythm is about the repetition of behavioral patterns by bodies in space and time, rhythmanalysis is a concept related to the analysis of temporal, embodied patterns in certain places (Lefebvre 2004, 27-37). Lefebvre (1996) draws attention to spatio-temporal features and argues that "every rhythm implies the relation of a time with a space, a localized time or, if one wishes, a temporalized place".

Lefebvre's approach to rhythmanalysis occupies a special place in daily life practices and is characterized as an effective approach to describing daily life social time. Lefebvre (1991) used the phrase "what we *experience are rhythms ";* rhythms and everyday life are therefore invariably intertwined (Conlon, 2010). Rhythms exist in all areas of life. While people are sleeping, walking, walking, resting, they have a rhythm both biologically and physically. Most of the current research on Lefebvre's Rhythmanalysis has been conducted on topics and phenomena related to festival places, street performance, night economy, pedagogy, cities, and everyday life (Borch et al., 2015). Rhythmanalysis was used to capture contradictory times when examined in terms of different groups (cyclists, elderly people, immigrants, tourists, etc.) (Osman et al., 2022).

Rhythm is a biological process, movement, repetition, disorder, and distortion, which includes a complex and holistic theoretical infrastructure and analysis method. As a matter of fact, scientists working on this subject consider the phenomenon as rhythms perceived through the invisible window, and assume that no camera, image or sequence of images can show rhythms. Rhythm cannot be separated from the understanding of time and especially repetition and the emergence of difference in it (Elden, 2004). Paradoxically, rhythms are defined as repetitions with differences (Lefebvre, 2013 [1992], p. 16). The rhythmanalist engages in repetition and pays attention to movement and difference (Holmberg, 2019). Briefly, daily life for Lefebvre (2004) is about rhythm, relationships and practices. However, rhythm is not just repetition, it will always involve difference, "something new and unpredictable" (Lefevbre 2004, p. 6; Vojcic 2014, p. 84). Lefebvre (2004) claims that rhythms arising from human practices are dynamic, flowing and always in a process of becoming. Ash (2013; 2015a) defines these rhythms and counter-rhythms as "emotional atmospheres" produced through an interfacing, "agitation" or "embracing" of bodies and objects (Adams-Hutcheson & Longhurst, 2017).

While studies on rhythmanalysis represent a number of different spaces, it covers a wide range of topics such as daily, seasonal and annual rhythms, communicative rhythms, economic and political rhythms, business and production rhythms, and ritual and religious rhythms (Iparraguirre, 2016). However, the most emphasized rhythm types in rhythmanalysis are polyrhythmia, eurhythmia and arrhythmia. Lefebvre (1991, 1992, 2004) uses the body as an example when explaining concepts. In understanding the body as a bearer of rhythm and as an organic whole, each different organ has a different rhythm. Thus, the whole body consists

of various organs. This rhythm, which includes different rhythms, is called polyrhythmia. When the body's organs work in coordination and normally, the body maintains a balance. The rhythm in this period is eurhythmia. Furthermore, when this rhythm is disrupted due to malfunction or illness, the rhythm becomes unbalanced and disorganized, which symbolizes arrhythmia. Polyrhythm, eurhythm and arrhythm reveal themselves in many compositions. For example, while polyrhythm symbolizes the different voices in a symphony orchestra have a different rhythm, the harmony of instruments and the magnificence of the cumulative sound is described with eurhythmia. Similarly, in eurhythmia, various rhythms of daily life synchronize to create harmony and order while in arrhythmia rhythms are fragmented and produce irregularity (Rosenthal & Brito, 2022).

While many studies in the literature focus on the rhythmic understanding of space and place, other aspects of daily life are often overlooked or studies on the subject are limited. Rhythmanalysis is associated with many outdoor and indoor recreation, and virtual spaces or digital spaces created by technology have also started to be the subject of rhythmanalysis studies. Lefebvre's (2004) proposition that there is rhythm wherever there is interaction also paves the way for rhythm in the virtual world. According to Ash (2013), rhythms include both human and non-human, that is, both people and technical objects, and help to produce "emotional atmospheres". Whether online or offline, space and place have distinctive features according to the ensemble of intertwined rhythms to produce a certain temporal mix of events of varying regularity (Edensor, 2012). This approach draws attention to the existence of rhythms in other spaces that are beyond the real world. As a matter of fact, the emphasis on "Digital public space" symbolizes accessibility by everyone equally, always and everywhere, and covers today's virtual reality or metaverse spaces (Salinas, 2016).

Virtual environments or virtual reality (VR) are computer-generated immersive environments that aim to create lifelike substitutes. Head-mounted displays and wired gloves have become emblematic of virtual reality, enabling the user to receive sensory experiences. The interface is a space that mediates between the real space and multiple virtual spaces (Giddings, 2007) because accessing virtual environments requires login. Augmented reality (AR) systems place virtual information on physical space to augment it by creating a real and virtual combination in real-time interaction and in three dimensions (Milgram & Colquhoun, 1999; Salinas, 2016). While VR is about immersion, AR is about magnification. Another example of virtual environments is metaverse spaces or places, a term that also originates from cyberpunk literature (Stephenson, 1992) and refers to socially active virtual environments created by 3D computers. Second Life (2003) and more recently Minecraft (2011) can be taken as examples of everyday virtual environments that support the creation of real-life scenarios and often mimic physical spaces (Salinas, 2016).

One aspect of revealing rhythms can be associated with the emotions experienced by the participants. Emotions felt by the human body or brain can direct the rhythms. At this point, Lefebvre (1992) underlines the internal rhythm and emphasizes that the situation can be related to flow. Stimuli such as televisions, VR games, metaverse concerts channel the rhythms of the human body. As Massumi (2022) suggests, our senses work rhythmically and frames sensory self-reflexivity.

3. METHODOLOGY

3.1. Research Design

The aim of this study is to determine the emotion-based rhythms related to the metaverse activity as heterotopia space. To achieve this aim, collaborative autoethnography method, which is a qualitative research approach (Merriam & Tisdell, 2015; Fiock et al., 2022), is used to interpret and make sense of observations, notes and personal experiences. Chang et al. (2013) underlined that collaborative autoethnography is particularly applicable when investigating complex phenomena. Experiences related to the metaverse phenomenon have been evaluated as suitable for the method as it has the potential to contain complex, multi-layered and different rhythms. Collaborative autoethnography has been defined by Chang et al., (2013) as "a qualitative research method in which researchers work to collectively analyze and interpret their data in order to collect their autobiographical material and gain understanding of sociocultural phenomena in society" (p. 23-24). While this definition represents the meetings, discussions, inquiries and individual opinions/voices that researchers have with the participants among themselves, it also offers space for individual meaning-making or reflection (Fiock et al., 2022).

3.2. Place and Participants

The metaverse concert area, which is considered as a heterotopia space within the scope of this study, was chosen as the research space. The "Travis Scott and Fortnite Present: Astronomical Metaverse" concert was considered suitable for research both as an event and as a place. Travis Scott's concert event Astronomical which was on April 23, 2020 broke the record of online viewing by more than 12 million people in the first exhibition (Bo, 2021; Moritzen, 2022), a total of 27 million gamers watched it 45.8 million times in four screenings spread over three days. The event is mentioned as a part of the "A Landmark Timeline of Video Game Music" episode in The Cambridge Companion to Video Game Music and is depicted as a virtual concert that "puts new attention to form" (Moritzen, 2022). The place of the performance in the virtual reality or metaverse environment not only presented the movement on the virtual stage, but also on water, space and dimension in the game. The physical condition of the character in the concert includes perspectives in all areas such as weightlessness, high jump and fast running, and the performance provided a new experience of stage and audience perception by producing fictional reality (Cho, ?). In this respect, the concert is also considered as a metaverse concert.

This study was carried out in the fall semester of 2022 by a doctoral student and a faculty member working on rhythmanalysis at two different state universities in Turkey (Eskişehir Technical University, Afyon Kocatepe University). The research was approved by the Eskişehir Technical University Social and Human Sciences Ethics Committee.

The participants for the interviews were selected using the purpose sample approach, as applied in many qualitative studies (Patton, 2014). In this context, undergraduate and graduate students studying at the two state universities mentioned above were included in the study. Accessibility to university students through the researchers' affiliated universities has been decisive in determining the participants to be included in the research. As it is accepted as the mainstay in many qualitative studies, the sample size that provides data

saturation (Bryman, 2016) is taken as the basis for determining the number of samples. To put it more clearly, a number of participants were included in the sample to provide data saturation. As a result of this criterion, the total number of students included in the research was 27, including 19 undergraduate and 8 graduate students on the basis of volunteerism. Table 1 shows the characteristics of the participants. 63% (17 people) of the participants are male, between the ages of 18-33 (average: 22.30; sd: 4.7), 72.7% (16 people) are undergraduate, 59.3% (16 people) are ESTU students and 59.3% (16 people) are people who have not experienced the metaverse concert before.

Table 1. Characteristics of Research Participants

Participant[μ]	*Gender*	*Age*	*Education*	*University*	*Experience*
Mozeralla	M	19	UG	AKU	N
Elips	M	19	UG	AKU	Y
King	M	24	UG	AKU	Y
Ata	M	22	UG	AKU	Y
Kanatsız	M	20	UG	AKU	N
Polar	M	19	UG	AKU	N
Şüko	F	19	UG	AKU	N
Tworz	M	21	UG	AKU	N
Nightmare	M	19	UG	AKU	Y
Elmas	F	19	UG	AKU	N
Oscar	F	20	UG	AKU	N
Sirius	F	18	UG	ESTU	N
Ünsüz Düşünür	M	19	UG	ESTU	Y
Moonlight	M	32	G	ESTU	Y
Mrs.Varto	F	21	UG	ESTU	N
UGİES11	F	18	UG	ESTU	N
F2	M	33	G	ESTU	Y
Muscle Man	M	18	UG	ESTU	Y
MUGGöktaş	M	18	UG	ESTU	N
Physical2MVerse	M	27	G	ESTU	Y
MarketingVerse	F	26	G	ESTU	N
Jan Valjan	M	18	UG	ESTU	N
Mermaid	F	32	G	ESTU	N
Semra	F	29	G	ESTU	Y
Naz	F	26	G	ESTU	Y
KasırgA	M	25	G	ESTU	N
Mamba	M	21	UG	ESTU	N

NOTE= [μ] Nickname, F: Female, M: Male; G: Graduate, UG: Undergraduate; AKU : Afyon Kocatepe University, ESTU: Eskişehir Technical University , Y: Yes, N: No

3.3. Data Sources and Data Collection

Chang et al. (2013) suggested using multiple data sources in collaborative autoethnography, including personal memory, archival materials, self-reflection, self-analysis, and group conversations, to add rich explanations and increase reliability. For collaborative autoethnography, researchers in this study benefited from the suggestions of Chang et al. (2013), previous metaverse experiences and memory information obtained as a result of the concert experience preferred for this study. In addition, both rhythmanalysis and second-hand

literature materials revealed by the metaverse as a heterotopic space were also taken as the basis for the analysis. Based on the researcher's experiences, the approach of self-reflection and analyzing one's own experiences was also taken as basis. No diary was kept within the scope of the study. Researchers experienced the metaverse concert separately, and also shared their metaverse experience with some participants and took observations and notes. In addition, both researchers benefited from narratives about the emotions they experienced independently and the way participants expressed their emotions. Complementary observations were also used in the data collection process. Finally, just as Chang et al. (2013) suggested, the data was enriched through the focus group (6 participants).

In order to reveal the emotion-based rhythmanalysis, the interview questions used in the study based on the literature and the insights/experiences of the researchers were: "Can you talk about your experiences in general after watching the metaverse activity?"; "How did you feel watching the VR/metaverse concert ?; "If you were to divide the concert experience into parts/sections, what were the parts that appealed to your emotions the most and the least?"; "Did you feel the same emotions at every moment of the Metaverse concert? If you felt different emotions, what emotions did you feel in which scenes/environments?"; "Which part of the concert caught your interest and which part did you want to stay longer in?"; "Which part of the experience did you get bored with and want to go through?"; "What do you think about the music used, effects, image quality, avatar etc. and what effect has it had on your emotions?"; "What are your thoughts on the passage of time, flow or pleasure in the meta-concert experience?".

3.4. Analysis of Data

The analysis of the data was carried out on the basis of data sources consisting of different sources collected in accordance with the nature of the research method. The faculty member and doctoral student who carried out the research were actively involved in the conduct of the research, collecting the data (for example, forming the questions, interview, research design), and were involved in data collection, analysis or evaluation of the findings. Collaborative autoethnography, data collection, analysis and reporting processes were performed with the participation of two researchers as recommended by Chang et al., (2013). The two researchers/authors in the study adopted the iterative approach to the analysis and first independently reviewed the data by becoming familiar with the data and gaining a holistic view of the individual and collective sense-making experience. Then, to identify the rhythms that emerged on the basis of emotions, both researchers independently analyzed and recoded the sentence-level reflective narratives and collaborated on rhythm themes until full agreement was reached. Finally, the final rhythms found were written down with the agreement of both researchers.

3.5. Credibility

In order to eliminate the subjectivity concerns inherent in the autoethnography method, the basic checks pointed out by Lincoln & Guba (1985) regarding credibility were tried within the scope of this research. In order to ensure the credibility of the research findings, method diversification/triangulation pointing to different data sources, member check through four interviewed participants were carried out. In addition, both researchers met to discuss the preliminary analysis and agree on the final rhythms and/or sub-rhythms and revised the

results to accurately represent individual experiences. Negative or marginal situations were also taken into account to emphasize richness in perspectives.

4. FINDINGS

The concept of rhythm constructs the general framework of this study and in specific the evaluation of the rhythm of emotions are interpreted through a specific area. The interpretations aimed to make sense of the emotions felt in the context of the mentioned Meta Concert experience in terms of rhythm. In order to use the body as a reference to understand the rhythms, Lefebvre's theory of "Rhythmanalysis" has provided a powerful reference point in making sense of emotions. In this direction, the following themes will be useful in pointing out the contents of emotional rhythms and giving an idea about the formation of rhythm-based emotions. The following themes were determined as a result of the experience within the scope of the study and interviews with the participants.

4.1. On the Rhythms of Uncertain Expectations

Differences in virtual space can reflect changing emotions by providing an extraordinary combination with real life experiences. The rhythmic flows of emotions emerging in this direction are strikingly visible. The most striking situation in individuals who access the metaverse experience is called ambiguous expectation. Not knowing what to expect at the beginning of the meta-concert and the continuation of the spectacle contains uncertainty. Thus, the person is always open to dynamic stimuli, although they do not know exactly what they will encounter.

Although the space that exists and can be produced in the metaverse is seen as unlimited, from another point of view, it is the dotted universe where people can "stop and play" this event with a space key. The breadth of the experience is about 9 minutes, and the fact that it has a definite beginning and end makes it possible to make out the emotions sequentially. In addition to this, it is inevitable to see individual differences in the rhythms that emerge, as there are points where the sequential feelings of the participants are similar. Each element in the meta-concert is decisive in the formation and change of people's feelings, and therefore in the emergence and shaping of their emotional rhythms. While explaining their feelings, many participants did not only focus on music rhythm, visual effects, etc., but also frequently mentioned the effect of changing places (for example, night ambiance, underwater, space, etc.) on their feelings. Participants emphasized that they felt excited, confused and energetic during the start of the experience/concert. In particular, the presence of avatars, the mobility of the environment and the universe existing in the meta-concert revealed that people initially felt lost.

In terms of revealing bodily rhythms in the metaverse concert, inferences can be made about rhythms based on tempo, avatar, and changes in Travis's body. The tempo, which drops to a level that represents a new birth in music, raises the excitement and "what will happen" feeling again, but the normal rhythm of the song returns again. Participants and avatars are chilled, it's like a rest break. However, again, a sense of error, the screen goes black, thousands of colorful small and large rainbows appear, the space becomes different. The island is gone, and instead the rainbow world in pitch darkness appears. But in this rainbow, the traditional stillness does not exist. Travis's body and muscles are now made of colorful lights. The real world is lost and scenes reminiscent of Meta welcome the viewer. The rhythm of the

music has a quality that raises and lowers the heart rate. Just when the audience is used to this meta world, all of a sudden, there is a dive into the water world. The heart rate gets very high again, the tempo of the music decreases with diving into the water, the sound of silence is heard under the sea. Travis resembles a dead character while diving into the water. It's like a calm rhythm. It is like death, the turmoil, the surrealism, the hell have disappeared, giving birth to the screaming silence of the underwater. There is a hero who turns into bubbles with the light of a jellyfish. An Astronaut-like character is born again in a world with straight/angular lines, reminiscent of intense technology, and consisting of luminous diagrams. (Researcher Note/27.10.2022)

The expressions used by the participants regarding the above-mentioned On the Rhythms of Uncertain Expectations theme are as follows.

> *"Each second in the video, as if presenting a scene of its own, continued with a separate flow in an immersive way. What I realized while watching was that I followed it with interest, wondering the next second." (* MarketingVerse, G)
>
> *"Concert etc. I can't say that I like activities very much, but I like these kinds of things. Because if I get bored, I have the opportunity to close, I can pause/turn off as I want. It does not contain any skills or difficulties. My feelings are also more subjective because I only passively participate and feel more comfortable and isolated in the virtual environment. Therefore, instead of the discomfort (crowd, smell of harmful substances, etc.) that the real concert environment can cause, there are things that I can enjoy more in this environment, and it is in my hands to manage it. For this reason, I can easily say that the pleasure I receive can be more."* (Kasırga, G)
>
> *"The atmosphere was great until the singer came on stage. I think it was more interesting because we were wondering what to expect and seeing such an atmosphere for the first time."* (MBGöktaş, G)
>
> *"Even though I found the change of some places meaningless, it aroused my curiosity, sometimes I couldn't understand what I was feeling in these parts, I seem to be bored, but I felt like watching it."* (Mozzarella, UG)
>
> *"The video had an attractive feature while watching it. I continued to watch, wondering what would happen next. In short, it was an energizing, intriguing, entertaining and attractive video. I liked it." (*Sirius, UG)
>
> *"I didn't feel the same emotions at every moment of the meta concert because while I was waiting for the eye-catching scenes to pass quickly, I guessed the ambiances that would appeal to me. Then I was able to feel better and free and pay attention with the clips about the sky and underwater." (*Mrs. Varto, UG)
>
> *"I didn't feel the same emotions at every moment. For example, the intro had a creepy atmosphere. The moment of falling into the water had a feeling as if there had been a great loss. Or it was creepy that the end of the video ended as if they already existed."* (Mamba, UG)

4.2. The Change of Space Provoking Rhythms: Transition Rhythms

Transition rhythms reveal the speed, intertwining and sudden transition of rhythm in the metaverse world of different rhythms. While the metaverse world addresses the search for instant satisfaction of the audience, the faster passage of some parts of the spaces represent the

fast rhythm, the mood in the quiet stage under the water reveals the slow rhythm. The imposition created by the effort to understand some parts of the approximately nine-minute meta-concert represents speed, while times and spaces with low tempo and stasis express slowness. Tomlinson (2007) also mentions that the dissemination of technology reveals the expectations of instant satisfaction through the speed of aiming to minimize the effort, travel and contact time. Therefore, the theme of transition rhythms emphasizes the rhythms that emerge in the changing pace or unusual continuity of spaces and the emotional expectations of people specific to transition rhythms.

The sharp transition of the scenes in the Meta Concert or the rhythm change in the music can be decisive about the rhythms in the meta universe, and as a matter of fact, the traditional polyrhythm, arrhythm and eurythm, although slightly different from the traditional approach, can also be embodied in this virtual reality environment. Another principle of heterotopias, the fact that one existing function in space can very often switch to another (Van der Merwe, 2021), is also possible to observe in the meta concert being studied. This situation, as Edensor (2012) states, has distinctive features according to the ensemble of intertwined rhythms to produce a certain temporal mix of events of varying regularity, space and place. When the metaverse is considered in terms of space or event, it is seen that these three traditional rhythms occur very frequently and interpenetrate each other from time to time. However, it is possible to talk about the existence of knot points that separate these three rhythms from each other. In some cases, these nodes are more obvious, sometimes they are more ambiguous.

Scene changes, creative image and light sequences and a level of movement and contrast that do not allow monotonous rhythms emerge. Next to the giant Travis, the flight of avatars, which take up only a part of their feet, and dancing people appear with their luminous clothes and create a female association with their movements. Now the little flying avatars are invisible, instead the dancers in the form of space-looking light beams start to attract attention and they begin to direct the emotions. This situation does not last long, just as the rhythm falls, Travis, who picked up the light beam from the sky and space and took the light beam in both hands, collides the lights in his palm, and the scene changes again, and the falling rhythm is disrupted again. (Researcher Note/27.10.2022)

In addition, it was determined that the emotional changes reported by the participants acted as a catalyst in determining the rhythms more easily when evaluated as a result of the Relative-Rhythm which is also expressed as another rhythm type. At this point, Lefebvre (1992) underlines internal rhythm and emphasizes that the situation can be related to flow. In a way, the participant used the following statement that supports the internal rhythm situation:

> "*You can experience different emotions in different atmospheres in a single event.*" (Physical2MVerse, G).

On the other hand, the definition of emotions that change with the change of place is compatible with individuals. Meta-concert flow and changing environments create maneuvers in the feelings that are revealed. At this point, the emotions are freed in this virtual environment, where the real space perception is reflected, without leaving the realistic feelings. The existence of emotional rhythms, which we claim to be influenced by individual experiences, has not been at the same level and alignment for each person. The intensity of the repeated feelings and the continuation implications differed during the meta-concert activity. The influences of the familiar place perception and the non-real environments of the virtual

environment cause distorted and contradictory emotion inferences. The emotions brought to the surface at the intersection of real space and virtual environment perceptions are left in the middle of this dilemma. This situation serves to express the transition rhythms. In addition, it was concluded that the use of space colors also has an effect on the rhythm movement. As for the red-colored atmosphere, many people's attention and the situation of expressing it spontaneously has become a subject that changes within the scope of emotion.

The comments of the participants pointing to the theme of the Change of Space Provoking Rhythms: Transition Rhythms are given below.

> *"The part that appealed to my feelings the most was the intro and 4.35-5 minutes. Because the effective entrance felt as if the universe was formed as a result of an explosion. Also, in the other part, it reminded me of the moment when a precious ring, where everything in the universe was, was seized by a power."* (Mamba, UG)
>
> *"Since the theme is "fire" in 3 and 4 minutes, it cannot be said that I enjoyed this episode much. I wanted that part to go through because it sounded more like a "punishment" theme to me than entertainment."* (Kasırga, G)
>
> *"I had a hard time adapting to the scene and clips because of the sharp transitions. The scene with red content did not appeal to me, furthermore it was creepy and unsettling. I observed the underwater scene much more freely."* (Mrs. Varto, UG)

4.3. Reflections of Metaverse Rhythm on Body and Mind Mobility

Lefebvre (2004) puts the body in the foreground, emphasizing that the rhythmalist's breathing, the circulation of his blood, the beatings of his heart and the delivery of his speech as landmarks. As the measure of other rhythms, the rhythmanalist should take the "respiration, pulse, circulation, duration and phases of periods" of their own body as a basis. It is necessary for the researcher to 'listen to his own body' to appreciate external rhythms (Edensor, 2016). Therefore, in this study, researchers who are rhythm analysts reveal that rhythms are shaped as a result of participant reports, observations and listening to themselves based on their metaverse concert experiences. This approach supports the bodily rhythm approach. Although bodily rhythms are associated with traditional activities such as daily life and movement, bodily changes in virtual reality environments can occur even above reality in some cases. For example, an individual stuck in the real and virtual world exhibits bodily reactions despite being aware of this as a mind. This situation forms the basis of bodily and emotion-based rhythmanalysis. On the other hand, rhythms are both biological and social (Rickly, 2017). The way the human mind perceives the virtual world creates a rhythm that affects body mobility. Feelings of enthusiasm, excitement, etc. have a counterpart in the real world, which is the other side of the virtual world. The existing rhythms in the virtual environment respond to both physical and mental sensations. Sudden transitions in the metaverse environment can reveal arrhythmia. On the other hand, the presence or absence of virtual environment avatars reveals the feelings of being social or being alone in individuals. Revealing emotional rhythms encourage the internalization of certain embodied responses.

An excited wait in front of the metaverse stage brings the tempo and pulse of the music to increase, and the urge to accompany the concert and the rhythms appears both on the stage and in the surreal parts of the island. Appearing in the form of a shooting comet can be characterized as the first burst of excitement,

then Travis Scott appears on the scene as a giant object larger than the avatars. Explosions, scene change and the screen turns red. The red scene is like hell, many parts of the island are now on fire. From above, from the sky, the rain of embers starts to fall. Travis' body is struck by a lightning bolt of energy, now an electrified Travis and avatars struck by light energy. The scene manages to increase the focus of the people in the metaverse space again. Instead of the arrhythmia phenomenon that occurs after the beginning of the song on the stage, it leaves its place to eurhytm. However, unlike traditional rhythms, this rhythm will not be long-lasting, it is almost a harbinger of ups and downs as in the heart radiography. It performs to avatars and/or virtual participants of the concert in various parts of the island, sometimes between buildings, sometimes on the water, with the rhythm of music. (Researcher Note 27.10.2022)

The expressions of the participants that can be valid for Reflections of Metaverse Rhythm on Body and Mind Mobility are as follows.

> *"The moment I didn't want the video to end, it was sky and underwater clips, I could watch it for hours without any event events, I think this turned out to be a mental need beyond physiological needs. I must have felt the feeling of freedom and being free in the depth of this water and in the infinity of the sky."* (Mrs.Varto, UG)
>
> *"The parts that appealed to my emotions the most were the underwater part and the part dominated by red tones. I felt more relaxed and free in the underwater part. The part with red tones – maybe explained by the effect of color – I felt warmer and in action."* (F2, G)
>
> *"I felt different emotions in each scene. As the avatars in the video danced, I also wanted to dance. With the transition at 05:20 came a feeling of relief. On top of that, with the transition at 6:16, I felt like I was teleported to a different world." (*Sirius, UG)
>
> *"I'm not normally someone who likes concerts. At the same time, I don't particularly open and listen to the parts in the video, but with the visual effects, the video kept me in an incredible mood. It allowed me to follow it with the same concentration in every moment. I think it adds a very different atmosphere when the actors who attend the event live accompany the concert with the dance figures that the game allows, and being able to do many things in the Metaverse universe that you cannot do in the physical world makes you free like a bird."* (Physical2MVerse, G)
>
> *"The music, effects and avatars were in harmony. I was excited that avatars had freedom of movement. Thanks to this system, I felt free and felt like I could do whatever I wanted." (*Naz, G*)*
>
> *"While I was watching the video under the influence of the environment in which I watched it; I felt like I was officially caught up in the sudden effects transitions and music transitions and after a while I realized that I had a tendency to dance in the video. It was as if it had drawn me in."* (Mamba, UG)
>
> *"The video caught my attention, and it was so interesting. It's as if an alien comes and dominates the planet. As I start to like the rhythm of the music, I can't stand still like the characters. It's another world for the avatars, a different world for the giant human, a different world for me."* (Elips, UG)

"It was impossible not to accompany the video and the music, and for a moment I found myself in an immersive flow." (King, UG)

4.4. The Harmonization of Rhythms and the Emergence of Customary

The birth of the metaverse and this world where people have just given new experiences are experienced with curiosity and expectation, as mentioned in the previous themes. Individuals want to be able to define the point that differentiates them from previous video types in the metaverse world. Although there is no VR environment, previously existing 360-degree videos, 3D videos or many science fiction movies have formed the basis for the metaverse universe in the human mind, and many virtual universes have taken place in the imagination of individuals. For example, even if the space scene in the meta concert is a video-specific environment, it matches the environment experienced by the human mind in the previously mentioned video environments. Individuals who do not have real experience in the space environment have visual knowledge about this environment (virtual games, animation, fantastic and science fiction movies, etc.). Because the aforementioned visuals may appear to individuals voluntarily or involuntarily in every period of life. When there is harmony in the expectation of the metaverse and the use of the known space, habituation emerges and when this situation occurs, the effect of the metaverse decreases. Predictable habitual rhythmic movements typical for the meta-activity experience can harmonize existing rhythms and elicit habituation. In other words, the existing arrhythmias start to become eurhythmias after a while. This can be seen as the body's response to the release of adrenaline. As you get used to each step, the arrhythmia becomes eurhythmia in the next step, although the previous step appears as arrhythmia. In the metaverse universe, individuals seek perfection. It is critical that the flow stays in the arrhythmia, when the desire to create with unprecented creativity and sustaining attention is accommodated.

The participant views representing the Harmonization of Rhythms and the Emergence of the Habitualism are as follows.

"Although the first minutes of video animations keep the attention, I cannot maintain the same effect in the following minutes due to extremely fast transitions and exposure to the same thing." (MBGöktaş, G)

"About a minute after the start of the video where Travis Scott came in, I really said 'wow!' And since the movement has decreased in the last episodes, it caught my attention less, so I didn't feel much excitement." (Kasırga, G)

"While the music was from popular songs, it could have been chosen from songs that were more fun and uplifting, and it would have been efficient if it was used to distinguish sections, if not for every part. Songs could have been preferred as rhythm and melody in different sections. It seemed very monotonous to me. The avatar was pretty good at the beginning, but when it fell into the water, it shrank as if it didn't make much sense, the avatars in the water were not good. As for the avatars, I can even say that the beginning of the video was the best. The dance part at the beginning was also good in terms of colors and visuals, but due to the different sizes of the figures and the different characters, I paid attention to them and maybe that's why I didn't have as much fun as the other parts." (Mermaid, G)

> *"The first part of the video was more appealing to me because it felt like I was in a concert. This is not an ordinary concert, but I felt like I could create any environment I wanted and do whatever I wanted whenever I wanted. But in the last part of the video, the artificial feeling of being in outer space bothered me."* (Naz, G)

4.5. The Relativity Rhythm: Relative-rhythm

"*Relative-rhythm*" is a hybrid concept consisting of the combination of relativity and rhythm. In other words, on the basis of relativity, it represents the rhythm that emerges on the basis of the person's bodily state, mood and emotion. Although meta-concert participants emphasize the feeling of staying in certain places and environments; interest areas of the individuals, their perspectives on the world and the virtual universe are influential in the change of the place they find interesting. This rhythm differs from traditional rhythms in one aspect, and it supports the emphasis that some rhythms may vary in the metaverse world. Therefore, one of the results of this autoethnographic research is that the desire to stay in the concert or not to stay in unwanted sections reflects relatively personal perceptions. This situation points to relativity (Van der Merwe, 2021), which is one of the features of heterotopia. Different from traditional places, some parts of the event held in this virtual world, which attract attention and concentration, may vary according to the experiencer's own worldviews and interests. In other words, the experience of the metaverse is related to one's mood. The energy search of the participant who experienced the concert before the training and the pursuit of the calmness after the training are associated with relativity. This situation reveals the "*Relative-rhythm*" approach on the basis of emotion and mood. For example, while some participants evaluated the opening part of the concert as striking, interesting and channeling the person to the environment, some participants characterized it as boring and desired that part to pass.

In Travis Scott's concert of the metaverse, the metaverse itself is slowly transforming into a level of otherness as the real world's role in physical relationships is losing its relevance – finally pointing to the spirit of a new time in which human interactions are often completely overshadowed by the purely digital medium. Another issue that was reported or emphasized in this regard was the feeling of freedom and comfort in using this space, unlike the traditional one. Although it evokes a feeling of freedom and comfort, the perception of being far beyond reality is frightening for some people. (Researcher Note/27.10.2022)

While there are expressions about the passing of time in the meta concert quickly, some participants who found it boring stated that it takes longer. It can be difficult to maintain a meta concert for individuals who cannot stay with the flow. The diving scene represents the transition from a complex universe to a single universe, reminding of getting rid of the worries of life and staying alone. Participant evaluations about being in different parts of the concert underline this theme with the following statements:

> "*Because the idea of being in outer space bothered me, I got bored with the part with visuals reminiscent of this, or rather, I didn't want to stay. I felt a sense of suffocation in space and it made me realize that I was watching something artificial.* " (Naz, G)

> "*More visual effects and scenes set in different universes/places got me more excited and aroused my curiosity for the next scene. The relatively stagnant scenes were boring.*" (Moonlight, G)

"*The scene with red content didn't appeal to me, but it felt creepy and unsettling. I observed the underwater scene much more freely.*" (Mrs. Varto, UG)

"*The parts that appealed to my emotions the most were the underwater part and the part dominated by red tones. I felt more relaxed and free in the underwater part. The part with the red tones – maybe explained by the effect of the color – I felt warmer and in the action.*" (F1, G)

"This is not an ordinary concert, but I felt like I could create whatever environment I wanted, whatever I wanted, whenever I wanted. However, in the last part of the video, the artificial feeling of being in outer space bothered me. While the dances of the avatars were sometimes enjoyable, sometimes their head movements aroused a feeling of fear. Because while I felt like a human being at the same time, I felt like a transformed creature that lost its vitality." (Naz, G)

4.6. Dissociation of Mechanical Time and Space in the Rhythms Flow

Abstract forms of rhythms have been encountered in the metaverse as a place that is outside of the mechanical units of the clock and the real space perception where the body exists. The abstract forms express the freedom of people's imagination and reflect being in the descriptions of places that cannot exist in reality. The freedom of space, on the other hand, takes people out of the mechanical perception of time. This explains why people fall into the flow. The effect of virtual space satisfaction on the relative passage of mechanical time draws attention here. It is similar to the dream but without being conscious and in the sleep stage, and contains the feeling of escaping from the concept of time and space in dreams. Situational events experienced together with the reflections of emotion activating cognition can represent separation from the space. In the metaverse, unlike the real, the sustainability of the charming/attractive mechanical cycle is either ensured or, if these conditions are not fulfilled, mechanical spatial separation is experienced.

Considering the situation in terms of meta-concert; it's time to go into space from a dizzying helix. It's time to go to space accompanied by "let's go". The exit from the atmosphere to space resembles the movements of a person jumping from a parachute before they open their parachute, but there is a reverse logic here. While there is landing with the movement of the parachutist, here in the meta-world, it is going out to space. It is now a character who sits on planets and watches stars and planets. The tempo of the music is the usual tempo. Shooting stars, emerging planets followed by the disappearance of giant space station consisting of big machines and wheels. The station suddenly explodes and disappears, and a huge light that dazzles eyes. This is a hole of light, an invitation that says "let's go" that draws people in. Now it's time to head towards the horizon. The tempo increases, the horizon gets closer and the eyes dazzle. (Researcher Note 27.10.2022)

Opinions on participant experience that can be evaluated within the scope of this theme are given below:

*"Overall, it wasn't a boring video as it used multiple effects and transitions and was made into a story, so the time went by so fast that I couldn't quite understand how it went. In general, it was a video that I enjoyed and watched carefully. I had no trouble staying with the flow." (*Mamba, B*)*

"I felt the flow while watching, when the video came to an end, I felt like I had been watching it for 2 minutes." (Naz, G)

*"I constantly felt like I was on a musical journey at the same point throughout the video… There was an incredible flow from the beginning to the end of the video. For me it was an exciting dynamic example of what a virtual concert could look like. It was very interesting, captivating and entertaining that it didn't need a real stage, gave the freedom to get as close to the artist as you wanted, and actually everyone had the right to have fun with dances, music, avatars, effects, reflecting their own scene in their own world." (*MarketingVerse, G)

"It held me in every second. I think every viewer agrees with this. Because nothing is allowed in the event that will make you feel bored. With the effective use of effects, it provides different atmospheres and allows the audience to complete the event without realizing how time flies." (Physical2MVerse, G)

"It felt a little bit longer than 8 minutes. I liked the transitions in the flow, they reflect the feeling of being in different environments and different universes beautifully. In general, it was an enjoyable experience. I could watch a longer video without getting bored if there weren't the parts that I said I didn't like and the parts I liked constantly came one after another… " (F2, G)

*"The video hooked me so much at some moments that I felt like time had almost stopped, while at other moments 1 minute passed as if it was 10 seconds." (*Ünsüz düşünür, UG)

*"The effects, lighting and music at the end of the video were very harmonious. The second time I watched it, I closed my eyes and while I was traveling in time to another planet, I suddenly felt like I was in a dream when the video ended." (*Sirius, UG)

"Gripping the stars as if there were no barriers, as if I was free to do anything, the explosion of the planets." (Ata, UG)

5. CONCLUSION AND DISCUSSION

In this study, it is aimed to explore and understand the emotional rhythms in the metaverse activity as a heterotopic space. While investigating the emotion-based rhythmanalysis of the metaverse using the method of autoethnography, it is aimed to exemplify how the concepts advocated by Henri Lefebvre can be extended, enhanced and improved. In other words, in order to think more about the metaverse, which is the space of the future or the heterotopic space characterized as different from the existing one, this study focuses on both Lefebvre's 'rhythm' approach (2004) and the digital interfaces, spatials and effects approach put forward by Ash (2015a; 2015b).

The theme that first emerged within the scope of the research was determined as "On the Rhythms of Uncertain Expectations". In summary, the related theme includes the uncertainty of the expectations of individuals towards the images they will watch and their openness to the feelings they will experience about their readiness in the meta-concert universe. The second theme, "The Change of Space Provoking Rhythms: Transition Rhythms" represents the changes in rhythmic feelings caused by the changing scenes. Just like television rhythms (Obert, 2008), rhythm in the metaverse is linked to the concept of "flow" and appears to be a rhythmic phenomenon in which sequences (intervals) throughout the metaverse event

experience follow regular temporal cycles. Ultimately, the metaverse reveals its unique ability to relate experiencer rhythms (virtual rhythms) to those of the body (latent, affective rhythms), and with this feature, it has the potential to be interesting. The third theme, named "Reflections of Metaverse Rhythm on Body and Mind Mobility", points out the effect of meta-concert mobility on real space mobility of people. As a heterotopia, the metaverse can be expressed as a rhythmic structure that covers the movement and pulse of the virtual world, defines time and space, and makes people feel it deeply. Another theme, "Harmonization of Rhythms and the Emergence of Customary", reveals that the feeling of individuals at the beginning of the meta-concert experience is preserved, that they get used to it while they are on the move, and that their intensity decreases, and the perceptions turn to normal. In addition, it aims to reveal the rhythms to trigger boredom by creating analogy with the visual stimuli in his mind against the visual stimuli in the meta-universe. The theme of "The Relativity Rhythm: Relative-rhythm" refers to the fact that individuals interpret the situations they are in, the emotions they have gained from their experiences with different emotions, and therefore, a situation of relativity that varies from person to person in the same scenes. The last theme determined for this study is "Dissociation of Mechanical Time and Space in the Rhythms Flow". This theme includes the separation of the mind from the time and place where it is in reality, moving away from mechanical structures as well as the flow of people. It indicates the existence of another type of virtual rhythm that occurs in the mental process that occurs in the meta-concert experience, and that people get caught up in the meta-universe like a dream world and get away from the mechanical time and space network.

Metaverse is expected to play a big role in user experience like virtual reality (VR). Therefore, it is vital for leisure, recreation or marketing researchers to approach the subject by considering the new theoretical and practical implications that metaverse may reveal. Given the significant potential of the metaverse in terms of experience, recreation, leisure and space, stakeholders need to better understand how the metaverse can help create transformative experiences. The best way to understand this is through a good understanding of the behaviors and rhythms in this realm. This article, which is a pioneer in the literature, conceptualizes the potential value of the metaverse in the emergence of rhythms and serves as a guide for those who will work in this field in the future.

Recreation managers should plan to embrace the metaverse in their activities and consider the hybrid mode of any leisure service delivery. From the standpoint of the virtual reality phenomenon, knowing that the user rhythms in metaverse spaces will guide the design of these worlds will be influential in directing the future. The metaverse, which can be characterized as a heterotopic space today, has the feature and potential of being a space that can be evaluated outside of this circle in the future. For this reason, although it is considered as heterotopia today, it would not be wrong to state that it is a routine place for the Z or alpha generation.

6. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Although this rhythmanalysis study, based on the emotions of the participants in the metaverse as a heterotopic space, is a pioneering and innovative study; it has limitations, as in many scientific and qualitative studies, due to the sample of participants chosen with the purpose sample method (undergraduate and graduate students) and/or its representativeness

and the type of experience investigated. The rhythms obtained from the research are limited to the selected metaverse activity. In future studies, other heterotopic metaverse spaces such as parks as metaverse spaces, sports branches as events, university campuses, or city squares may reveal different results. Extending this research beyond university students would enable other participant groups to be represented demographically. Therefore, by including people of different age groups demographically in the research, it will be possible to compare the experiences of generations. The differentiation in rhythms occurring in different age groups can also be underlined. Another limitation that emerged during the implementation process of the study is that the concert experience was not experienced by all participants with the necessary equipment (e.g., joystick, avatar, VR, AR, metaverse glasses). Although some participants experienced the concert with VR glasses, the fact that a large group of participants experienced the metaverse environment without these equipments can be considered as an important limitation because these equipments have a significant effect on the intensity and feeling of the experience. When viewed with avatar, joystick and/or VR, AR, metaverse glasses in accordance with the metaverse experience, it is possible to feel emotions by immersing in or entering the environment, so conducting similar studies with these technical possibilities in future research will produce deeper and different results.

REFERENCES

Adams-Hutcheson, G., & Longhurst, R. (2017). At Least in Person There Would Have Been A Cup of Tea': Interviewing Via Skype. *Area, 49*(2), 148-155.

Anshu, K., Gaur, L., & Singh, G. (2022). Impact of Customer Experience on Attitude and Repurchase Intention in Online Grocery Retailing: A Moderation Mechanism of Value Co-Creation. *Journal of Retailing and Consumer Services*, 64, 102798.

Argan, M., Argan, M. T., & Dinç, H. (2022). Beni Başka Âlemlere Götür! Kullanıcı Temelli Metaverse Etkinlik Deneyimi. *Journal of Internet Applications and Management*, *13*(1), 33-53.

Ash, J. (2013). Rethinking Affective Atmospheres: Technology, Perturbation and Space Times of the Non-Human. *Geoforum*, 49, 20-28.

Ash, J. (2015a). *The Interface Envelope: Gaming and the Logics of Affective Design*. Bloomsbury Academic.

Ash, J. (2015b). Technology and Affect: Towards A Theory of Inorganically Organised Objects. *Emotion, Space and Society*, 14, 84-90.

Avcı, S. (2022). Bir Heterotopya Mekânı Olarak Metaverse Gerçekliğinde Kendilik Anlayışının Dönüşümü. *İletişim Fakültesi Akademik Dergisi*, *5*(10), 187-206.

Bo, X. U. (2021). From Virtual-Reality Fusion to Comprehensive Virtual: The Future of the Performing Arts. 2021 International Conference on Education, Humanity and Language, Art (EHLA 2021).

Borch, C., Hansen, K. B., & Lange, A. C. (2015). Markets, Bodies, and Rhythms: A Rhythmanalysis of Financial Markets from Open-Outcry Trading To High-Frequency Trading. *Environment and Planning D: Society and Space*, 33, 1080–1097.

Bryman, A. (2016). *Social Research Methods*. Oxford University Press.

Buhalis, D. (2020). Technology in Tourism-From Information Communication Technologies to Etourism and Smart Tourism towards Ambient Intelligence Tourism: A Perspective Article. *Tourism Review*, *75*(1), 267-272.

Buhalis, D., & Karatay, N. (2022). "Mixed Reality (MR) For Generation Z in Cultural Heritage Tourism towards Metaverse", in Stienmetz, J.L., Ferrer-Rosell, B. and Massimo, D. (Eds), *Information and Communication Technologies in Tourism* 2022, Springer, Cham, pp. 16-27.

Buhalis, D., Lin, M. S., & Leung, D. (2022). Metaverse as a Driver for Customer Experience and Value Co-Creation: Implications for Hospitality and Tourism Management and Marketing. *International Journal of Contemporary Hospitality Management*. https://doi.org/10.1108/IJCHM-05-2022-0631.

Çavdar, R. Ç. (2018). Farklılığın Mekânı: Foucault ve Lefebvre'deki Heterotopya ve Heterotopi Ayrımı. *İdealkent*, *9*(25), 941-959.

Chang, H., Ngunjiri, F., & Hernandez, K. A. C. (2013). *Collaborative Autoethnography*. Left Coast Press.

Cho, Y. (?) The Study on The Possibility of Expanding The Concepts of Liveness In Travis Scott's Astronomical.https://scholar.google.com/scholar?hl=tr&as_sdt=0%2C5&q=The+Study+on+The+Possibility+of+Expanding+The+Concepts+of+Liveness&btnG= (Access Date: 26.10.2022).

Choi, H. S., & Kim, S. H. (2017). A Content Service Deployment Plan for Metaverse Museum Exhibitions—Centering On the Combination of Beacons and HMDs. *International Journal of Information Management*, *37*(1), 1519-1527.

Conlon, D. (2010). *Fascinatin'rhythm (s): Polyrhythmia and the Syncopated Echoes of the Everyday. Geographies of Rhythm: Nature, Place, Mobilities and Bodies*. Farnham: Ashgate, 7081.

Edensor, T. (2016). Introduction: Thinking About Rhythm and Space. In *Geographies of Rhythm* (pp. 13-30). Routledge.

Edensor, T. (Ed.). (2012). *Geographies of Rhythm: Nature, Place, Mobilities and Bodies*. Ashgate Publishing, Ltd.

Edensor, T., & Holloway, J. (2008). Rhythmanalysing the Coach Tour: the Ring of Kerry, Ireland. *Transactions of the Institute of British Geographers*, *33*(4), 483-501.

Elden, S. (2004). *Understanding Henri Lefebvre*. A&C Black.

Fiock, H., Meech, S., Yang, M., Long, Y., Farmer, T., Hilliard, N., ... & Cheng, Z. (2022). Instructional Design Learners Make Sense of Theory: A Collaborative Autoethnography. *Educational technology research and development*, *70*(1), 31-57.

Foucault, M. (1986). Of Other Spaces. *In Diacritics, 16*(1), 22-27.

Gaggioli, A. (2017). Phygital Spaces: When Atoms Meet Bits. *Cyberpsychology, Behavior, and Social Networking*, *20*(12), 774-774.

Gibson, W. (1984). *Neuromancer*. London: Gollancz.

Giddings, S. (2007). A'pataphysics Engine: Technology, Play, and Realities. *Games and Culture*, *2*(4), 392-404.

Gursoy, D., Malodia, S., & Dhir, A. (2022). The Metaverse in the Hospitality and Tourism Industry: An Overview of Current Trends and Future Research Directions. *Journal of Hospitality Marketing & Management*, *31*(5), 527-534.

Han, D. I. D., Bergs, Y., & Moorhouse, N. (2022). Virtual Reality Consumer Experience Escapes: Preparing For the Metaverse. *Virtual Reality*, 26, 1443–1458.

Han, S. & Kim, T. (2021). News Big Data Analysis of 'Metaverse' Using Topic Modeling Analysis. *Journal of Digital Contents Society*, *22*(7), 1091-1099.

Harvey, D. (2013). *Asi şehirler*. Metis Yayınları, İstanbul.

Henriques, J. (2010). The Vibrations of Affect and Their Propagation on a Night out on Kingston's Dancehall Scene. *Body & Society*, *16*(1), 57-89.

Ihde, D. (2001). *Bodies In Technology (Electronic Mediations)*. Minneapolis: University of Minnesota Press.

Iparraguirre, G. (2016). Time, Temporality and Cultural Rhythmics: An Anthropological Case Study. *Time & Society*, *25*(3), 613-633.

Karaman, Y. (2018). Benjamin, Foucault ve Heterotopya. *FLSF Felsefe ve Sosyal Bilimler Dergisi*, *13*(26), 267-286.

Kärrholm, M. (2009). To The Rhythm Of Shopping—On Synchronisation In Urban Landscapes Of Consumption. *Social & Cultural Geography*, *10*(4), 421-440.

Kelly, K. (2016). *The Inevitable. Understanding the 12 Technological Forces that will Shape our Future*. New York: Viking.

Lee, J. (2022). A Study on the Intention and Experience of Using the Metaverse. *Jahr: Europski časopis za bioetiku*, *13*(1), 177-192.

Lee, L. H., Braud, T., Zhou, P., Wang, L., Xu, D., Lin, Z., ... & Hui, P. (2021). All One Needs to Know About Metaverse: A Complete Survey on Technological Singularity, Virtual Ecosystem, and Research Agenda. *Journal of Latex Class Files*, *14*(8), 1-66.

Lefebvre, H. (1991). *The Production of Space,* translated by Donald Nicholson-Smith. Oxford: Blackwell.

Lefebvre H. (1992) *Éléments de rythmanalyse: Introduction à la connaissance des rythme*. Éditions Syllepse, Paris.

Lefebvre, H. (1996). *Writings on Cities*, edited by E. Koffman and E. Lebas. Oxford: Blackwell.

Lefebvre, H. (2004). *Rhythmanalysis: Space, Time and Everyday Life*, translated by S. Elden and G. Moore. London: Continuum.

Lefebvre, H. (2013). *Rhythmanalysis: Space, Time and Everyday Life*. Bloomsbury Publishing.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Sage Publications.

Massumi, B. (2002). *Parables for the Virtual*. Durham, NC: Duke University Press.

Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative Research: A Guide to Design and Implementation*. John Wiley & Sons.

Milgram, P., & Colquhoun, H. (1999). A Taxonomy of Real and Virtual World Display Integration. *Mixed reality: Merging real and virtual worlds*, *1*(1999), 1-26.

Moritzen, K. (2022). Opening Up Virtual Mosh Pits: Music Scenes and In-Game Concerts in Fortnite and Minecraft. *Journal of Sound and Music in Games*, *3*(2-3), 115-140.

Obert, J. C. (2008). Sound and Sentiment: A Rhythmanalysis of Television. *Continuum*, 22(3), 409-417.

Osman, R., Klusáček, P., Malý, J., & Alexandrescu, F. M. (2022). Rhythmanalysis and Reproduction of Space in a Brownfield Regeneration Process: the Case of Ústí nad Orlicí, Czech Republic. *Eurasian Geography and Economics*, https://doi.org/10.1080/15387216.2022.2057348

Patton, M. Q. (2014). *Qualitative Research & Evaluation Methods: Integrating Theory and Practice*. Thousand Oaks, CA: Sage publications.

Rickly, J. M. (2017). "They All Have a Different Vibe": A Rhythmanalysis of Climbing Mobilities and the Red River Gorge As Place. *Tourist Studies*, *17*(3), 223-244.

Rosenthal, B.,& Brito, E. P. Z. (2022). The Global Rhythms of Consumption Practices. *Marketing Theory*, *22*(39), https://doi.org/10.1177/14705931221081

Salinas, L. (2016). *The Production of Digital Public Spaces*. Lancaster University (United Kingdom).

Sivan, Y. (2008). The 3D3C Metaverse: A New Medium Is Born. *New Media and Innovative Technology*, 133, 159.

Stephenson, N., (1992). *Snow Crash*, New York: Bantam.

Tomlinson, J. (2007). *The Culture of Speed: The Coming of Immediacy*. Sage.

Ural, A. G., & Ozen, E. S. (2022). An Analysis of Heterotopic Space: Hasanpaşa Gazhane, Enlightening Once Again. *A|Z Itu Journal of the Faculty of Architecture*, *19*(2), 445-457.

Van der Merwe, D. (2021, October). The Metaverse as Virtual Heterotopia. *In 3rd world conference on research in social sciences*.

Vojcic, A. (2014). Henri Lefebvre and Elements of Rhythmanalysis. *Theoria*, 21, 71–103.