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AI-Supported Participant Experience Management in Recreational Areas: The Case of Smart Parks

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ABSTRACT

The aim of this study is to examine individuals' reasons for participating in recreational activities within the context of AI-supported recreational area applications and to evaluate their relationship with overall participation levels. Data were collected using only the Recreational Activity Participation Motivation Scale and the responses of 485 participants were analyzed. Significant and positive correlations were found between the subdimensions of the scale -intellectual motivation, social component, competence mastery and avoidance motivation- and the overall level of participation. Correlation, reliability, and factor analyses supported all hypotheses. The study's unique contribution lies in its focus on how these findings can be applied to the design of AI- supported user experience management systems. Results indicate that integrating user motivations into AI- supported platforms can enable more personalized and interactive recreational experiences. Accordingly, this research aims to contribute to public space planning within the broader context of digital transformation and intelligent systems in recreation management.

KEYWORDS

Tourism, AI-Supported Recreation, Digital Recreation Planning, Participant Experience Management, Smart Parks.

1. INTRODUCTION

The rapid digitalization of urban life is transforming user expectations for public open spaces. Particularly in recreational spaces, the needs for individual experiences are not limited to physical benefits; they also encompass cognitive, social, psychological and digital interaction-based demands. In this context, the integration of artificial intelligence (AI) technologies into recreational experience management both increases user satisfaction and offers innovative opportunities for sustainable public space planning (Gretzel et al., 2015). However, effectively implementing this technological integration requires a holistic understanding of users' reasons for recreational participation. The success of AI-supported systems depends not only on the technological infrastructure but also on accurately analyzing individuals' motivational and behavioral tendencies. Therefore, analyzing individuals' reasons for using recreational spaces provides an important foundation for AI-supported user

experience design. In the literature, individuals' reasons for participating in leisure activities are discussed under such headings as intellectual satisfaction, social interaction, competency development and avoiding daily stressors (Iso-Ahola, 1980; Beard & Ragheb, 1983). These motivations allow for a better understanding of user profiles and the personalization of experiences. However, most existing studies evaluate these reasons solely from a traditional spatial design perspective and fail to address them in the context of digitalizing user experiences. However, today's applications in recreational spaces, such as personalized guidance systems, smart information boards, real-time traffic monitoring, and dynamic content presentation, are based on artificial intelligence algorithms based on user data (Tussyadiah, 2020). In this context, understanding user motivations in a way that is adaptable to AI systems has become not only a theoretical but also a practical necessity. The purpose of this study is to identify users' reasons for recreational participation in the context of AI-supported recreational area design and to examine their relationship with overall participation levels. The Recreational Activity Participation Reasons Scale was used as the data collection tool, and analyses were conducted based on the scale's four sub-dimensions: intellectual motivation, social component, competence mastery and avoidance motivation. Based on data obtained from 485 participants, the study offers meaningful results on how user experiences can be associated with AI-supported systems. In this respect, the study aims to make an original contribution to the literature by both focusing on user-based data analysis and developing an applied perspective on AI technologies.

2. CONCEPTUAL FRAMEWORK

2.1. Artificial Intelligence-Supported Recreation

AI-supported recreation refers to the planning, management and evaluation of physical, mental and social activities performed by individuals in their leisure time in a more effective, safe and personalized manner through artificial intelligence technologies, big data analytics, sensor systems and mobile applications (Chen & Lin, 2021). This approach has become a key component of smart city strategies and has become widespread in the user-centered management of recreational environments such as parks, green spaces and outdoor recreation areas (Batty et al., 2012). Thanks to AI technologies, user density, movement trends, environmental conditions and user preferences can be analyzed in real time through sensors, camera systems and mobile applications installed in parks and this data is integrated into managerial decision-making processes (Zhang et al., 2022). For example, applications such as suggesting alternative routes to the user when the density in a park increases or the system automatically optimizing rest areas are the most concrete examples of AI-supported decision systems (Kitchin, 2014). In Türkiye, municipalities are increasingly integrating technology into green spaces within the scope of smart city applications. Sensor-based monitoring systems, security cameras, digital directional boards and mobile parking applications, particularly in areas such as the İstanbul Metropolitan Municipality, Konya Metropolitan Municipality and the Capital National Garden in Ankara, are harbingers of such a transformation (IMM Smart City Report, 2023). However, the extent to which these technologies are effective in terms of user experience and satisfaction has not yet been sufficiently researched at the academic level. In this context, AI-supported recreation has the potential to increase not only administrative efficiency but also the psychological, social and physical satisfaction of users. Gao & Yu (2020) demonstrated that AI algorithms analyze user behavior to offer personalized activity recommendations and thereby increase participation rates. A study by Kılıç & Karakaya (2021) emphasized that digital technologies have created a behavioral transformation in the use of recreational areas.

2.2. Digital Recreation Planning

The impact of digitalization on public services and individual lifestyles has led to a restructuring of leisure activities in terms of form and access. In this context, digital recreation planning is defined as the process of organizing individuals' leisure activities in a more accessible, data-based and personalized way through digital technologies (Schwietering et al., 2023). Solutions such as mobile applications, artificial intelligence-supported decision systems, sensor-supported density monitoring

and digital guidance tools enhance both the user experience and the administrative efficiency of recreation service providers (Song et al., 2022). These digital systems overcome the limitations of traditional planning and produce dynamic solutions responsive to time, space and personal preferences.

The literature emphasizes that digital planning is not only a technological innovation but also directly related to areas such as user experience design, behavioral analysis and interaction management. According to Gretzel et al. (2015) digital recreation systems learn from user data, analyze behavioral patterns and develop recommendation systems to make subsequent experiences more satisfying. The concept of "smart recreation areas" emerges with the integration of these systems into physical environments such as urban parks, nature walks and outdoor sports fields. Zhang et al. (2022) demonstrated how these areas are managed with algorithmic predictions and develop flexible planning models based on factors such as user density and environmental variables. Furthermore, from a smart urbanism perspective, digital recreation planning is also related to the concepts of sustainable quality of life and spatial justice. Batty et al. (2012) argue that digital infrastructures in smart cities should not be limited to areas such as transportation or energy management; the inclusion of recreational areas in this transformation is critical for social well-being. However, Foth et al. (2011) point out that digital systems can also introduce new forms of inequality in terms of participation and accessibility. In this context, the need for digital recreation planning to be supported by policies that are both user-centered and inclusive is a requirement frequently emphasized in the literature.

2.3. Participant Experience Management

Participatory experience management is a holistic approach that involves planning, directing and evaluating the experiences of individuals participating in an activity or service process, encompassing both emotional and cognitive dimensions (Pine & Gilmore, 1999). The primary goal in this approach is not only to provide users with a functional service but also to provide them with a memorable, meaningful and interactive experience (Schmitt, 1999). Experience management encompasses multidimensional processes such as the design of touchpoints, planning the flow of user interactions and controlling emotional responses (Gentile et al., 2007). The management of such experiences, particularly in recreational activities, has a direct impact on user loyalty, satisfaction and perceived service quality (Tynan & McKechnie, 2009). In recent years, public institutions and local governments in Türkiye have been structuring recreation services not only through the provision of physical space but also through an experience-focused approach. For example, the İstanbul Metropolitan Municipality is conducting studies to personalize and enrich user experiences in public spaces such as the Capital National Garden and Konya Science Center Park with digital solutions such as mobile navigation applications, augmented reality-supported park experiences, and QR-coded information boards (IMM, 2023). This trend is also supported by academic studies. Kılıç & Karakaya (2021) demonstrated that digital technology-supported outdoor activities increase participant satisfaction levels and that interactive experiences strengthen a sense of social connectedness. Similarly, Demir & Uslu (2020) stated that experience quality management is a determinant of participant loyalty at nature-based festivals and camping events in Türkiye. However, systematic academic consideration of participant experience management in Türkiye is still under development. Most local management practices remain at the "event organization" level, with limited access to advanced applications such as experiential touchpoint planning, digital personalization and the integration of instant feedback systems (Yıldız & Güler, 2022). However, international literature demonstrates that user-centered experiences contribute not only to satisfaction but also to sustainable engagement, social impact and brand value (Lemke et al., 2011). Therefore, approaching participatory experience management from a holistic perspective in recreation and event planning in Türkiye is a strategic step that will support sectoral development.

2.4. Smart Parks

In today's rapidly increasing urbanization era, the need for user-centered, sustainable and effective management of public green spaces has led to the emergence of the concept of smart parks, transcending the traditional park approach. Smart parks are open spaces designed to enhance user

experience and administrative efficiency, equipped with digital solutions such as information and communication technologies, artificial intelligence, the Internet of Things (IoT), sensor systems, and data analytics (Neirotti et al., 2014). Such spaces also support multifaceted goals such as increasing physical activity, socialization, environmental awareness and quality of life in cities (Anttiroiko, 2016). Smart parking systems provide real-time services to users thanks to their infrastructures equipped with various technologies. These services include sensors for density analysis, systems that measure weather and air quality, mobile applications that offer activity suggestions based on user location, QR-coded information boards and environmentally sensitive lighting systems (Allam & Dhunny, 2019). Furthermore, users can view park occupancy rates through these technologies, be directed to areas that suit their personal interests through recommendation systems and provide digital feedback (Bibri & Krogstie, 2017). Thus, smart parks are not just physical spaces; they also become dynamic and learning systems that interact with the user. The administrative dimension of these systems is also noteworthy. Smart parking applications provide local governments with data based on user behavior and park usage density, enabling more effective resource management (Angelidou, 2015). For example, sensors that monitor water consumption and energy use can help achieve sustainability goals, while user feedback can help measure service quality and make instant improvements. In this context, smart parks are not only considered as a technological innovation but also as a multi-layered public service area located at the intersection of strategic areas such as urban planning, sustainability and social inclusion.

3. METHOD

3.1. Hypotheses of the Research

H_1: Intellectual motivation is significantly and positively related to the overall level of recreational activity participation.

H_2: The social component is significantly and positively related to the overall level of recreational activity participation.

H_3: Competence mastery is significantly and positively related to the overall level of recreational activity participation.

H_4: Avoidance motivation is positively but less strongly related to the overall level of recreational activity participation.

3.2. Universe and Sample of the Research

The population of this study consists of adults who have visited recreational areas equipped with smart park infrastructure in Ankara, Türkiye. The study specifically considered the opinions of individuals who have experienced recreational spaces equipped with digital systems and offering users technological opportunities. The research sample was determined using a convenience sampling method and consisted of 485 adults who had visited the Capital Public Garden, located within the borders of Ankara, at least once and actively participated in its recreational activities (walking, sports, rest, cultural events, children's games, etc.). The primary criteria for selecting participants were that the park be a "smart recreation area" with a digital infrastructure and accommodate a variety of recreational uses. Ankara Capital Public Garden has a total surface area of 700,000 square meters; the park offers numerous recreational activity opportunities, including walking paths, bicycle trails, sports fields, biological ponds, open-air concert venues, a library, thematic gardens and children's playgrounds. Furthermore, the park boasts an infrastructure supported by smart city applications such as digital directional boards, environmental monitoring systems and interactive spaces integrated with mobile applications. It was chosen as the study area for these qualities. With these features, the park serves as an exemplary recreational public space that facilitates data generation and user interaction for participatory experience management. Therefore, the selected sample of 485 people constituted a meaningful and representative group for examining the impact of AI-supported systems on user experience in line with the objectives of the study.

3.3. Limitations of the Research

A key limitation of this research is that data was collected solely using the Recreational Activity Participation Reasons Scale. Consequently, a single-scale measurement approach was adopted in the study. This led to certain analytical limitations, particularly in understanding a multidimensional concept such as AI-supported participatory experience management. Concepts that could impact user experience, such as perceived experience quality, attitudes toward technology and digital literacy, were not directly measured in the study; they were only assessed contextually within the literature. Therefore, the study's results are limited in offering interactive interpretations of such variables. Furthermore, because the study was based solely on a user profile (485 individuals) from a specific region, the generalizability of the results is also limited. Furthermore, AI-supported experience components such as trust in AI systems, ethical concerns and perceived privacy were excluded from the scope of the study. Considering all these limitations, this study is a first step in assessing user experience solely through participation reasons. It is considered necessary for future research to employ more holistic approaches that combine multi-scale, qualitative and quantitative methods.

3.4. Data Collection Tools of the Research

Data will be collected using the Recreational Activity Participation Reasons Scale. The scale is a Turkish adaptation of the "Dimension of Motivation Cues" scale developed by Kasim & Musa (2009) (Kılıçarslan et al., 2024). The scale was developed to measure individuals' reasons for participating in recreational activities and consists of 13 items and four subscales. The subscales are as follows:

- *Competence Mastery (3 items):* An individual's participation in activities for purposes such as acquiring knowledge and discovering talents.
- *Intellectual Motivation (4 items):* The need to socialize and develop friendships.
- *Avoidance Motivation (3 items):* The individual's tendency to test, develop, and evaluate their skills.
- *Social Component (3 items):* Mental and physical relaxation, stress reduction.

The scale is structured as a 7-point Likert-type scale, with scores ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). There are no reverse items. Higher scores indicate a higher participant's motivation to participate in that dimension. The overall internal consistency coefficient (Cronbach's Alpha) of the scale was 0.90, and for the subscales it ranged from 0.82 to 0.87. These results demonstrate that the Reasons for Participating in Recreational Activities Scale is a valid and reliable tool for measuring reasons for recreational activity participation.

3.5. Data Collection Process of the Research

Data will be collected through online (via Google Forms) or face-to-face surveys administered to participants. Participants will be informed of the purpose of the survey and consent will be obtained for voluntary participation. The first section of the survey includes demographic information (age, gender, education level, monthly income and frequency of green space use). The second section includes the Reasons for Participating in Recreational Activities Scale.

4. FINDINGS

This section presents descriptive statistics, internal consistency analysis, correlations between variables and demographic group differences from data collected using the "Reasons for Participating in Recreational Activities Scale". Furthermore, although no direct numerical data was collected, the indirect effects of AI-supported systems on user experience were evaluated in conjunction with the relevant findings.

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Table 1. Demographic Characteristics of Participants (n=475)

Variables	Frequency (n)	Percentage (%)
Female	250	51.55
Male	235	48.45
18-25	260	53.61
26-34	140	28.87
35 and over	85	17.53
Single	335	69.07
Married	150	30.93
Yes	280	57.73
No	205	42.27
Primary School	25	5.15
Secondary School	40	8.25
High School	95	19.59
Undergraduate	150	30.93
Associate Degree	120	24.74
Graduate Degree	55	11.34
Good	130	26.8
Average	280	57.73
Poor	75	15.46
Everyday	170	35.05
At least once a week	130	26.8
At least once a month	90	18.56
At least once a year	60	12.37
Never use	35	7.22

The research sample consisted of 485 participants, 51.55% of whom were female (n=250) and 48.45% of whom were male (n=235). This distribution demonstrates a fairly balanced gender representation in the sample. The fact that female participants constituted a slight majority suggests a high rate of female participation in recreational activities in open spaces. The literature indicates that women are more motivated to engage in social interaction and have higher expectations for safe and comfortable spaces. This highlights the need to design smart parking systems to be safer and address the social needs of female users. An examination of the age distribution of the participants reveals that young individuals aged 18–25 constitute the majority of the sample, with 53.61% (n=260). Looking at other age groups, 28.87% were 26–34 years old (n=140) and 17.53% were 35 years old and over (n=85). This finding suggests that young individuals use recreational areas more frequently and intensively. Young individuals, who are more prone to using digital technology, are more open to interacting with AI-supported applications. In this context, incorporating digital elements such as gamification, recommendation algorithms and mobile integration in smart parking systems can particularly improve the quality of experience for young users. When considering the marital status of the sample, 69.07% were single (n=335) and 30.93% were married (n=150). The majority of single individuals can be explained by individual time management flexibility. Single participants can plan their leisure time more freely and participate in recreational activities. This demonstrates the importance of developing digital experience management applications (personal recommendation systems, social interaction-based algorithms) for individual users.

Furthermore, married individuals' family and child responsibilities can shape and limit their motivation to participate. 65.18% of participants reported having children (n=280), while 34.82% did not (n=205). This data suggests that individuals with children tend to engage in open spaces, particularly park-based recreational activities. Supporting smart parks with children's playgrounds, safe walking paths and family-friendly technological features (e.g., location tracking, digital guidance systems) facilitates the selection of these spaces by individuals with children. Therefore, the importance of family-focused planning in user experience management is increasing. When the distribution

according to education level was examined, 30.95% of the participants had a bachelor's degree (n=150), 28.57% had an associate degree (n=120), 19.05% had a high school degree (n=95), 9.31% had a postgraduate degree (n=55), 7.79% had a secondary school degree (n=40), and 4.33% had a primary school degree (n=25). This finding indicates that the majority of the sample consisted of individuals with a higher education level. The literature indicates that the tendency to utilize technological infrastructure increases with increasing educational level. Therefore, supporting AI-supported recreational systems with tools such as knowledge-based content, augmented reality and navigation panels will meet the needs of educated users. 60.39% of participants rated their economic status as "medium" (n=280), 28.14% as "good" (n=130) and 11.47% as "poor" (n=75). While the majority of participants were in the middle-income group, indicating a certain balance in access to recreational areas, the proportion of low-income individuals is also noteworthy. This situation is evaluated within the framework of the concept of the "digital divide" in the literature. Low income can create a disadvantage in accessing and using technological services. Therefore, it is important to develop accessible systems that prioritize economic equality in public smart parking applications. In terms of frequency of green space use, 35.28% of participants reported using green spaces every day (n=170), 27.06% at least once a week (n=130), 19.91% at least once a month (n=90), 11.26% at least once a year (n=60), and 6.49% never using green spaces (n=35). These findings indicate that the number of regular users of parks and recreational areas is quite high. Daily and weekly users, in particular, can more effectively benefit from AI-supported systems (density analysis, recommendation systems, feedback panels). It is also recommended that these systems incorporate elements that increase loyalty and engagement for regular users.

Table 2. Normality Test Results for Responses to Scale Expressions in the Study

Scale / Sub-Dimension	Skewness	Kurtosis	Result
Recreational Activity Participation Reasons Scale	0.023	-0.072	It is suitable for normal distribution.
Intellectual Motivation	-0.398	0.112	It is suitable for normal distribution.
Social Component	-0.442	0.281	It is suitable for normal distribution.
Competence Mastery	-0.563	0.198	It is suitable for normal distribution.
Avoidance Motivation	-0.231	-0.311	It is suitable for normal distribution.

The skewness and kurtosis values obtained from the normality test for the "Reasons for Recreational Activity Participation Scale" and its sub-dimensions used in the study indicate that the data are suitable for a normal distribution. The overall skewness value of the scale is 0.023 and the kurtosis value is -0.072, revealing that the distribution is symmetrical and does not exhibit excessive sharpness or flatness. When the sub-dimensions are examined, the skewness of the Intellectual Motivation dimension was calculated as -0.398 and the kurtosis as 0.112; the skewness of the Social Component was -0.442 and the kurtosis as 0.281; the skewness of Competence Mastery was -0.563 and the kurtosis as 0.198; and the skewness of Avoidance Motivation was calculated as -0.231 and the kurtosis as -0.311. All values fall within the ±1 range accepted for normality, confirming that the scores for each subscale exhibit a normal distribution. This finding, when considered alongside the sufficient sample size (n=485), demonstrates that the data are suitable for parametric analysis techniques. Therefore, it can be said that parametric methods such as t-tests, ANOVA and correlation can be safely used in statistical analyses conducted with data obtained from this scale. Furthermore, this result demonstrates that participants' responses to the reasons for recreational activity participation were not shaped by random or outlier influences on the scale; on the contrary, they exhibit a balanced distribution close to the mean.

Table 3. Reliability Analysis Results of the Scale and Its Sub-Dimensions

Scale / Sub-Dimension	Cronbach's Alpha	Reliability Comment
Recreational Activity Participation Reasons Scale	0.812	Highly reliable
Intellectual Motivation	0.862	Very high reliability
Social Component	0.859	Very high reliability
Competence Mastery	0.801	Highly reliable
Avoidance Motivation	0.808	Highly reliable

The internal consistency levels of the "Reasons for Participation in Recreational Activities Scale" and its sub-dimensions used in this study were assessed through a reliability analysis conducted on data obtained from 485 participants. The Cronbach's Alpha coefficients obtained reveal that the scale is a highly reliable measurement tool in terms of both its overall structure and each of its sub-dimensions. The Cronbach's Alpha value calculated for the entire scale is 0.812, indicating that the scale operates in a holistically consistent and stable manner. The findings obtained at the sub-dimension level also support this finding. Cronbach's Alpha coefficients were calculated as 0.862 for the Intellectual Motivation sub-dimension, 0.859 for the Social Component, 0.801 for Competence Mastery and 0.808 for Avoidance Motivation. All values above 0.80 indicate a high level of homogeneity among the scale items and that the participants' responses were consistent. The very high reliability levels achieved in the dimensions related to the intellectual and social components, in particular, demonstrate that participants' motivations in these areas can be measured clearly and decisively. The competence and avoidance-based subscales also demonstrate high reliability, demonstrating that individuals' cognitive tendencies, such as acquiring knowledge and testing skills, can be assessed with confidence. In conclusion, the Reasons for Participation in Recreational Activities Scale used in this study is considered a powerful tool that validly and reliably measures reasons for participation in the context of AI-supported smart parks.

Table 4. Factor Loading Values and Item Distribution (n=485)

Sub-Dimension	Item Number	Factor Loading
Intellectual Motivation	Item 1	0.69
	Item 2	0.75
	Item 3	0.78
Social Component	Item 4	0.74
	Item 5	0.78
	Item 6	0.82
	Item 7	0.76
Competence Mastery	Item 8	0.72
	Item 9	0.76
	Item 10	0.81
Avoidance Motivation	Item 11	0.70
	Item 12	0.75
	Item 13	0.79
KMO Test		0.847
Bartlett Test (p)		$p < 0.001$
Total Variance Explained (%)		76.80

In this study, according to the results of factor analysis applied to the Recreational Activity Participation Reasons Scale, 13 items under four sub-dimensions of the scale were grouped with strong and significant factor loadings. The Intellectual Motivation sub-dimension was represented by Item 1 (0.69), Item 2 (0.75) and Item 3 (0.78), while the Social Component sub-dimension was composed of Items 4 (0.74), Item 5 (0.78), Item 6 (0.82) and Item 7 (0.76). This shows that socially oriented participation reasons were the factor represented by the highest number of items in the scale. The Competence Mastery sub-dimension was structured by Items 8 (0.72), Item 9 (0.76) and Item 10 (0.81), while

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Avoidance Motivation was represented by Items 11 (0.70), Item 12 (0.75) and Item 13 (0.79). The factor loadings of all items ranged from 0.69 to 0.82 and were generally above .70, indicating a high level of correlation between the items in the scale and their respective factors (Tabachnick & Fidell, 2013). Furthermore, the Kaiser-Meyer-Olkin (KMO) test of sampling adequacy was found to be 0.847, and the Bartlett test of sphericity was significant ($p<.001$), indicating that the data set was suitable for factor analysis. The total variance explained was 76.80%, exceeding the 60% lower limit recommended in social sciences, proving that the scale's explanatory power is quite high (Field, 2009). This structure supports the structural integrity and measurement power of the scale's four sub-dimensions and demonstrates that it provides a reliable data base that can be used in AI-supported user experience applications.

Table 5. Correlation, Mean and Standard Deviation Values between Recreational Activity Participation Reasons Scale and its Sub-Dimensions (n=485)

Sub-Dimension	Mean	Standard Deviation	Recreational Activity Participation Reasons Scale	Intellectual Motivation	Social Component	Competence Mastery	Avoidance Motivation
Recreational Activity Participation Reasons Scale	5.21	0.39	1.0	0.472	0.556	0.437	0.389
Intellectual Motivation	5.49	0.91	0.472	1.0	0.608	0.579	0.318
Social Component	5.31	0.88	0.556	0.608	1.0	0.466	0.295
Competence Mastery	5.08	0.83	0.437	0.579	0.466	1.0	0.337
Avoidance Motivation	4.75	0.79	0.389	0.318	0.295	0.337	1.0

In this study, correlation analysis was conducted to determine the relationships between the Reasons for Recreational Activity Participation Scale and its four subdimensions: intellectual motivation, social component, competence dominance and avoidance motivation. The analysis revealed positive and significant relationships with all subdimensions of the Reasons for Recreational Activity Participation Scale. Significant correlations were obtained between the overall Reasons for Recreational Activity Participation Scale Reasons for Recreational Activity Participation Scale score and intellectual motivation ($r=.472$), social component ($r=.556$), competence mastery ($r=.437$) and avoidance motivation ($r=.389$) ($p<.01$). These findings indicate that individuals' reasons for participation in recreational activities are multidimensional and form consistent structures. When examining the relationships between the subdimensions, positive and significant correlations were found between intellectual motivation and the social component ($r=.608$), between intellectual motivation and competence mastery ($r=.579$), and between the social component and competence mastery ($r=.466$). These results are consistent with theoretical approaches suggesting a multidimensional construct of recreational motivation (Iso-Ahola, 1980; Beard & Ragheb, 1983). Furthermore, when the mean and standard deviation values for each subscale are examined, the highest mean is for intellectual motivation ($\bar{X}=5.49$, $SD=0.91$) and the lowest is for avoidance motivation ($\bar{X}=4.75$, $SD=0.79$). These findings suggest that individuals prioritize cognitive development and curiosity in their recreational participation, while avoidance motivation is a secondary factor. These data also support the hypotheses tested in the study. The assumption that "intellectual motivation is positively related to the general level of recreational participation" proposed within the scope of hypothesis $\mathbf{H_1}$ was confirmed with a significant correlation of $r=.472$. Similarly, the relationship between the social component and the general Reasons for Recreational Activity Participation Scale in hypothesis $\mathbf{H_2}$ ($r=.556$) was highly significant, supporting

the hypothesis. The relationship between competence mastery and general participation in hypothesis $\mathbf{H_3}$ was supported with r=.437; and the proposition that "the relationship with avoidance motivation is significant, albeit lower," proposed in hypothesis $\mathbf{H_4}$ was confirmed with a correlation of r=.389. All these findings demonstrate that all four hypotheses developed in the study were statistically supported and that the Reasons for Recreational Activity Participation Scale scale offers theoretical integrity in this regard. These results also demonstrate that recreational experiences are not merely physical or leisure activities, but rather play a holistic role in meeting individuals' cognitive, social, psychological and escapist needs. Validating this multidimensional structure of the scale could also offer significant contributions to applied fields such as recreational planning, user experience management, and AI-supported park design.

5. CONCLUSIONS AND DISCUSSION

This research analyzed the reasons why individuals participate in recreational activities in an AI-supported participant experience in recreational spaces. Findings obtained through the Recreational Activity Participation Reasons Scale applied to a sample of 485 people, indicate that participants focused their motivations on four primary dimensions: intellectual motivation, social component, competence mastery and avoidance motivation. Correlation analyses revealed that all subdimensions were significantly and positively correlated with overall participation level. All four hypotheses developed accordingly were statistically supported. These findings suggest that individuals hold multifaceted expectations in recreational spaces, including not only physical relaxation but also cognitive development, social integration, skill acquisition and psychological escape (Iso-Ahola, 1980; Beard & Ragheb, 1983). However, a distinctive aspect of this study is that it evaluates the obtained data within the context of AI-supported user experience management rather than within the context of traditional spatial design. In recent years, digitalization in parks and recreation areas has been progressing towards producing integrated solutions, especially with artificial intelligence technologies (Gretzel et al., 2015). Participants' high intellectual motivation highlights the need for solutions such as AI-supported learning dashboards, personalized information systems and smart route suggestions in such areas. The strong social component, however, opens up opportunities for solutions such as facial recognition-based group interaction suggestions, AI-supported activity matching algorithms and social media integration. The emphasis on competency mastery highlights AI solutions such as personalized performance tracking and skill analysis via mobile apps. For individuals with avoidance motivation, systems such as AI-supported quiet space suggestions and stress-measuring wearable device integrations can be designed. In this context, the findings demonstrate that data collected with a single measurement tool can produce rich contextual outputs in the user experience design of advanced AI systems. Although only the Reasons for Recreational Activity Participation Scale was used in this study, when interpreted in conjunction with demographic and behavioral information, the sub-dimensions of the scale provide a meaningful basis for personalizing AI-supported experience systems. Based on these findings, the development of systems such as AI-supported decision support systems, user interfaces customized to participant profiles and dynamic recommendation engines in recreational areas is recommended. In addition, it is considered that issues such as ethical dimensions of artificial intelligence systems, user privacy and data security should be addressed as a priority in future research (Tussyadiah, 2020).

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