Geografia-Malaysian Journal of Society and Space 21 issue 1 (33-47)
 https://doi.org/10.17576/geo-2025-2101-03

Shifting paradigms: Community engagement and utilization of recreational areas during and after COVID-19

Maryanti Mohd Raid[1], Nur Khairiyah Mohammad[1], Norshafadila Ngadiman[1], Zafirah Ab Muin[1], Aminah Mohsin[1], Amirul Haffiz Ariff[2]

[1]Faculty of Built Environment and Surveying, Universiti Teknologi Malaysia
[2]Johor State Economic Planning Division, Johor State Secretary Office (Development)

Correspondence: Nur Khairiyah Mohammad (email: mhnurkhairiyah@gmail.com)

Received: 26 August 2024; Accepted: 8 February 2025; Published: 14 February 2025

Abstract

The COVID-19 pandemic has shifted societal recreational practices due to the enforcing new norms, including movement controls, social distancing, and mask-wearing. This study aimed to examine how these new norms affected community recreational activities, both indoors and outdoors, in the endemic era. Therefore, the objectives of this study were twofold; i) to investigate the recreational activities conducted by the community during the pandemic; and ii) to evaluate the trends and community tendencies utilization of recreational spaces both indoors and outdoors during the endemic era. Employing a quantitative research design, a survey was randomly distributed to a sample of 200 respondents consisting of students and staff from Universiti Teknologi Malaysia (UTM). The collected data were analyzed using statistical methods and cross-tabulations through the Statistical Package for the Social Sciences (SPSS) to understand the recreational activities during the pandemic and the community preferences for using recreational areas indoors and outdoors. The findings provide insights into how societal recreational patterns have changed due to nearly two years of implementing new norms. Additionally, the study underscores the importance of recreational areas as a part of open spaces, particularly during the endemic era since they compete with indoor recreational facilities for community engagement.

Keywords: Communities, COVID-19, new norms**,** recreational areas

Introduction

The advent of the COVID-19 virus, first detected in Wuhan in December 2019, rapidly spread worldwide and has profoundly impacted society. To mitigate the spread of the virus, most countries implemented measures including lockdowns, stay-at-home directives, mandatory quarantine, compliance with physical distancing guidelines, restrictions on large public gatherings, and strict operational regulations across various sectors such as restaurants, educational institutions, businesses, and construction (Humagain & Singleton, 2021).

Similarly, the Malaysian government enforced a comprehensive Movement Control Order (MCO) in conjunction with broad social distancing measures to disrupt the spread of COVID-19. During this period, various activities, including education, social interactions, economic activities, and religious rituals, were carried out through Internet platforms, which became a new standard

accepted by the worldwide society. The spread of the COVID-19 virus through respiratory droplets during social contact (Rothe et al., 2020; Wilder-Smith & Freedman, 2019) required governments to implement strict restrictions like lockdowns and movement limitations. Consequently, all outdoor recreational activities beyond residential zones were limited, resulting in a substantial decrease in visits to recreational places.

Theories such as the Health Belief Model (HBM) and the Theory of Planned Behaviour (TPB) emphasize the role of perceived risks and social norms in shaping recreational behaviour during crises (Zar'in & Arovah, 2022; Nambulee et al., 2023). In response to these threats, the World Health Organization (WHO) recommended preventive health behaviours, including mask-wearing, social distancing, self-isolation, and avoiding crowded places. While these measures were necessary, they inadvertently heightened psychological fear and anxiety, discouraging social interactions and participation in recreational activities (Güzel et al., 2020).

Recreational areas play a vital role as spaces for education, research, and family recreational activities (Shariff et al., 2020). In Malaysia, various types of recreational areas attract both local and international visitors due to Malaysia's unique tropical climate and natural attractions (Abdullah & Hamdan, 2022; Zainal, 2017). Tourism Malaysia (2021) reported a drastic decline in tourist arrivals due to COVID-19, dropping from 26.1 million in 2019 to 134,728 in 2021. However, Malaysia has received approximately one million tourists from overseas since the reopening of Malaysian borders on April 1, 2022 (Iskandar, 2022).

Moreover, as stated by Mohd Zainal Abidin et al. (2021), implementing the Movement Controls Order in Malaysia has resulted in heightened job-related stress among workers. This can be attributed to alterations in societal norms, such as changes in work or study schedules (Hamouche, 2023; da Silva et al., 2020). Thus, one of the measures implemented is to participate in indoor recreational activities within quarantine or local areas while avoiding any activities that need physical contact (Ayamany, 2021; Martinsen, 2018). Participating in leisure activities can enhance the physical, social, economic, and psychological well-being of individuals in contemporary society (Brajša-Žganec, 2011; Pressman, 2009). Furthermore, engaging in active leisure activities will benefit physical well-being, foster a health-conscious way of life, and contribute to developing a more forward-thinking, inventive, and logical society (Kong et al., 2024).

After two years of restricted mobility and online engagement, leisure behaviours significantly shifted. Nature-based recreational activities gained popularity as alternatives to indoor spaces during lockdowns (Waite et al., 2021). While research highlights the importance of these spaces for mental and physical health, there is a crucial gap especially in studies that exploring post-pandemic norms shape recreational choices, particularly in Malaysia.

Therefore, this study aims to examine the recreational activities engaged by the community during the COVID-19 pandemic and the community's preferences for utilizing indoor and outdoor recreational areas after COVID-19. The study's findings emphasize the significance of open spaces, particularly during the endemic age, because their function may rival that of more favourable indoor recreational facilities.

Literature review

Recreation refers to participating in enjoyable activities or amusement during one's free time, separate from work or professional obligations (Mohd Raid et al., 2023). Recreational areas are public spaces that allow the public to participate in sports and games. These locations are often outfitted with amenities like playgrounds for children. According to subsection 2(1) of the Town and Country Planning Act 1976 (Act 172), recreational areas are legally defined through the terminology of open spaces that describes any land whether enclosed or unarranged or reserved for arrangement in whole or in part as a public designated for use by the general public, such as parks, playgrounds, sports fields, and public recreation areas.

Zaid et al. (2021) state that recreational areas have therapeutic benefits as they offer a sense of calmness and enable visitors to admire the natural aesthetics of their environment. In a similar vein, Zysk and Zalewska (2024), Cay (2015), Choy and Prineas (2006), and Walker & Duffield (1983) highlight that recreational areas are created to meet the requirements for public spaces. They offer advantages to users and provide natural environments that address their physical and psychological needs. Furthermore, recreational areas fulfil educational, scientific, and public awareness objectives, rendering them optimal environments for leisure and relaxation with family, as indicated by Shariff et al. (2020). Thus, recreational areas play a crucial role in maintaining a harmonious equilibrium across several dimensions of life. Hence, the establishment and upkeep of leisure parks are vital in fulfilling societies' recreational needs and improving their general welfare. In addition, recreational areas are categorized into six types: city parks, small parks, block playgrounds, small town parks, pedestrian parks, and theme parks (Abdullah & Hamdan, 2022; Abbas, 2001).

Recreational areas play a crucial role in enhancing urban life by supporting psychological, social, economic, and ecological functions (Konijnendik et al., 2013; Maller et al., 2009; Abbas, 2001). They provide spaces for relaxation, foster social connections strained by urbanization, and boost tourism and the economy. Additionally, these areas help balance urban development with environmental preservation by mitigating pollution and conserving green spaces. Thus, parks for recreation might serve as a counterbalance to the fast-paced metropolitan environment. In addition, people require natural vegetation-filled areas that offer solace from the busy and stressful metropolitan surroundings.

However, The COVID-19 pandemic disrupted recreational activities due to lockdowns and social distancing, halting visits to outdoor spaces and driving communities toward indoor alternatives (Espiner et al., 2023). The Health Belief Model (HBM) suggests this shift was influenced by perceived health risks and preventive behaviours (Zar'in & Arovah, 2022). Post-pandemic, preferences shifted back to outdoor spaces as people sought safer environments, including nature-based activities such as camping (Mohd Raid et al., 2023). These can be proven by the increase and emergence of camping in waterfalls, hot springs, beaches, and hilly areas (Putkaradze et al., 2022). According to the Theory of Planned Behaviour (TPB), attitudes and societal expectations significantly shaped these recreational choices (Azhar et al., 2023).

In conclusion, the literature reviewed emphasizes the role of various aspects of recreational areas in the urban environment, highlighting their psychological, social, economic, and ecological benefits. However, the COVID-19 pandemic has significantly disrupted this function by restricting access to recreational areas, resulting in a shift towards indoor activities. In response to the pandemic, the preference for outdoor spaces has surged, as individuals increasingly seek out nature-based environments to reduce stress and strain caused by the crisis. The pandemic has not

only reshaped recreational practices but also changed the way people engage with different types of recreational areas, prompting a reassessment of the role of these spaces in urban life after the pandemic.

Method and study area

This study utilized a quantitative research design to explore the shifting paradigm of community engagement and utilization of recreational areas in the post-pandemic era. The primary data collection method was a structured questionnaire, which provided a systematic and objective means of gathering data from a large sample. The questionnaire was designed to quantify community preferences and experiences of recreational areas regarding the new norms after the COVID-19 pandemic. The survey instrument was meticulously developed to ensure comprehensive coverage of the research objectives. It consisted of three main sections: Section A, Section B, and Section C. Section A addressed inquiries about personal demographics, encompassing respondent's category, gender, age, race, marital status, academic attainment, and monthly income. Sections B and C pertained to the tendencies to participate in recreational activities during and after the COVID-19 pandemic.

The study utilized a random sampling technique to ensure a representative sample of the Universiti Teknologi Malaysia Skudai communities, a vibrant academic community that offers a unique demographic mix, including undergraduate and postgraduate students and staff. The choice of UTM Skudai as the study site is motivated by its diverse population and central role within the educational and social landscape, providing a valuable context for understanding post-pandemic recreational behaviour in a university setting. A total of 200 respondents were selected to participate in the survey. Data collection was conducted through online and face-to-face surveys to maximize response rates and ensure the inclusion of diverse perspectives. The online survey was administered using Google Forms, allowing efficient data collection and management. Respondents were provided with a link to the Google Form via email and social media platforms. Additionally, face-to-face surveys were conducted to capture data from individuals who might not have access to the Internet or prefer in-person interactions.

Despite careful survey design and implementation, certain limitations in the data are acknowledged. According to Groves et al. (2011), survey data can be subject to bias resulting from the non-response or underrepresentation of certain demographic groups, such as older adults or international students, which can impact the generalizability of findings. In this study, efforts were made to reduce this bias by using both online and face-to-face survey methods. However, older adults were excluded as the university community primarily comprises individuals aged 20 to 60. Additionally, international students were excluded due to difficulties in obtaining feedback, as many returned to their home countries during the COVID-19 pandemic, leading to cultural and contextual differences. However, the potential for under-representation in these groups remains a consideration when interpreting the results. Hence, the collected data was analyzed using statistical methods and cross-tabulation in the Statistical Package for the Social Sciences (SPSS) to identify the recreational activities pursued by the community during the pandemic and their inclination towards utilizing indoor or outdoor recreational areas.

Results and discussion

Section A: Respondents background

a. Descriptive analysis of respondent demographics

This article highlights the demographic analysis of survey respondents. The respondents' backgrounds encompass their categories, age, gender, race, marital status, and education level. Table 1 indicates that the majority of the respondents were undergraduate students representing 66.5 percent. The subsequent group consisted of postgraduate students, comprising 15.5 percent, followed by private sector employees at 10.5 percent, public sector employees at 6.5 percent, and finally into others category at 1 percent. Moreover, a significant percentage of the participants consisted of females, totalling 69 percent of the respondents, while the remaining participants were males, comprising 31 percent. The Malay ethnic group had the highest number of participants in this survey, accounting for 71 percent, followed by Chinese (21 percent), Indian (4.5 percent) and other ethnicities (3.5 percent).

Table 1. Frequency distribution and percentage of respondents' demographics

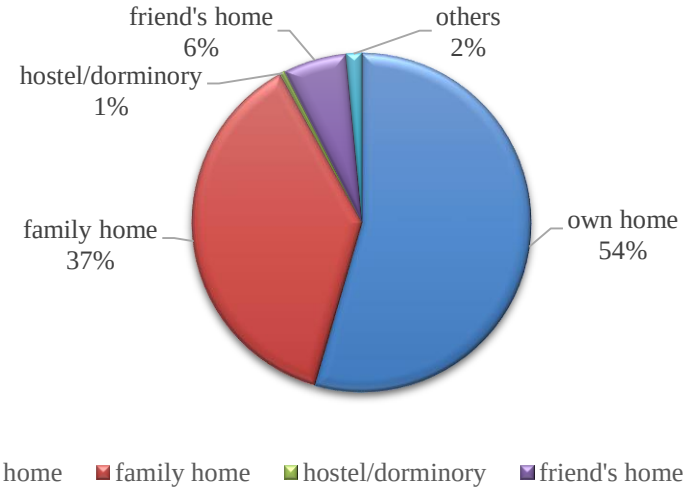
Categories	Item	Percentage (%)
Category of respondents	Government Sector	6.5
	Private Sector	10.5
	Undergraduates	66.5
	Postgraduates	15.5
	Others	1.0
Age	≤ 20 Years Old	5.0
	21 - 30 Years Old	86.0
	31 - 40 Years Old	7.0
	41 – 50 Years Old	0.5
	51 – 60 Years Old	1.5
Gender	Male	31.0
	Female	69.0
Ethnicity	Malay	71.0
	Chinese	21.0
	Indian	4.5
Marital status	Single	92.0
	Married	8.0
Educational levels	Malaysian Certificate of Education (MCE)	2.5
	Matriculation	55.0
	Malaysian Higher School Certificate/ Diploma	20.5
	Degree	10.5
	Master	7.5
	Doctorate	4.0

Source: Author's work, 2024

Furthermore, the majority of the respondents age (86 percent) were ages 21 to 30, whilst 7 percent were between the ages of 31 and 40. In addition, 5 percent of the population was below the age of 20, 1.5 percent was between the ages of 51 and 60, and 0.5 percent were in the ages of 41 to 50. The study's results are consistent with the statistics on marital status, indicating that 92 percent of participants were unmarried, and 8 percent were married. Regarding education, the majority (55 percent) possessed a Matriculation qualification. The participants had diverse educational qualifications, with 20.5 percent holding Malaysian Higher School Certificate or Diploma, 10.5 percent holding bachelor's degrees, 7.5 percent holding master's degrees, 4 percent holding doctorate degrees, and 2.5 percent holding the Malaysian Certificate of Education (MCE).

b. Descriptive analysis of self-isolation locations during Movement Control Order

Another survey was conducted to determine the locations where respondents carried out their self-isolation during the Movement Control Order in the past two years. The results are depicted in Figure 1.



Source: Author’s work, 2024

Figure 1. Breakdown of self-isolation places during the MCO period

Figure 1 shows that 54 percent of respondents were isolated at their homes during MCO. While 37.5 percent stayed in their family residences, while 6 percent chose to reside with acquaintances, 2 percent stay in hostels or employer provided housing, and 0.5 percent elsewhere. The gradual government response led to online learning, particularly impacting UTM students by encouraging innovation in digital education approaches.

Section B: Activities spent during the COVID-19 pandemic

a. Analysis of the relationship between frequency, time spent, and intensity of engaging in recreational activities during Movement Control Order

© 2025, e-ISSN 2682-7727 https://doi.org/10.17576/geo-2025-2101-03

This section presents a cross-tabulation analysis of recreational activity trends during the COVID-19 pandemic (Table 2). Most of the respondents engaged in low-intensity activities, with 83.3 percent spending 10-30 minutes per week. Approximately 12.5 percent spent between 31 to 60 minutes, while only 4.2 percent of them spent more than 2 hours. Time restrictions likely shifted leisure toward digital activities. Recreational participation occurred 2 to 3 times weekly, with 26.5% at low and 22% at moderate intensity. These findings align with WHO guidelines, emphasizing 150 minutes of moderate or 75 minutes of intense weekly activity. Maintaining home-based recreation was vital for mood enhancement and mental well-being during MCO restrictions.

Table 2. Cross-tabulation analysis to identify relationships between intensity, frequency, and time spent on recreational activities during Movement Control Orders

Intensity	Activity frequency	Percentage of time spent					Total
		10-30 minutes	31 - 60 minutes	61 - 90 minutes	91 - 120 minutes	> 120 minutes	
Low	Once a week	83.3%	12.5%	-	-	4.2%	12.0%
	2-3 times per week	43.4%	43.3%	7.5%	-	5.7%	26.5%
	4-5 times per week	43.8%	43.8%	12.5%	-	-	8.0%
	> 5 times a week	19.0%	42.9%	14.3%	4.8%	19.0%	10.5%
Moderate	Once a week	52.6%	47.4%	-	-	-	9.5%
	2-3 times per week	36.4%	52.3%	4.5%	4.5%	2.3%	22.0%
	4-5 times per week	33.3%	66.7%	-	-	-	1.5%
	> 5 times a week	-	100%	-	-	-	1.0%
High	Once a week	100%	-	-	-	-	1.0%
	2-3 times per week	28.6%	57.1%	14.3%	-	-	7.0%
	4-5 times per week	-	-	-	-	-	0.0%
	> 5 times a week	-	-	100%	-	-	1.0%
	Grand total						**100%**

Source: Author's work, 2024

Table 3 shows the results of the chi-square goodness-of-fit test that there is a significant relationship between the intensity, frequency, and duration of recreational activities during the MCO. The p-value is close to zero (0.000), which is a significant value and less than the α value = 0.05, indicating a significant test result for the correlation of each item. This statistically significant relationship suggests that respondents' preference for outdoor spaces post-pandemic may reflect their perception of these environments as safer for physical activities.

Table 3. Chi-square goodness of fit test for cross-tabulation analysis to identify the correlation between intensity, frequency, and duration during the Movement Control Order

x^2	36.342
df	12
α	0.05
p-value	0.000

b. Descriptive analysis of trends in recreational activities during the COVID-19 pandemic

The COVID pandemic significantly impacted physical and emotional well-being. Table 4 highlights key findings on recreational activity tendencies during this period (Table 4). The average minimum score across all 10 variables related to recreational activities during the pandemic was 3.69. Variable A4 obtained the highest mean score of 4.48, with 56 percent strongly agreeing on the necessity of engaging in recreational activities for their physical and mental health. Following closely, Variable A1 scored 4.39, with 51 percent strongly agreeing that recreational activities made them healthy and fit.

Variable A2 scored the third highest mean score at 4.31 while Variable A3 followed with a score of 3.94. A significant portion of respondents 44.5 percent strongly agreed with Variable A2 ("I am interested in and enjoy the recreational activities I engage in"), and 35 percent agreed or strongly agreed with Variable A3 ("I engage in recreational activities to fulfil skill and expertise tasks"). On the other hand, Variable A5 received the lowest minimum score of 2.68, with 29 percent disagreeing that they engaged in recreational activities because family members instructed them to.

In summary, the descriptive analysis indicated that the majority of variables related to tendencies in recreational activities during the COVID-19 pandemic scored above 3.00 on a 5.00 Likert scale. Variable A4 received the highest score, reflecting strong encouragement for respondents to engage in recreational activities during the MCO period. Most respondents opted to engage in these activities at home or indoors, demonstrating individual initiatives to maintain both physical and mental health while optimizing available space.

Table 4. Descriptive statistics of frequency, percentage, mean value, and standard deviation for recreational activity trends during the COVID-19 pandemic

Item		Frequency					Mean	Standard deviation
		SD	D	MA	A	SA		
A1	Recreational activities make me healthy and energetic	0.5%	1.5%	8%	39%	51%	4.39	0.741
A2	I am interested in and enjoy the recreational activities I engage in	0.5%	0.5%	11%	43.5%	44.5%	4.31	0.726
A3	I need to engage in recreational activities to fulfil skill and expertise tasks	3.0%	5.0%	22.0%	35%	35%	3.94	1.021

A4	I need to engage in recreational activities for the sake of my physical and mental health	0.5%	1%	5%	37.5%	56%	4.48	0.687
A5	I engage in recreational activities because I am instructed by family members	19%	29%	27%	15%	10%	2.68	1.227
A6	I follow my friends to engage in recreational activities	10%	17.5%	23.5%	31%)	18%	3.30	1.235
A7	I have sports equipment/facilities at home or in my residential area	11%	16.5%	21.5%	35.5%	15.5%	3.28	1.228
A8	I feel stressed because I cannot engage in recreational activities outside the home	9.5%	16.5%	28.5%	24%	21.5%	3.32	1.246
A9	I prefer engaging in recreational activities indoors	6.5%	17%	31.5%	26%	19%	3.34	1.158
A10	I prefer engaging in recreational activities outdoors	2%	12%	19.5%	34.5%	32%	3.83	1.072
	Average minimum score/ standard deviation						**3.69**	**1.0341**

Remarks: SA- Strongly Agree, A-Agree, MA-Moderately Agree, D- Disagree, SD- Strongly Disagree
Source: Author's work, 2024

Section C: Recreation area tendencies after COVID-19 pandemic

a. Cross-tabulation analysis to identify the relationship between recreational area use and activities carried out after the COVID-19 pandemic

As a result of the findings in Table 5, the majority of respondents tend to do recreational activities outdoors, which is 119 respondents. While 101 respondents are interested in doing physical activities compared to social and leisure activities. A total of 76 respondents (38 percent) choose to do physical activities in outdoor areas such as recreational parks, forests, lakes, outdoor theme parks, and zoos, while 31 respondents (15.5 percent) tend to do social activities indoors. Only 18 respondents (9 percent) choose to do social activities outdoors.

© 2025, e-ISSN 2682-7727 https://doi.org/10.17576/geo-2025-2101-03

Table 5. Cross-tabulation analysis to identify the relationship between recreational area use by type and recreational activities after the COVID-19 pandemic

Type of recreational area	Recreational activities			Total
	Physical activities	Social activities	Leisure activities	
Indoor (indoor theme parks, playgrounds, rooftop parks	25 (12.5%)	31 (15.5%)	25 (12.5%)	81
Outdoor (recreational parks, forests, lakes, outdoor theme parks, zoos, etc.)	76 (38%)	18 (9%)	25 (12.5%)	119
Total	**101**	**49**	**50**	**200**

The majority of the respondents express an interest in engaging in outdoor physical activities that do not require an interpersonal connection. Physical activities, including exercising, jogging, and brisk walking, are appropriate for recreational parks, lakes, or natural settings, as these environments offer stimuli that facilitate recovery from fatigue associated with prolonged cognitive concentration. This includes daily activities such as commuting, professional tasks, reading, and similar pursuits. Nature possesses a healing aspect that fosters a sense of temporary detachment from normal activity. The natural environment can elicit beneficial emotional responses by facilitating stress recovery through physiological and spiritual reactions to its openness, structural attributes, and colours that promote tranquillity.

Concurrently, respondents prefer to engage in social activities indoors, as these activities entail group interactions, including gatherings with family and friends, and participation in seminars, courses, conferences, or religious and cultural festivals. Interactions among persons are facilitated more effectively within buildings, as they offer a conducive environment characterised by adequate air conditioning, optimal air circulation, and a tranquil atmosphere, free from noise disturbances, along with comprehensive facilities. The attributes of this building facilitate the cultivation of social skills, the establishment of relationships, and the enhancement of community spirit.

According to Table 6, the results of the chi-square goodness-of-fit test show that there is a significant relationship between the type of recreational area and the activities carried out after the MCO. The p-value is close to zero (0.000), which is a significant value and less than the α value = 0.05, indicating a significant test result for the correlation of each item. These findings align with the Health Belief Model (HBM), which emphasizes the influence of perceived health risks and preventive measures on activity engagement during health crises. In addition, respondent's preference for outdoor activities highlights the role of perceived safety in physical environments.

Table 6. Chi-square goodness of fit test for cross-tabulation analysis of types of recreational areas and activities carried out after the pandemic

x^2	22.805
df	2
α	0.05
p-value	0.000

© 2025, e-ISSN 2682-7727 https://doi.org/10.17576/geo-2025-2101-03

b. Descriptive analysis of perceptions and preference towards recreational area usage after the COVID-19 pandemic

A subsequent analysis presents the findings of individuals' perceptions and preferences about the utilization of recreational areas after the COVID-19 pandemic as presented in Table 7. The 17 variables (B1-B17) that assess respondent's preference to participate in recreational activities after the COVID-19 pandemic have been reported, with an average mean score of 3.80. Variable B8 had the highest average score for the preference to participate in recreational activities, with a mean score of 4.36, while the lowest mean score was 3.09 for variable B15 which pertains to the statement that weather changes do not prevent them from visiting recreational areas.

In addition, a significant majority of them (mean score 4.36) strongly agreed on the significance of maintaining recreational places for recreational activities. In addition, they indicated a high level of agreement with the necessity for additional recreational spaces, with a mean score of 4.32. This finding corroborates the previous research conducted by Mohd Raid et al. (2024), which indicates that recreational areas, especially the natural environment have gained popularity among communities as turning to nature to alleviate stress. Furthermore, this aligns with the findings for variable B5 (mean score of 4.21) and variable B4 (mean score of 4.14), showing strong agreement that engaging in activities at recreational areas makes them feel healthier and helps calm their minds.

In general, the variable's findings reflected a positive tendency among respondents to use recreational areas post-COVID-19. A significant number of respondents were interested in engaging in recreational activities in recreational areas if they had the appropriate time and faced no obstacles, such as weather changes, disease outbreaks, poorly maintained activity areas, and so on. Respondents' enthusiasm for visiting recreational areas, whether indoors or outdoors, has a positive impact on physical health and emotional management. These findings demonstrate that more recreational areas need to be provided, maintained, and equipped with safety and security features to ensure the proper use of equipment in these recreational areas.

Table 7. Descriptive analysis of frequency, percentage, mean value, and standard deviation for the tendency to visit recreational areas post-COVID-19 pandemic

Item		Frequency					Mean	Standard deviation
		SD	D	MA	A	SA		
B1	I visit recreational areas more frequently	2.5%	9%	35.5%	34.5%	18.5%	3.58	0.974
B2	I feel safe visiting recreational areas	2.5%	5.5%	23%	44.5%	24.5%	3.83	0.946
B3	I am satisfied with the existing recreational facilities	3.5%	9%	21.5%	43.5%	22.5%	3.73	1.022
B4	Recreational areas help to calm my mind	1.5%	2%	16%	42%	38.5%	4.14	0.863
B5	I feel healthier after engaging in activities in recreational areas	1%	2%	12.5%	44.5%	40%	4.21	0.810

© 2025, e-ISSN 2682-7727 https://doi.org/10.17576/geo-2025-2101-03

B6	The recreational areas I visit are in good condition	1.5%	6%	18.5%	43.5%	30.5%	3.96	0.931
B7	I prefer recreational areas located indoors	7%	13.5%	32%	31%	16.5%	3.37	1.122
B8	Recreational areas should be maintained for recreational activities	1%	1.5%	9.5%	37%	51%	4.36	0.795
B9	The size of the provided recreational areas is sufficient	1%	3.5%	23%	31.5%	41%	4.08	0.932
B10	I want more recreational areas	2%	0.5%	13%	32.5%	52%	4.32	0.867
B11	The recreational areas I visit are too crowded.	4%	11.5%	30.5%	34%	20%	3.55	1.060
B12	My residence is close to recreational areas	4.5%	8%	21%	39%	27.5%	3.77	1.078
B13	There is a variety of biodiversity in the recreational areas I visit	3%	8.5%	23.5%	41%	24%	3.75	1.012
B14	I often spend quality time with family and friends in recreational areas	2%	6%	23.5%	38.5%	30%	3.89	0.973
B15	Weather changes do not prevent me from going to recreational areas	14.5%	17.5%	28.5%	24%	15.5%	3.09	1.271
B16	The presence of various diseases nowadays does not prevent me from going to recreational areas	10.5%	12%	28%	29.5%	20%	3.37	1.229
B17	I can engage in recreational activities without a specific recreational area	4%	7%	29%	39.5%	20.5%	3.66	1.010
	Average mean score / standard deviation						**3.80**	**0.994**

Remarks: SA- Strongly Agree, A-Agree, MA-Moderately Agree, D- Disagree, SD- Strongly Disagree

Source: Author's work, 2024

Conclusion

This study evaluated recreational area utilization during the COVID-19 pandemic and endemic. The survey and research show that recreational areas improve physical and mental health, social interaction, relationship development, community involvement, creative activities, cognitive development, and emotional well-being. The findings highlight the significant role of recreational areas in enhancing physical and mental health, fostering social connections, and strengthening community engagement. Despite lockdown disruptions, the adaptive use of indoor spaces demonstrated their importance, while the growing use of outdoor spaces confirmed their relevance as society transitions to endemic times. A notable post-pandemic trend warmly embraced by communities in Malaysia and abroad is the rise of camping activities in natural areas such as coastal, waterfall, and hilly locations. This reflects an increasing appreciation of nature amidst urban routines and presents economic opportunities for private recreational entrepreneurs to cater to community needs for relaxation or 'healing' experiences. To ensure their long-term benefits and community efficiency, authorities, governing bodies, and users must work together to maintain and improve these recreational areas. Facility managers and local authorities can leverage these findings by prioritizing the safety and accessibility of recreational spaces. Thus, authorities, governing bodies, and users must cooperate in preserving and enhancing these locations to guarantee their enduring advantages and operational efficiency for the community. Acknowledging the study's limitations, it is essential to note that the relatively small geographic scope (focused solely on the UTM Skudai community) and the short data collection window may affect the broader applicability of the findings. Future research should explore more diverse populations across multiple locations to further validate these conclusions and provide insights into recreational trends and needs in varying contexts.

Acknowledgment

The authors would like to thank Ministry of Higher Education Malaysia for funding this research under Fundamental Research Grant Scheme (FRGS/1/2023/SS12/UTM/02/4) through Universiti Teknologi Malaysia and UTM Encouragement Grant (VOT number: 31J24) for the financial support of this study.

References

Abbas, K. (2001). Visitor’s perception of urban recreational parks: A case study of KLCC park, Kuala Lumpur. (Persepsi pengunjung terhadap taman rekreasi dalam bandar: Kajian kes taman KLCC, Kuala Lumpur) [Master’s dissertation, Universiti Sains Malaysia].

Abdullah, K., & Hamdan, N. H. (2022). Visitor’s perception of recreational parks in Bintulu, Sarawak: A preliminary study (Persepsi pengunjung terhadap taman rekreasi di Bintulu, Sarawak: Satu kajian awal). *Al-i’lam-Journal of Contemporary Islamic Communication and Media, 2*(2).

Azhar, M., Nafees, S., Sujood., & Hamid, S. (2023). Understanding post-pandemic travel intention toward rural destinations by expanding the theory of planned behavior (TPB). *Future Business Journal, 9,* 36.

Ayamany, K. (2021, September 15). PM: Contact sports, recreational activities now allowed under Phase Two and Three but only at facilities that can supervise games. *Malay Mail*.

https://www.malaymail.com/news/malaysia/2021/09/15/pm-contact-sports-recreational-activities-now-allowed-under-phase-two-and t/2005868.

Brajša-Žganec, A., Merkaš, M., & Šverko, I. (2011). Quality of life and leisure activities: How do leisure activities contribute to subjective well-being?. *Social Indicators Research, 102*, 81–91.

Çay, R. D. (2015). Recreation and urban park management. In R. Efe (Ed.). *Environment and Ecology at the Beginning of 21st Century*, St. Kliment Ohridski University Press.

Choy, D. L., & Prineas, T. (2006). Parks for people: Meeting the outdoor recreation demands of a growing regional population. *Annals of Leisure Research, 9*(1-2), 86-109.

Da Silva, A. G., Pinheiro, M., Trés, L. M., & Malloy-Diniz, L. F. (2020). Working during pandemics: the need for mental health efforts to prevent the outbreak of mental disorders at the workplace. *Brazilian Journal of Psychiatry*, 43(1), 116-117.

Espiner, N., Degarege, G., Stewart, E. J., & Espiner, S. (2023). From backyards to the backcountry: Exploring outdoor recreation coping strategies and experiences during the 2020 COVID-19 pandemic in New Zealand. *Journal of Outdoor Recreation and Tourism, 41*, 100497.

Groves, R. M., Fowler Jr, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2011). *Survey Methodology*. John Wiley & Sons.

Güzel, P., Yıldız, K., Esentaş, M., & Zerengök, D. (2020). "Know-how" to spend time in home isolation during COVID-19; restrictions and recreational activities. *International Journal of Psychology and Educational Studies, 7*(2), 122-131.

Hamouche, S. (2023). COVID-19 and employees' mental health: Stressors, moderators and agenda for organizational actions. *Emerald Open Research*, 2, 15.

Humagain, P., & Singleton, P. A. (2021). Exploring tourists' motivations, constraints, and negotiations regarding outdoor recreation trips during COVID-19 through a focus group study. *Journal of Outdoor Recreation and Tourism, 36*, 100447.

Iskandar, I. M. (2022, June 4). Malaysia received 1 million tourists since opening borders on April 1. *The Star*. https://www.thestar.com.my/news/nation/2022/06/04/malaysia-received-1-million-tourists-since-opening-borders-on-april-1

Kong, Y., Teng, C., & Liu, C. (2024). Transition design as a strategy for post-pandemic spatial experience enhancement: A sustainability perspective. *Sustainability, 16*(14), 5834.

Konijnendijk, C. C., Annerstedt, M., Nielsen, A. B., & Maruthaveeran, S. (2013). Benefits of urban parks: A systematic review. *A Report for IFPRA, Copenhagen & Alnarp*, *70*.

Malaysia. Town and Country Planning Act 1976 (Act 172).

Malaysia. Local Government Act 1976 (Act 171).

Mohd Zainal Abidin, K. A., Kamarul Zaman, M. D., & Mohd Shukur, S. A. (2023). A Study on the Causes of Work Stress among Malaysia Civil Defense Force (MCDF) Personnel. *Information Management and Business Review, 15*(3(SI), 439-450.

Mohd Raid, M., Mohammad, N. K., Mohsin, A., Muin, Z. A. B., Wan Ismail, W. I. F. (2024). Changes in Recreational Tourism: A Thematic Analysis During the COVID-19 Pandemic and Its Aftermath. In B. Awwad. (Ed.) The AI revolution: Driving business innovation and research (Vol. 524). Springer.

Maller, C., Townsend, M., St Leger, L., Henderson-Wilson, C., Pryor, A., Prosser, L., & Moore, M. (2009). Healthy parks, healthy people: The health benefits of contact with nature in a park context. *The George Wright Forum* (Vol. 26, No. 2, pp. 51-83). George Wright Society.

Martinsen, E. W. (2008). Physical activity in the prevention and treatment of anxiety and depression. *Nordic journal of psychiatry, 62*(sup47), 25-29.

Nambulee, W., Champahom, T., Jomnonkwao, S., Watthanaklang, D., & Ratanavaraha, V. (2023). Comprehending travel intentions during and after the covid-19 pandemic based on psychological theory models. *Transportation research interdisciplinary perspectives, 22*, 100933.

Putkaradze, M., Michalski, T., & Abuselidze, G. (2022). Tourism and recreational resources usage perspectives through according to mountainous adjarias example. *Economics and Management, 19*(2), 27-39.

Pressman, S. D., Matthews, K. A., Cohen, S., Martire, L. M., Scheier, M., Baum, A., & Schulz, R. (2009). Association of enjoyable leisure activities with psychological and physical well-being. *Psychosomatic medicine, 71*(7), 725-732.

Rothe, C., Schunk, M., Sothmann, P., Bretzel, G., Froeschl, G., Wallrauch, C., Zimmer, T., Thiel, V., Janke, C., Guggemos, W., Seilmaier, M., Drosten, C., Vollmar, P., Zwirglmaier, K., Zange, S., Wolfel, R., & Hoelscher, M. (2020). Transmission of 2019-nCoV infection from an asymptomatic contact in Germany. *New England Journal of Medicine*, *382*(10), 970-971.

Shariff, N. S., Yusof, Y., & Hussin, N. Z. I. (2020). Tourist perception towards recreation centre in Malaysia. *Universiti Malaysia Terengganu Journal of Undergraduate Research, 2*(3), 103-114.

Tourism Malaysia. (2021). 2021 Malaysia tourism: Key performance indicators.

Walker, S. E., & Duffield, B. S. (1983). Urban parks and open spaces - An overview. *Landscape research*, *8*(2), 2-12.

Waite, S., Husain, F., Scandone, B., Forsyth, E., & Piggott, H. (2021). Moving towards nature? Exploring progressive pathways to engage children and young people from disadvantaged backgrounds in nature-based activities. In *Leisure activities in the outdoors: Learning, developing and challenging* (pp. 130-144). Wallingford UK: CABI.

Wilder-Smith, A., & Freedman, D. O. (2020). Isolation, quarantine, social distancing and community containment: Pivotal role for old-style public health measures in the novel coronavirus (2019-nCoV) outbreak. *Journal of travel medicine, 27*(2), 1–4.

Zaid, D. S., Adenan, H., & Said, B. (2021). *The factors that influence visitor satisfaction in the recreational parks, Masjid Tanah, Melaka*. (Faktor–faktor yang mempengaruhi kepuasan pengunjung di taman rekreasi: Suatu kajian di Masjid Tanah, Melaka). *Jurnal 'Ulwan, 6*(3), 236-248.

Zainal, Z. B. (2017). Destination image perceived by youth tourist in Johor Bahru City [Doctoral dissertation, Universiti Teknologi Malaysia].

Zar'in, A. U., & Arovah, N. I. (2021). Physical activities and construct of Health Belief Models in the Special Region of Yogyakarta in the era of pandemy COVID-19. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal, 4*(2), 698-709.

Zewdie, A., Mose, A., Sahle, T., Bedewi, J., Gashu, M., Kebede, N., & Yimer, A. (2022). The health belief model's ability to predict COVID-19 preventive behavior: A systematic review. *SAGE open medicine, 10*, 20503121221113668.

Zysk, E., & Zalewska, K. (2024). The voice of society in designing public recreational spaces (PRS) in an urban environment. *Economics and Environment, 88*(1), 715-715.