

Article

Visitors' Perceptions towards the Sustainable Use of Forest Areas: The Case of Istanbul Belgrade Nature Parks

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Abstract: The main purpose of this study is to analyze how stakeholders' perceptions of sustainable land use and the management of natural parks affect land management planning, with a focus on park visitors. This study was carried out in July 2019, during a period of high visitor numbers at the Belgrade Forest nature parks, as reported by the park manager. It involved evaluating participants' knowledge about the specific natural park they visit and the organization managing it. The results show that the mode of transportation significantly influences this knowledge. Visitors who walked or drove to the park demonstrated a greater understanding of the park and its management. A visit to a nature park typically involves anticipation, planning, the visit itself, participating in activities, returning, and reflecting on past experiences. Visitors are drawn to the Belgrade Forest nature parks because of their cleanliness, family-friendly atmosphere, peacefulness, proximity, uniqueness as a green space in Istanbul, wooded areas, and suitability for sports. The study also reveals that the characteristics of nature parks, such as park amenities, distance, transportation options, and reasons for visiting, contribute to visitors' happiness, especially affecting younger visitors between the ages of 19 and 30. These findings highlight the varied nature of visitors' impressions after their visit, depending on their individual characteristics. In conclusion, this detailed analysis offers valuable insights to guide strategic park management efforts aimed at promoting sustainability and enhancing visitor experiences in the Belgrade Forest areas of Türkiye.

Keywords: nature parks; park management; forest; sustainability; urban forests; visitors



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1. Introduction

Nature parks significantly impact sustainable land use, environmental integrity, natural resource sustainability, and the surrounding area's ecological well-being [1]. These parks are designated areas intended to protect natural habitats, facilitate outdoor recreation, and enable wildlife viewing [2]. While they play an essential role in local and national tourism, numerous countries have established these areas to safeguard natural resources and ensure the sustainability of biodiversity [3,4]. In the protected area classification system

proposed by the International Union for Conservation of Nature, national parks fall under Class II, permitting a certain level of human interaction. They can provide “spiritual, scientific, educational, recreational, and visitation opportunities” that are compatible with environmental and cultural preservation [5]. However, the increase in the number of visitors to nature parks exacerbates the impact of these activities on their natural resources and environment [6]. Consequently, fostering awareness of nature parks is crucial for their sustainable management and protection [7].

The Industrial Revolution played a crucial role in reshaping social structures, introducing more regulated work life and urban living [8]. The initial rapid work tempo has since evolved into a more consistent pace with the acquisition of various rights. Moreover, people’s awareness and understanding of the concepts of nature and the environment have notably improved [9]. This increased awareness within nature parks assists visitors in recognizing their responsibilities toward preserving the parks’ natural resources, environment, and wildlife. Such awareness empowers visitors to respect nature, adopt environmentally sustainable behaviors, and actively contribute to the park’s long-term sustainability during their visit [10].

The management of nature parks involves park managers, who are responsible for the daily operations and maintenance of the area [11,12]. Their duties also include ensuring visitor safety, enforcing parking regulations, and addressing environmental issues [13]. The recent global pandemic has provided further insights into the public understanding of nature parks. Additionally, research has shown that nature parks enhance individuals’ well-being. However, factors such as park attractiveness, proximity, transport options, and visitors’ motivations for attending must also be considered [14]. Many impacts of the COVID-19 pandemic have intensified challenges related to management, staffing, communication, and the adaptability of meetings, accommodations, and finances to evolving circumstances [15,16].

Raising awareness in nature parks helps protect natural resources by enabling visitors to respect the environment, demonstrating eco-friendly behaviors, and contributing to park sustainability [17]. Therefore, it is vital for park managers and visitors to develop and implement a variety of strategies to increase awareness. Studies have emphasized the importance of this issue [18–20]. The formation and development of attitudes can be profoundly influenced by increasing public awareness [21]. Ultimately, this awareness fosters respect for the natural environment and supports the conservation of parks’ resources [17,22]. It is essential for both park managers and visitors to devise and enact a range of strategies aimed at effectively raising awareness [23].

Efficient urban green spaces, such as urban parks offering various ecosystem services, are vital for human well-being. The attributes of these spaces—location, size, availability of facilities such as sports infrastructure or benches, and greenery—can affect the benefits experienced or the disturbances and disservices perceived by visitors [24]. Nature parks are widely used for recreation, particularly in large cities, where visitor demographics include individuals with disparate expectations, knowledge, and awareness. Research indicates that park visitors often seek recreational experiences such as relaxation, enjoyment, and spiritual renewal. This trend is especially evident in major urban areas, where residents frequently recommend parks to one another [25,26].

This study aims to investigate the intentions of participants concerning their visits to nature parks, focusing on critical factors involved in planning recreational activities, identifying attractive park features, and understanding the emotional responses elicited from visitors’ experiences. The primary goal of this research is to gather insights that will enhance effective park management plans and promote the sustainable use and maintenance of natural parks.

2. Materials and Methods

2.1. Study Area

The Belgrade Forest, spanning approximately 5400 ha, occupies a significant position on the northern fringes of the European side of Istanbul, Türkiye, contiguous to the shores of the Black Sea and the Bosphorus. Recognized as a supreme value that transcends the ages, the forest harbors a rich historical fabric that is seamlessly connected to the present, such as the deep roots that bind countless trees together [27]. Emblematic of one of the principal recreational enclaves within the sprawling metropolis of Istanbul, which boasts a populace nearing 15 million [28], the Belgrade Forest assumes a pivotal role within the tapestry of urban green spaces. Nestled within the northern hinterlands of Istanbul, it serves as a veritable sanctuary, recognized as the city's bastion of oxygenation and biodiversity. A cherished locus for local denizens, the forest is frequented for a plethora of leisure pursuits ranging from recreational strolls to sports activities, barbecues, and contemplative engagements [29,30]. These features were identified as the key selection criteria for the Belgrade Forest nature park areas, and the study area was chosen accordingly. The multi-faceted nature of visitor demands within such communal spaces underscores the enduring fascination of this ancient woodland, evoking scholarly inquiry across generations.

The Belgrade Forest stands as a testament to its enduring allure, characterized by historical aquifers and nature reserves, as illustrated in Figure 1. Situated amidst Istanbul's urban landscape, it serves as a prominent natural refuge, attracting a steady influx of visitors in search of solace amidst its lush surroundings. This verdant not only offers respite but also harbors ecological significance, contributing to the conservation of biodiversity within the region.

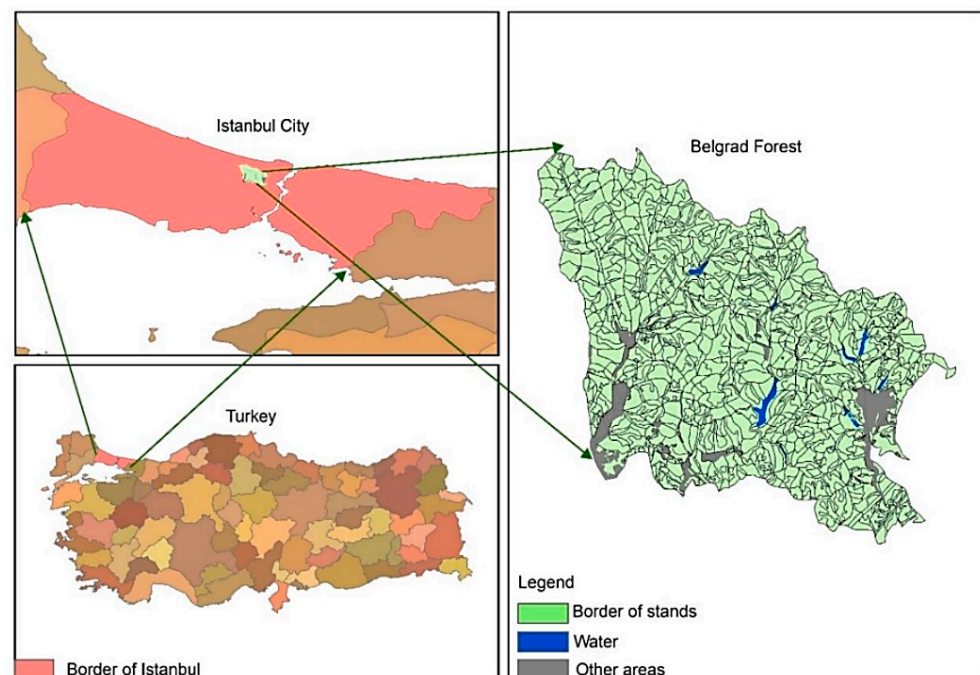


Figure 1. Map of the Belgrade Forest (adapted [31]).

The study was carried out in July 2019, during a period of high visitor numbers at the Belgrade Forest nature parks, as reported by the park manager. An analysis of these counts reveals an average weekend visitation of 70,000 individuals during the summer months, increasing to over 300,000 during peak periods. For example, in June 2019 alone, visitation reached a calculated figure of 315,000, indicative of substantial human influx into the natural environment. Notably, Eker's (2007) study on this matter concluded that the recreational carrying capacity of the Belgrade Forest had been surpassed on the basis of visitor numbers spanning the period between 1994 and 2005 [32]. However, since statistical

and regular information was not obtained in the study, these figures were not used in the study.

The Belgrade Forest comprises nine distinct nature parks [33], each subject to development plans aimed at enhancing their functionality and visitor experience. As delineated in Table 1, seven of these parks were fully adapted in 2015, whereas the remaining two were completed and operationalized in 2016 and 2017, respectively [34]. The formulation of these development blueprints closely adhered to the specifications outlined within the “Development Plan Technical Prospectus”, ensuring congruence with established regulatory frameworks and strategic objectives.

Table 1. Nature parks of Belgrade Forest.

Name	Area (ha)	Date of Natural Park Declaration	Development Plan Approval Year	Ownership	Responsible Institution	Business Status
Ayvatbendi Nature Park	52.70	11 July 2011	2015	State	Ministry of Agriculture and Forestry	Private Enterprise
Falih Rifki Atay Nature Park	16.30	11 July 2011	2015	State	Ministry of Agriculture and Forestry	Private Enterprise
Fatih Fountain Nature Park	29.50	11 July 2011	2015	State	Ministry of Agriculture and Forestry	Private Enterprise
Irmak Nature Park	10.38	11 July 2011	2015	State	Ministry of Agriculture and Forestry	Private Enterprise
Kömürcübent Nature Park	2.9	11 July 2011	2015	State	Ministry of Agriculture and Forestry	Private Enterprise
Neşetsuyu Nature Park	67.90	11 July 2011	2015	State	Ministry of Agriculture and Forestry	Private Enterprise
Bentler Nature Park	16.30	11 July 2011	2015	State	Ministry of Agriculture and Forestry	Private Enterprise
Kirazlıbent Nature Park	19.14	11 July 2011	2016	State	Ministry of Agriculture and Forestry	Private Enterprise
Mehmet Akif Ersoy Nature Park	23.14	11 July 2011	2017	State	Ministry of Agriculture and Forestry	Private Enterprise

Situated upon a gently undulating penplain, the Belgrade Forest traverses a south-eastern trajectory from the Istranca Mountains, culminating at the Bosphorus and attaining an elevation zenith of 230 m [35,36]. Blessed with an abundance of water resources, the forest has been an invaluable asset to humanity since antiquity, serving as a lifeline from prehistoric epochs to the present. Notably, the construction of water conduits dating back to the Byzantine era (5th century A.D.) played a pivotal role in furnishing the city of Istanbul with potable water [37]. This distinctive characteristic conferred a protective mantle upon the forest, preserving its integrity until the advent of the 20th century.

During the reign of Suleiman, the Magnificent, significant refurbishments were undertaken, epitomized by the establishment of the Kırkçeşme Waterway, an engineering marvel attributed to the renowned architect Mimar Sinan [38]. This hydraulic network, known as the Kırkçeşme Waterway facility, comprises several pivotal components, including the Karanlık Bend (1620), Büyük Bend (1723), Ayvad Bend (1765), and Kirazlı Bend (1818), alongside the Mağlova Aqueduct, Kovuk Aqueduct, Uzun Aqueduct, and Başhavuz [39]. In response to burgeoning water demands within Beyoğlu and its environments, the Taksim

Water Facilities were subsequently incorporated into the system, featuring the Topuzlu Bend (1750), Valide Bend (1797), and Sultan Mahmud Bend (1839) [40–42]. This concerted effort further solidified the pivotal role of the forest as a custodian of vital hydraulic infrastructure, underscoring its enduring significance within the region’s historical and hydrological narrative [40–42].

2.2. Methods

Initially, the research focused on understanding the participants’ familiarity with the nature park they visited. This involved assessing whether participants could identify the specific nature park and whether their choice to visit was intentional. Prior research indicates that familiarity with a destination can significantly influence visitor satisfaction and engagement. The study’s design included questions that help elucidate not only the awareness levels of the participants but also the underlying motivations that guided their park visit.

Additionally, the study assessed the awareness level of park managers regarding the features and benefits of the parks they oversee. Such awareness is critical for effective park management, as it enhances the ability of managers to cater adequately to visitors’ needs while adhering to conservation principles.

Moreover, the research evaluated the appealing features of the park and the emotional responses elicited from participants after their visit. Recognizing these attractive features—such as biodiversity, scenic landscapes, and recreational opportunities—is vital for improving visitor experiences and fostering positive emotional connections with parks [42,43]. Understanding visitor emotions and preferences helps shape more effective management practices that align with visitor expectations and enhance their overall experience [42].

To methodically gather data, the study employed a structured questionnaire designed on the basis of well-established techniques within the social sciences. The questions were deliberately crafted and sequenced to avoid leading respondents. The questionnaire comprised various types of questions, while some measured knowledge through single-choice options, others sought to capture preferences requiring a single selection. These survey techniques are widely used to assess levels of the knowledge, attitudes, and opinions, with results interpreted through several statistical methods [44].

The responses from the participants were systematically coded and entered into SPSS 17.0 statistical software for subsequent analysis. Normality assessments were performed via homogeneity tests to determine whether parametric or nonparametric statistical analyses were appropriate. The data revealed that the distribution was not normal, as evidenced by a skewness value of -1.308 . Skewness, as defined by Yazıcı and Yolacan (2011), reflects the asymmetry of a distribution compared to a normal curve; negative skewness in this instance indicates a concentration of lower values among the responses. Generally, skewness values outside the range of -1 – $+1$ suggest a significant degree of asymmetry, indicating that the data necessitate nonparametric testing methods [45].

Owing to the established fact that there is no normal distribution of the data, the analysis proceeded with nonparametric statistical tests. Specifically, the Mann–Whitney U test was employed for comparing responses related to two independent variables, whereas the Kruskal–Wallis one–way analysis of variance (ANOVA) was utilized for questions involving three or more independent variables. These nonparametric tests are advantageous, as they do not rely on the assumption of normality, making them suitable for analyzing ordinal or non-normally distributed interval data [44].

In addition, one-way ANOVA was conducted to further investigate potentially significant differences among participant groups. Given the data’s non-normal characteristics, Tamhane’s post hoc test was selected to identify specific group differences, as it is a robust method for controlling type I error rates when variances are unequal [45]. Only those findings exhibiting statistically significant differences are reported in the analysis tables, ensuring the clarity and relevance of the results presented.

Ultimately, the outcomes of this study provide valuable insights that can inform nature park management. Understanding visitors' conscious behaviors, emotional experiences, and the key features they appreciate can enable park managers to tailor management strategies that enhance visitor satisfaction while promoting sustainable practices. Future research may expand on these findings by exploring different demographic segments or assessing the long-term impacts of specific management strategies on visitor behaviors and park sustainability [42,44,45]. By aligning park offerings with visitor expectations and emotional responses, management can foster a deeper connection with park users, subsequently encouraging repeat visitation and support for conservation initiatives [46].

The stages carried out in the study were completed in the order and duration shown in Figure 2 below.

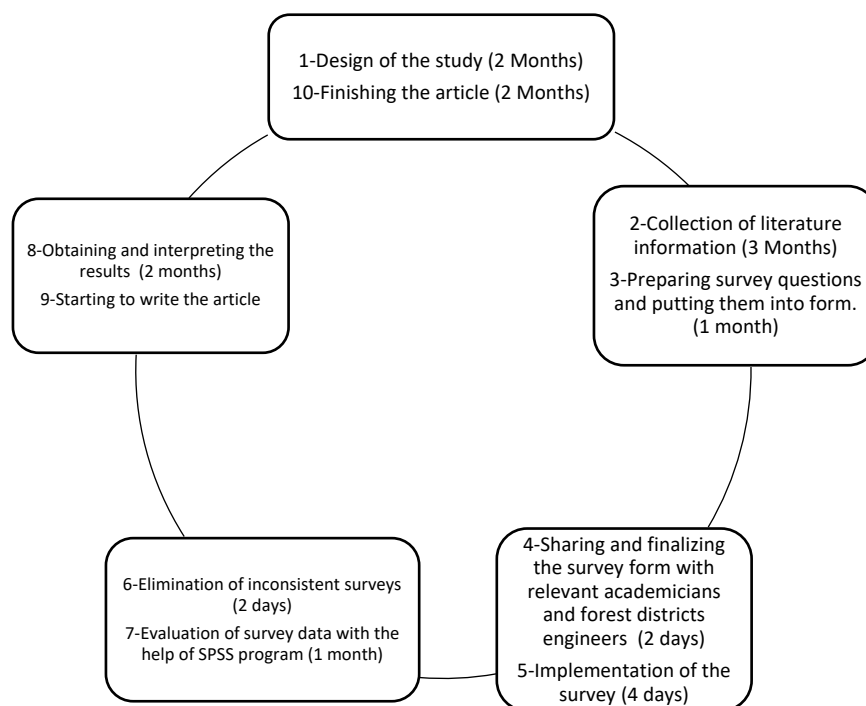


Figure 2. Workflow diagram used in the study.

In summary, this research not only highlights the intentionality behind participants' decisions when they visit nature parks but also contributes to a methodological framework that enhances the understanding of visitor experiences. These findings reinforce the importance of integrating visitor feedback into management plans to ensure the continued relevance and vitality of nature parks in the face of growing environmental and social challenges.

3. Results

Significant disparities were considered pertinent, as they can influence planning and management strategies, particularly concerning park administration. In this context, the analysis focused on three primary areas with noteworthy differences in perceptions and frequency distributions of participants' characteristics. These areas are delineated as follows: frequencies of participant characteristics regarding the park and its management, the attractiveness of park features, and the emotional impact or lasting impressions left by the park on its users.

3.1. Frequencies of Participants' Characteristics

Among the 1103 survey participants, 526 were males and 577 were females. Since no statistical difference was detected according to gender, it was not included in the

analyses and was not included in the findings. The frequency distributions of participant characteristics are outlined as follows in Figure 3.

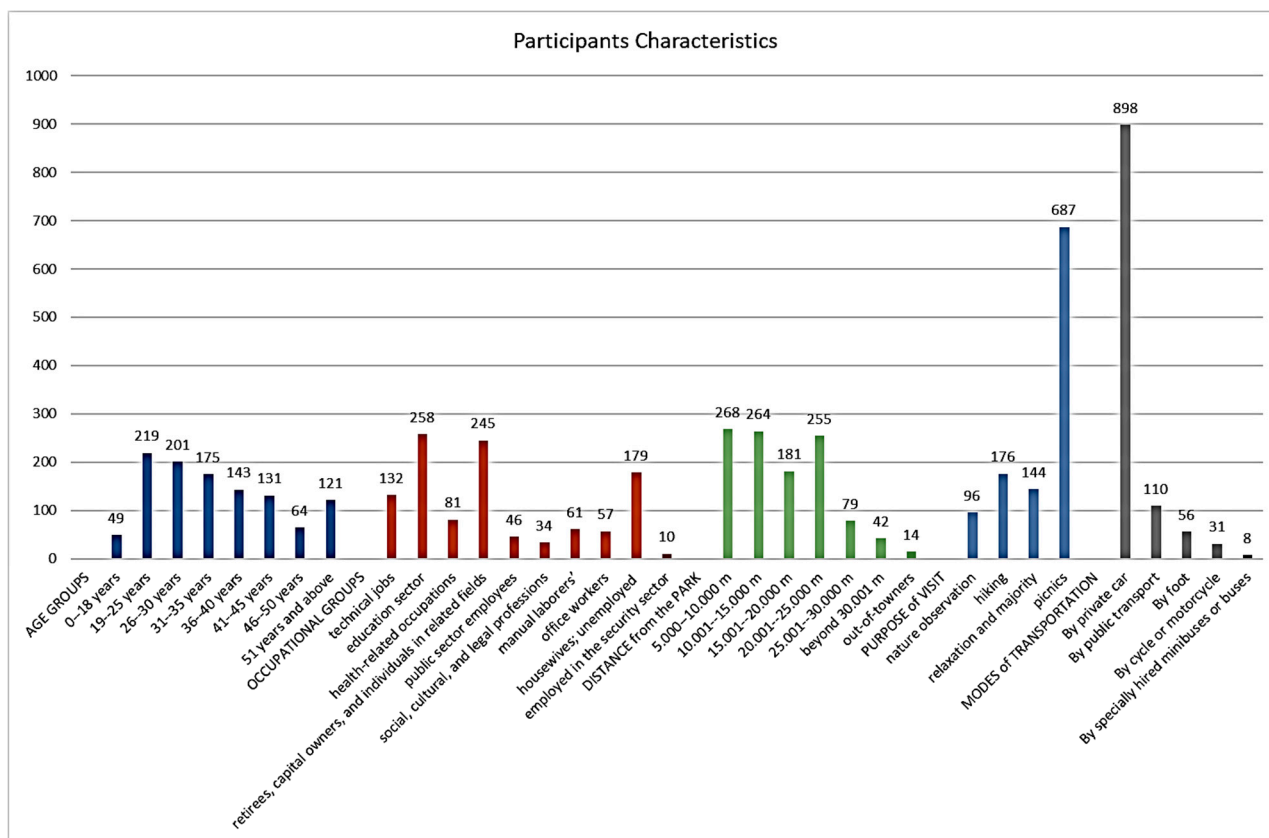


Figure 3. Participants’ characteristics.

3.2. Results Regarding Park Awareness

First, an examination was conducted to determine whether a notable distinction existed between participants in terms of their awareness of the park on the basis of gender. Given the presence of two dependent variables, male and female, the Mann–Whitney U test was employed. The analysis of the Mann–Whitney U test results revealed no significant variance concerning the awareness of nature park relative to gender. In other words, gender did not emerge as a distinguishing factor in park awareness levels (Mann–Whitney U test statistic value: 146,804.00; Z: −1.132; Asymp. Sig. (2-Tailed): 0.258).

As the remaining dependent variable groups comprised more than two variables, they were subjected to analysis via the Kruskal–Wallis test. Nevertheless, subsequent to the analysis, no noteworthy distinctions were observed across all the variables. The outcomes of the Kruskal–Wallis test are delineated in Table 2, encompassing the chi-square value, degrees of freedom (*df*), and asymptotic significance values (Asymp. Sig). Notably, no significant differences were identified, as none of the variables yielded an Asymp. A Sig value of 0.05 or less was used.

Table 2. Kruskal–Wallis test results in park awareness.

Characteristics of Participants	Chi-Square	<i>df</i>	Asymp. Sig (<i>p</i>)
Ages	4.708	7	0.696
Work group	6.852	9	0.652
Distance	7.391	6	0.286
Purpose of visit	3.656	3	0.301
Transportation method	8.631	4	0.071

3.3. Findings Regarding Park Manager Awareness

The Mann–Whitney U test was employed to investigate whether a noteworthy distinction existed between genders concerning the recognition of the park operator. Analysis of the Mann–Whitney U test results revealed no significant variance in the awareness of the nature park operator with respect to gender. Hence, gender did not emerge as a differentiating factor in the recognition of the park operator (Mann–Whitney U test statistic value: 150,218.00; Z: -0.400 ; Asymp. Sig. (2-Tailed): 0.689).

The Kruskal–Wallis test was subsequently used to analyze other groups of dependent variables, each comprising more than two variables. While a significant difference was observed among the transportation method groups, no notable distinctions were discerned across other variables (refer to Table 3). Specifically, private minibuses or bus transport demonstrated significant variance.

Table 3. Kruskal–Wallis test results on park operator awareness.

Characteristics of Participants	Chi-Square	df	Asymp. Sig. (<i>p</i>)
Ages	1.578	7	0.980
Work group	12.385	9	0.192
Distance	6.320	6	0.388
Purpose of visit	2.169	3	0.538
Transportation method	14.716	4	0.005 **

** 0.001 < *p* < 0.01.

ANOVA was used to identify any significant disparities among the arrival method groups. Given the lack of homogeneity of variance in the ANOVA test, Tamhane’s test, a post hoc test, was subsequently employed to discern the specific relationships among the groups. The results are presented in Table 4.

Table 4. ANOVA test results on park operator awareness by transportation method.

Awareness of the Park Operator				
(A) Transportation Method	(B) Transportation Method	Mean Difference (A-B)	Std. Error	Sig. (<i>p</i>)
Car	Public transportation	0.14	0.048	0.054 *
Bicycle or motorcycle	Public transportation	0.26	0.071	0.005 **
<i>F</i> test statistic value		3.715		

* 0.01 < *p* < 0.05; ** 0.001 < *p* < 0.01.

Upon reviewing Table 4, notable distinctions emerge regarding the awareness of the park operator among different transportation methods to the area. Specifically, individuals arriving via private vehicles are more likely to recognize the park operator than those utilizing public transportation ($p = 0.054$). Similarly, a significant disparity was observed between individuals arriving via public transportation and those using bicycles or motorcycles ($p = 0.005$). Notably, individuals arriving via public transportation demonstrate a greater propensity for recognizing the park operator than do those arriving via bicycles or motorcycles.

3.4. Findings Regarding the Park’s Attractive Features

The attractiveness of the park was assessed on the basis of various criteria, including cleanliness (ICL), family comfort (CFF), picnic opportunities (HPO), tranquility (TBS), proximity (BC), uniqueness as a breathing space in Istanbul (BOPBI), reliability (BR), forestation (BEF), availability of diverse opportunities (AAKO), suitability for sports (SFS), and absence of heavy usage (NHU).

To investigate potential gender-based disparities in perceived park attractiveness, the Mann–Whitney U test was conducted. Analysis of the Mann–Whitney U test results

revealed no significant variance in the perception of the park’s attractive features with respect to gender. Thus, gender did not emerge as a distinguishing factor in assessing park attractiveness (Table 5).

Table 5. Mann–Whitney U test results on attractive features of the park by gender.

Attractive Features of the Park	Mann–Whitney U	Z	Asymp. Sig. (2-Tailed)
Including cleanliness	145,938.5	−1.328	0.184
Family comfort	150,005.0	−0.380	0.704
Picnic opportunities	147,325.5	−0.969	0.333
Tranquility	143,809.0	−1.820	0.069
Proximity	150,769.5	−0.256	0.798
Uniqueness as a breathing space in Istanbul	146,355.0	−1.243	0.214
Reliability	149,206.0	−0.597	0.551
Forestation	151,667.0	−0.020	0.984
Availability of diverse opportunities	151,204.5	−0.174	0.862
Suitability for sports	151,726.5	−0.006	0.996
Absence of heavy usage	150,858.5	−0.400	0.689

As depicted in Table 5, the asymptotic significance (Asymp. sig.) values associated with all attractive features exceeded 0.05. This indicates the absence of a significant difference in the perceived attractiveness of the park based on gender.

The outcomes of the Kruskal–Wallis test were used to discern whether significant differences exist in the attractive features of nature parks relative to participant characteristics (Table 6).

Table 6. Kruskal–Wallis test results on attractive features of the nature park.

Attractive Features of the Park												
Test Statistics	ICL	CFF	HPO	TBS	BC	BOPBI	BR	ITR	BEF	AAKO	SFS	NHU
Ages												
Chi-Square	4.240	27.887	14.248	3.278	11.723	11.297	12.386	8.369	5.759	10.170	9.318	7.412
<i>df</i>	7	7	7	7	7	7	7	7	7	7	7	7
Asymp. Sig.	0.752	0.000 ***	0.047 *	0.858	0.110	0.126	0.089	0.301	0.568	0.179	0.231	0.387
Work Groups												
Chi-Square	5.924	31.488	19.175	7.040	10.251	9.601	5.690	2.523	9.394	27.069	24.061	11.765
<i>df</i>	9	9	9	9	9	9	9	9	9	9	9	9
Asymp. Sig.	0.747	0.000 ***	0.024 *	0.633	0.331	0.384	0.770	0.980	0.402	0.001 ***	0.004 **	0.227
Distance												
Chi-Square	7.173	23.072	27.481	19.202	101.569	24.478	5.932	1.822	3.179	4.338	5.071	9.666
<i>df</i>	6	6	6	6	6	6	6	6	6	6	6	6
Asymp. Sig.	0.305	0.001 ***	0.000 ***	0.004 ***	0.000 ***	0.000 ***	0.431	0.935	0.786	0.631	0.535	0.139

Table 6. Cont.

Attractive Features of the Park												
Test Statistics	ICL	CFF	HPO	TBS	BC	BOPBI	BR	ITR	BEF	AAKO	SFS	NHU
Purpose of visit												
Chi-Square	6.219	50.034	82.774	20.452	2.041	5.417	1.965	2.051	3.246	83.899	1.276	3.721
<i>df</i>	3	3	3	3	3	3	3	3	3	3	3	3
Asymp. Sig.	0.101	0.000 ***	0.000 **	0.000 ***	0.564	0.144	0.580	0.562	0.355	0.000 ***	0.735	0.293
Transportation method												
Chi-Square	11.362	66.545	51.562	7.528	22.713	21.401	10.730	5.329	1.769	11.962	23.695	0.855
<i>df</i>	4	4	4	4	4	4	4	4	4	4	4	4
Asymp. Sig.	0.023 *	0.000 ***	0.000 ***	0.110	0.000 ***	0.000 ***	0.030 *	0.255	0.778	0.018 *	0.000 ***	0.931

* 0.01 < *p* < 0.05; ** 0.001 < *p* < 0.01; *** *p* < 0.001.

Significant disparities were observed among age groups concerning family comfort and picnic opportunities. However, no noteworthy distinctions were found in other attractive features.

Work groups exhibited significant differences in family comfort, picnic opportunities, suitability for sports, and the absence of heavy usage, whereas no significant differences were detected in other attractive features.

With respect to distance groups, significant differences were noted in family comfort, picnic opportunities, tranquility, proximity, and uniqueness as a breathing space in Istanbul, whereas no significant differences emerged in other attractive features.

The purpose of visit groups displayed significant differences in family comfort, picnic opportunities, tranquility, and suitability for sports, with no notable disparities identified in other attractive features.

The arrival method groups demonstrated significant differences in terms of cleanliness, family comfort, picnic opportunities, uniqueness as a breathing space in Istanbul, proximity, reliability, availability of facilities, suitability for sports, and the absence of heavy usage. However, no significant differences were observed in the overall attractive features (Table 6).

Significant discrepancies were noted in the park’s attractive features across age groups. The ANOVA test outcomes pertaining to the attributes of familial comfort and picnic opportunities are presented in Table 7. It was determined that women between the ages of 19 and 25 attach less importance to family comfort than other age groups do. There was no significant difference in this regard between the other age groups. However, a clear difference emerged in the emergence of picnic rates. Those in the age group of 46–50 years and those aged 51 and over value sunshine more than picnic opportunities. There was no difference between the other age groups in this regard.

Table 7. ANOVA test of the attractive features of the park in age groups.

Family Comfort (CFF)				
(A) Ages	(B) Ages	Mean Difference (A-B)	Std. Error	Sig. (<i>p</i>)
36–40 age range	19–25 age range	0.16	0.052	0.053 *
41–45 age range	19–25 age range	0.21	0.054	0.003 **
46–50 age range	19–25 age range	0.29	0.069	0.002 **
51 and over age range	19–25 age range	0.18	0.055	0.036 *
<i>F</i> test statistic value		4.061		
Picnic opportunities (HPO)				
46–50 age range	51 and over age range	0.26	0.075	0.019 *
<i>F</i> test statistic value		0.507		

* 0.01 < *p* < 0.05; ** 0.001 < *p* < 0.01.

The ANOVA test results regarding the park’s attractive features across various occupational groups are presented in Table 8 below. Notably, a significant disparity was observed in familial comfort between capital owners and individuals working in relevant fields, as well as those employed in the education sector. Additionally, a significant difference was identified between housewives, unemployed individuals, and individuals in the field of education. In both instances, individuals employed in the education sector exhibited a diminished emphasis on these two features compared with other occupational groups. Although the Kruskal–Wallis test revealed a significant difference in terms of picnic opportunities and suitability for sports, the ANOVA test did not ascertain which specific occupational groups contributed to this variance.

Table 8. ANOVA test of the attractive features of the park in work groups.

Family Comfort (CFF)				
(A) Work Groups	(B) Work Groups	Mean Difference (A-B)	Std. Error	Sig. (p)
Capital owners and other related areas	Workers in the field of education	0.15	0.043	0.031 *
Housewives and unemployed people	Workers in the field of education	0.18	0.047	0.011 *
<i>F</i> test statistic value		3.572		
Availability of diverse opportunities (AAKO)				
Workers in the field of education	Workers and those working in related fields	0.25	0.058	0.001 **
Capital owners and other related areas	Workers and those working in related fields	0.21	0.059	0.021 *
Those working in the social. cultural and legal fields	Workers and those working in related fields	0.41	0.099	0.006 *
<i>F</i> test statistic value		3.058		

* 0.01 < *p* < 0.05; ** 0.001 < *p* < 0.01.

The ANOVA test outcomes regarding distances exhibiting significant variances in the park’s attractive features are presented in Table 9 below. Notably, individuals arriving from longer distances tend to prioritize familial comfort and hold more favorable perceptions than those arriving from shorter distances do. Moreover, individuals traveling from longer distances display a more positive outlook on picnic opportunities than their counterparts arriving from shorter distances do. Conversely, individuals arriving from closer distances exhibit a more favorable perception of the park’s tranquility than those traveling from farther distances. Consequently, individuals arriving from closer distances tend to regard the park’s proximity more positively than those arriving from farther distances do, which aligns with natural expectations.

Table 9. ANOVA test of the attractive features of the park in distance.

Family Comfort (CFF)				
(A) Distance	(B) Distance	Mean Difference (A-B)	Std. Error	Sig. (p)
20,001–25,000 m	5000–10,000 m	0.19	0.043	0.000 ***
	10,001–15,000 m	0.13	0.043	0.040 *
<i>F</i> test statistic value		3.906		
Picnic opportunities (HPO)				
15,001–20,000 m	5000–10,000 m	0.23	0.047	0.000 ***
<i>F</i> test statistic value		4.672		
Tranquility (TBS)				
5000–10,000 m	15,001–20,000 m	0.15	0.044	0.021 *
	30,001 m and over	0.24	0.066	0.010 *
10,001–15,000 m	30,001 m and over	0.20	0.065	0.054 *
<i>F</i> test statistic value		3.239		

Table 9. Cont.

Family Comfort (CFF)				
(A) Distance	(B) Distance	Mean Difference (A-B)	Std. Error	Sig. (p)
Proximity (BC)				
5000–10,000 m	10,001–15,000 m	0.19	0.040	0.000 ***
	15,001–20,000 m	0.28	0.041	0.000 ***
	20,001–25,000 m	0.32	0.036	0.000 ***
	25,001–30,000 m	0.33	0.046	0.000 ***
10,001–15,000 m	30,001 m and over	0.35	0.055	0.000 ***
	20,001–25,000 m	0.13	0.033	0.002 **
	25,001–30,000 m	0.14	0.043	0.035 *
F test statistic value		18.545		
Uniqueness as a breathing space in Istanbul (BOPBI)				
15,001–20,000 m	5000–10,000 m	0.16	0.045	0.014 *
20,001–25,000 m	5000–10,000 m	0.13	0.041	0.028 *
30,001 m and over	5000–10,000 m	0.29	0.082	0.016 *
F test statistic value		4.150		

* 0.01 < p < 0.05; ** 0.001 < p < 0.01; *** p < 0.001.

The ANOVA test results regarding individuals exhibiting significant differences in their interest in the park’s distinctive features, on the basis of their purpose of visit, are presented in Table 10 below. Notably, relaxation and picnicking emerge as primary purposes influencing perceptions. As shown in Table 10, familial comfort is notably perceived more positively by visitors who come for relaxation and picnicking than by those visiting for nature observation. Similarly, regarding the availability of picnic opportunities, visitors seeking nature observation and relaxation tend to hold more favorable perceptions than those visiting leisure walks do, with picnickers displaying the most positive outlook. With respect to the park’s tranquility, individuals visiting for relaxation exhibit more favorable perceptions than those visiting for nature observation, walks, or picnics. Finally, with respect to suitability for sports, individuals visiting for leisurely walks tend to harbor more positive sentiments than those visiting nature observation, relaxation, or picnicking.

Table 10. ANOVA test results in terms of purpose of visit.

Family Comfort (CFF)				
(A) Purpose of Visit	(B) Purpose of Visit	Mean Difference (A-B)	Std. Error	Sig. (p)
Relaxing Picnic	Nature observation	0.26	0.051	0.000 ***
	Nature observation	0.14	0.052	0.038 *
	Hiking	0.28	0.035	0.000 ***
F test statistic value		17.424		
Picnic opportunities (HPO)				
Nature observation Relaxing Picnic	Hiking	0.18	0.057	0.010 *
	Hiking	0.30	0.051	0.000 ***
	Nature observation	0.19	0.053	0.003 **
	Hiking	0.37	0.035	0.000 ***
F test statistic value		29.751		
Tranquility (TBS)				
Relaxing	Nature observation	0.22	0.063	0.003 **
	Hiking	0.17	0.055	0.011 *
	Picnic	0.19	0.045	0.000 ***
F test statistic value		6.927		

Table 10. Cont.

Family Comfort (CFF)				
(A) Purpose of Visit	(B) Purpose of Visit	Mean Difference (A-B)	Std. Error	Sig. (p)
Hiking	Availability of diverse opportunities (AAKO)			
	Nature observation	0.37	0.059	0.000 ***
	Relaxing	0.29	0.054	0.000 ***
	Picnic	0.37	0.040	0.000 ***
F test statistic value		30.189		

* 0.01 < p < 0.05; ** 0.001 < p < 0.01; *** p < 0.001.

Table 11 below presents the ANOVA test results, which clearly show significant differences in the attractive features of the park based on the transportation methods used to reach it. It is evident that individuals arriving by car are more concerned with the park’s attractive features than those using alternative modes of transportation. Interestingly, individuals arriving by public transportation place greater emphasis on the park’s proximity than those arriving by walking, bicycling, or motorcycling. Furthermore, individuals arriving on foot perceive the park as the sole breathing space in Istanbul more positively than those using other modes of transportation do, indicating greater significance attached to this feature.

Table 11. ANOVA test results in terms of transportation method.

Including Cleanliness (ICL)				
(A) Transportation Method	(B) Transportation Method	Mean Difference (A-B)	Std. Error	Sig. (p)
Car	Bicycle or motorcycle	0.25	0.063	0.005 **
F test statistic value		2.860		
Family comfort (CFF)				
Car	Public transportation	0.28	0.041	0.000 ***
	By foot	0.29	0.054	0.000 ***
	Bicycle or motorcycle	0.41	0.048	0.000 ***
Picnic opportunities (HPO)				
F test statistic value		17.641		
Car	By foot	0.35	0.052	0.000 ***
	Bicycle or motorcycle	0.42	0.056	0.000 ***
	Public transportation	0.24	0.068	0.006 **
F test statistic value	Bicycle or motorcycle	0.30	0.072	0.001 **
		13.474		
Proximity (BC)				
By foot	Car	0.25	0.069	0.006 **
	Public transportation	0.24	0.078	0.031 *
	Bicycle or motorcycle	0.37	0.086	0.001 **
F test statistic value		5.777		
Uniqueness as a breathing space in Istanbul (BOPBI)				
Car	Public transportation	0.15	0.043	0.004 **
	By foot	0.18	0.056	0.024 *
	Bicycle or motorcycle	0.21	0.069	0.042 *
F test statistic value		5.436		

* 0.01 < p < 0.05; ** 0.001 < p < 0.01; *** p < 0.001.

While the Kruskal–Wallis test yielded a significant difference for attributes such as reliability (BR), availability of various opportunities (AAKO), and suitability for sports (SFS), the ANOVA test did not ascertain the specific occupational groups responsible for this variance.

3.5. Findings Regarding Post-Park Visit Emotions

The Mann–Whitney U test was conducted to assess potential gender-based differences in post park visit sentiment. Analysis of the Mann–Whitney U test results revealed no significant variance in post-park-visit feelings with respect to gender. Therefore, gender does not appear to influence post-park-visit sentiment, as indicated in Table 12.

Table 12. Mann–Whitney U test results on emotions by gender.

Feelings after Leaving the Park	Mann–Whitney U	Z	Asymp. Sig. (2-Tailed)
Anger	148,762.5	−1.238	0.216
Unrest	149,153.0	−1.135	0.257
Happiness	151,367.0	−0.150	0.881
Desire to come again	148,134.5	−1.451	0.147
Regret	146,786.5	−1.122	0.262

The outcomes of the Kruskal–Wallis test, aimed at assessing potential disparities in participants’ post-park-visit sentiment and attributes, are presented in Table 13. Notably, significant distinctions were observed in participants’ post visit sentiment relative to their age, purpose of visit, and mode of transportation to the park.

Table 13. Kruskal–Wallis test results of feeling after leaving the park.

Test Statistics/Feelings	Anger	Unrest	Happiness	Desire to Come Again	Regret
Age					
Chi-Square	8.029	7.079	10.239	3.643	16.762
<i>df</i>	7	7	7	7	7
Asymp. Sig.	0.330	0.421	0.175	0.820	0.019 *
Profession or field of work					
Chi-Square	7.531	13.307	12.406	9.658	10.029
<i>df</i>	9	9	9	9	9
Asymp. Sig.	0.582	0.149	0.191	0.379	0.348
Distance					
Chi-Square	9.106	11.986	10.538	7.352	11.234
<i>df</i>	6	6	6	6	6
Asymp. Sig.	0.168	0.062	0.104	0.290	0.081
Purpose of visit					
Chi-Square	7.213	3.580	2.086	19.519	18.594
<i>df</i>	3	3	3	3	3
Asymp. Sig.	0.065	0.311	0.555	0.000 **	0.000 **
Transportation method					
Chi-Square	16.260	8.200	10.166	7.235	8.574
<i>df</i>	4	4	4	4	4
Asymp. Sig.	0.003 **	0.085	0.038 *	0.124	0.073

* 0.01 < *p* < 0.05; ** 0.001 < *p* < 0.01.

The ANOVA test results, employed to discern the demographic groups contributing to variations in participants’ post park visit sentiments, specifically across age groups, purpose of visit, and modes of transportation to the park, are detailed in Table 14.

An analysis of emotions following park visits through an ANOVA across different age groups revealed that individuals aged 19–25 and 46–50 years tended to experience a greater sense of regret than those aged 0–18 years.

With respect to the willingness to revisit the park, individuals arriving for nature observation displayed a greater propensity to return than those arriving for leisurely walks, relaxation, or picnics.

Furthermore, it is apparent that individuals arriving to relax often reported feeling more restless than those arriving for nature observation, walks, or picnics.

Table 14. ANOVA test results in terms of feeling after leaving the park.

Regret				
(A) Age	(B) Age	Mean Difference (A-B)	Std. Error	Sig. (p)
19–25 age	0–18 age	0.27	0.078	0.022 *
46–50 age	0–18 age	0.29	0.091	0.046 *
<i>F</i> test statistic		2.416		
Desire to Come Again				
(A) Purpose of Visit	(A) Purpose of Visit	Mean Difference (A-B)	Std. Error	Sig. (p)
Nature observation	Hiking	0.12	0.045	0.042 *
	Relaxing	0.13	0.046	0.035 *
	Picnic	0.13	0.042	0.016 *
<i>F</i> test statistic		6.606		
Regret				
Relaxing	Nature observation	0.23	0.063	0.002 **
	Hiking	0.21	0.052	0.001 **
	Picnic	0.12	0.040	0.014 *
<i>F</i> test statistic		6.287		
Anger				
(A) Transportation methods	(A) Transportation methods	Mean Difference (A-B)	Std. Error	Sig. (p)
Car	Rented minibus or bus	0.06	0.008	0.000 **
Public transportation	Rented minibus or bus	0.11	0.030	0.004 **
By foot	Rented minibus or bus	0.20	0.054	0.006 **
<i>F</i> test statistic		4.111		
Happiness				
Car	By foot	0.10	0.010	0.000 **
	Rented minibus or bus	0.10	0.010	0.000 **
<i>F</i> test statistic		2.556		

* 0.01 < *p* < 0.05; ** 0.001 < *p* < 0.01.

Feelings of anger were more prevalent among individuals arriving by car, public transportation, or on foot than among those arriving by privately rented minibuses or buses.

Conversely, individuals arriving by car tended to report a greater sense of happiness than those arriving on foot or by privately rented minibuses or buses.

4. Discussion

The effective management, planning, and utilization of nature parks for recreational purposes while ensuring sustainability are essential endeavors. Understanding visitor perceptions, land use, and various influencing factors is crucial [47]. The characteristics of visitors and their perceptions significantly shape the overall perceptions of parks [48]. Recent research has increasingly illustrated the role of transportation infrastructure in park management and its impact on visitor demographics [49,50]. Age-related preferences notably influence the design of park facilities and amenities [51]. Moreover, park features and accessibility play critical roles in shaping visitor perceptions, which correlate with overall satisfaction and the likelihood of repeat visits [52,53].

Integrating insights from transportation studies and demographic analyses is vital for optimizing visitor experiences and promoting inclusivity in park management strategies. The challenges of preserving forest resources have escalated due to changing global dynamics and increasing exploitation, prompting the development of protection tools and methods across the globe, alongside intensified international cooperation and coordination efforts [54]. While immediate measures may not be necessary in regions where forests still thrive, human activity-induced land use changes can lead to deforestation. A comprehensive understanding of the existing legal frameworks is essential for understanding the processes associated with forest characterization loss [55,56]. Thus, forest management

must prioritize the continuity of the ecosystem and the preservation of unbroken soil cover [57].

Numerous studies highlight the profound impact of transportation distance on park visitors and emphasize the significance of park features in shaping their perceptions. Al-Hashedi and Magalingam (2021) stress the necessity of considering transportation factors in park planning and management, whereas Lee and Smith (2017) support the idea that park features crucially influence visitor experiences [51,58]. This body of research emphasizes the importance of tranquility and reliability in park usage. Combining insights from transportation and park feature studies is essential for optimizing park management and enhancing visitor satisfaction.

The significance of transportation methods in shaping visitors' perceptions of park features has been confirmed in various studies. For example, Smith et al. (2021) advocated for tailored management strategies to cater to the diverse preferences of visitors and enhance their overall park experiences [49]. Furthermore, Al-Hashedi and Magalingam (2021) examined the varying impacts of transportation methods on visitors' comfort when visiting parks with their families, indicating the need for specialized management strategies to ensure inclusivity and satisfaction across all visitor demographics [58].

Additionally, the effective management of parking facilities within parks, which are designed to accommodate various transportation modes, is pivotal for enhancing visitor experiences and fostering inclusivity [59,60]. Research has shown that perceptions regarding parking availability and convenience significantly influence park visitation patterns [61,62]. Accordingly, Smith et al. (2021) highlighted the necessity for customized management practices to adapt park facilities to the diverse transportation preferences of visitors, ultimately enhancing the overall park experience and promoting inclusivity across all demographic segments [49].

The proximity of parks has been identified as a significant factor influencing visitor perceptions and preferences, particularly among those utilizing private vehicles and public transportation. Tavitiyaman et al. (2021) reported that perceived accessibility to parks plays a crucial role in the likelihood of visitation and overall satisfaction with the park experience [63]. Thus, there is a strong argument for integrating transportation considerations into park management strategies to optimize visitor experiences and ensure universal accessibility.

In urban settings, parks are critical green spaces that significantly affect residents' physical and mental well-being. Bamwesigye et al. (2021) emphasized that parks are vital for urban dwellers, linking their accessibility to improved health outcomes [64]. Recent findings indicate that reducing the distance to nature parks increases access for urban residents, positively influencing overall health and well-being [6,59]. Shorter travel distances correlate with reduced stress, increased physical activity levels, and stronger connections with nature. Thus, park management should prioritize these aspects to ensure visitor comfort and well-being.

The perception of parks as natural forests significantly influences visitor experiences, particularly among those who rely on public transportation [65]. Therefore, enhancing the public's perception of natural resources is essential for attracting a larger audience, especially those using public transport. Research by Tukaszkiwicz and Antoszkiewicz (2022) also indicates that the suitability of parks for sports activities is crucial across various transportation methods, reinforcing the importance of incorporating transportation considerations into park management strategies to optimize sports facilities and cater to a range of visitor needs [66].

Moreover, park experiences extend beyond the physical realm, significantly impacting visitors' emotions and psychological well-being. Understanding these dynamics is essential for effective management. Positive experiences upon leaving parks can contribute to heightened environmental awareness [67], whereas negative perceptions, such as overcrowding, may hinder conservation efforts [53,68,69]. Consequently, park management

should prioritize creating enriching experiences and enhancing infrastructure to improve visitor satisfaction and support conservation initiatives.

The preference of park visitors for pedestrian activities and leisure pursuits underlines the necessity of enhancing satisfaction levels and encouraging repeat visitation. Research by Atalay et al. (2023) indicates that visitors who engage in leisurely activities report greater satisfaction and a greater likelihood of returning [70,71]. Therefore, park management should focus on provisions that cater to hiking and leisure enthusiasts. The current lack of effective visitor management, particularly given the absence of visitation thresholds in places such as Belgrade Forest nature parks, often results in unchecked usage, especially during the peak spring and summer seasons. This unchecked usage poses significant threats to the forest ecosystem. Effectively addressing these management challenges is crucial for achieving sustainable park management practices.

By adopting a comprehensive approach that integrates transportation considerations, visitor demographics, and the psychological impacts of park experiences, park management can foster an inclusive, satisfying, and sustainable environment. This holistic strategy allows parks to meet the diverse needs of all visitors while ensuring the preservation of natural resources for future generations.

5. Conclusions

The development of effective strategies for parkland usage and management requires a thorough assessment of transportation distances and the modes of transport utilized, highlighting their critical role during the planning process. The park's appealing features significantly influence visitors aged 19–30 years, with a marked preference for younger people, which is statistically significant. Understanding how transportation modes affect visitors' perceptions of park features underscores the need for specialized management strategies that accommodate diverse preferences and enhance the overall park experience.

The varying effects of different transportation modes on visitors' comfort, especially those of visiting families, further emphasize the need for tailored management approaches to ensure inclusivity and satisfaction across all visitor groups. Effective management should involve adapting parking facilities to cater to various transportation methods, necessitating specialized practices to improve the park experience and foster inclusivity. Proximity to the park has a notable influence on visitor perceptions, particularly among those utilizing private vehicles and public transportation. Consequently, integrating transportation considerations into park management strategies is essential for enhancing visitor experiences and accessibility.

The perception of the park as a vital green space in Istanbul shapes visitors' preferences and perceptions across different transportation modes. Management strategies must prioritize such dynamics to ensure the comfort and well-being of all visitors. Furthermore, visitors' perceptions of the park as a forest have a significant effect, particularly for those using public transportation, thereby influencing their preferences. Promoting access to public transportation can serve to reinforce this positive perception.

The analysis also reveals the park's suitability for various sports activities across different transportation modes, highlighting the importance of incorporating transportation considerations into management strategies to enhance visitor perceptions and meet diverse needs. The effects of park experiences extend beyond the physical environment, evoking emotional and psychological responses in visitors. This discourse synthesizes the study's findings on the lasting impressions and emotional states that visitors experience within the park environment.

A discernible trend emerges among park visitors who favor walking and leisure activities, a finding that holds considerable implications for park management strategies aimed at improving visitor satisfaction and encouraging repeat visits. This trend underscores the importance of transportation distance in the sustainable management of nature parks and indicates a pressing need for increased attention from local governments, planners, and policymakers. In this context, the implementation of policies aimed at enhancing public

transportation systems, along with expanding bicycle paths and walking trails, could greatly facilitate access to nature parks and promote the sustainable use of natural areas.

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References

- Zhou, M.; Chen, T.; Xu, Y.; Mi, F. Can the Establishment of National Parks Promote the Coordinated Development of Land, the Environment, and Residents' Livelihoods? *Land* **2024**, *13*, 704. [\[CrossRef\]](#)
- Kuvan, Y. A General Overview of the World's Protected Areas and Protected Forest Area Management in Turkey. In *Challenges of Establishment and Management of a Trans-Border Biosphere Reserve between Bulgaria and Turkey in Strandzha Mountain, Proceedings of an UNESCO-BAS-MOEW Workshop, Bourgas, Bulgaria, 11–13 November 2005*; Bulgarian Academy of Sciences: Sofia, Bulgaria, 2015; pp. 35–41.
- Baur, J.W.; Tynon, J.F. Small-Scale Urban Nature Parks: Why Should We Care? *Leis. Sci.* **2010**, *32*, 195–200. [\[CrossRef\]](#)
- Böhn, D. National Park in Germany: Let nature be nature—But which nature? *Int. J. Geohierit. Parks* **2021**, *9*, 30–35. [\[CrossRef\]](#)
- Fu, W.; Zhou, B. Theme Exploration and Sentiment Analysis of Online Reviews of Wuyishan National Park. *Land* **2024**, *13*, 629. [\[CrossRef\]](#)
- Sia, A.; Tan, P.Y.; Kim, Y.J.; Er, K.B.H. Use and non-use of parks are dictated by nature orientation, perceived accessibility and social norm which manifest in a continuum. *Landsc. Urban Plan.* **2023**, *235*, 104758. [\[CrossRef\]](#)
- Perkumienė, D.; Doftartė, A.; Škėma, M.; Aleinikovas, M.; Elvan, O.D. The Need to Establish a Social and Economic Database of Private Forest Owners: The Case of Lithuania. *Forests* **2023**, *14*, 476. [\[CrossRef\]](#)
- Deng, J.; King, B.; Bauer, T. Evaluating natural attractions for tourism. *Ann. Tour. Res.* **2002**, *29*, 422–438. [\[CrossRef\]](#)
- Livina, A.; Reddy, M. Nature park as a resource for nature based tourism. In Proceedings of the 11th International Scientific and Practical Conference, Rezekne, Latvia, 15–17 June 2017; Volume 1, pp. 179–183.
- Lebrun, A.M.; Sun, C.J.; Bouchet, P. Domestic tourists' experience in protected natural parks: A new trend in pandemic crisis? *J. Outdoor Recreat. Tour.* **2021**, *35*, 100398. [\[CrossRef\]](#)
- Zhang, J.; Tan, P.Y. Demand for parks and perceived accessibility as key determinants of urban park use behavior. *Urban For. Urban Green.* **2019**, *44*, 126420. [\[CrossRef\]](#)
- Kuvan, Y.; Yurdakul Erol, S.; Yıldırım, H.T. Forest Managers' Perception of the Foremost Forestry Issues, Problems and Forest Functions in Turkey. *Pol. J. Environ. Stud.* **2011**, *20*, 393–403.
- Sreetheran, M. Exploring the urban park use, preference and behaviours among the residents of Kuala Lumpur, Malaysia. *Urban For. Urban Green.* **2017**, *25*, 85–93. [\[CrossRef\]](#)
- Jones, N.; McGinlay, J.; Jones, A.; Malesios, C.; Holtvoeth, J.; Dimitrakopoulos, P.G.; Gkoumas, V.; Kontoleon, A. COVID-19 and protected areas: Impacts, conflicts, and possible management solutions. *J. Soc. Conserv. Biol.* **2021**, *14*, e12800. [\[CrossRef\]](#) [\[PubMed\]](#)
- Hakverdi, A.E.; Akyol, A. Pandemi Döneminde Orman İşletmelerinin Yıllık Çalışma Performanslarının Değerlendirilmesi: Kayseri Orman Bölge Müdürlüğü Örneği. In *Ziraat, Orman ve Su Ürünlerinde Araştırma ve Değerlendirmeler*; Gece Kitaplığı: Ankara, Türkiye, 2021; pp. 153–179.
- Miller-Rushing, J.A.; Athearn, N.; Blackford, T.; Brigham, C.; Cohen, L.; Cole-Will, R.; Edgar, T.; Ellwood, E.R.; Fischelli, N.; Pritz, C.F.; et al. COVID-19 pandemic impacts on conservation research, management, and public engagement in US national parks. *Biol. Conserv.* **2021**, *257*, 109038. [\[CrossRef\]](#)
- Veitch, J.; Biggs, N.; Deforche, B.; Timperio, A. What do adults want in parks? A qualitative study using walk-along inter-views. *BMC Public Health* **2022**, *22*, 753. [\[CrossRef\]](#)

18. Paul, S.; Nagendra, H. Factors influencing perceptions and use of urban nature: Surveys of park visitors in Delhi. *Land* **2017**, *6*, 27. [CrossRef]
19. Xiao, X.; Manning, R.; Perry, E.; Valliere, W. Public awareness of and visitation to national parks by racial/ethnic minorities. *Soc. Nat. Resour.* **2018**, *31*, 908–924. [CrossRef]
20. Dou, Y.; Wu, C.; He, Y. Public Concern and Awareness of National Parks in China: Evidence from Social Media Big Data and Questionnaire Data. *Sustainability* **2023**, *15*, 2653. [CrossRef]
21. Reinius, S.W.; Fredman, P. Protected areas as attraction. *Ann. Tour. Res.* **2007**, *34*, 839–854. [CrossRef]
22. Fredman, P.; Tyrväinen, L. Frontiers in Nature-Based Tourism. *Scand. J. Hosp. Tour.* **2010**, *10*, 177–189. [CrossRef]
23. Barbera, F.; Marzorati, M.; Nicoletti, A. Old and New Conservation Strategies: From Parks to Land Stewardship. In *Nature Policies and Landscape Policies: Towards an Alliance*; Springer: Cham, Switzerland, 2015; pp. 217–222.
24. Palliwoda, J.; Priess, J.A. What do people value in urban green? Linking characteristics of urban green spaces to users' perceptions of nature benefits, disturbances, and disservices. *Ecol. Soc.* **2021**, *26*, 28. [CrossRef]
25. Yurdakul Erol, S. Differences between urban and rural population with respect to demand on forestry aspects, in a case study of the Turkish province of Balıkesir. *Ciênc. Rural* **2012**, *42*, 436–443. [CrossRef]
26. Basu, S.; Nagendra, H. Perceptions of park visitors on access to urban parks and benefits of green spaces. *Urban For. Urban Green.* **2021**, *57*, 126959. [CrossRef]
27. Çolak, A.H.; Çoban, S.; Özalp, G. *Belgrad Ormanı'nın Floristik Analizi ve Yetiştirme Ortamı Özellikleri, Belgrad Ormanı Bir Doğa ve Kültür Mirası içinde*; TC Orman ve Su İşleri Bakanlığı: Ankara, Türkiye, 2013; pp. 278–352.
28. Çağlayan, İ.; Yeşil, A.; Cieszewski, C.; Gül, F.K.; Kabak, Ö. Mapping of recreation suitability in the Belgrad Forest Stands. *Appl. Geogr.* **2020**, *116*, 102153. [CrossRef]
29. Sökmen, E.D.; Yener, Ş.D. Bentler Tabiat Parkı'nın Rekreasyon Potansiyelini Değerlendirmeye Yönelik Bir Çalışma. *Mehmet Akif Ersoy Üniv. Fen Bilim. Enst. Derg.* **2022**, *13*, 176–188. [CrossRef]
30. Şenol, C. Sustainability of the Belgrad Forest: Visitor Opinions About the Potential, Price and Service Policy. *Mavi Atlas* **2022**, *10*, 546–563. [CrossRef]
31. Çağlayan, İ.; Yeşil, A.; Kabak, Ö.; Bettinger, P. A decision-making approach for assignment of ecosystem services to forest management units: A case study in northwest Turkey. *Ecol. Indic.* **2021**, *121*, 107056. [CrossRef]
32. Eker, Ö. An Economic Analysis of Multiple Use of Forests: Belgrade Forest Example. *J. Appl. Sci. Res.* **2007**, *3*, 1472–1475.
33. Atmış, E. A critical review of the (potentially) negative impacts of current protected area policies on the nature conservation of forests in Turkey. *Land Use Policy* **2018**, *70*, 675–684. [CrossRef]
34. Elvan, O.D.; Birben, Ü.; Özkan, U.Y.; Yıldırım, H.T.; Türker, Y.Ö. Forest fire and law: An analysis of Turkish forest fire legislation based on Food and Agriculture Organization criteria. *Fire Ecol.* **2021**, *17*, 12. [CrossRef]
35. Çepel, N. Orman Topraklarının Rutubet Ekonomisi Üzerine Araştırmalar ve Belgrad Ormanının Bazı Karaçam, Kayın, Meşe Meşcerelerinde Intersepsiyon, Gövdeden Akış ve Toprak Rutubeti Miktarlarının Sistemik Ölçmelerle Tespiti. *J. Fac. For. Istanbul Univ.* **1965**, 38–101. Available online: <https://dergipark.org.tr/tr/pub/jffiu/issue/18769/197895> (accessed on 21 October 2023).
36. Yalıtık, F.; Efe, A. Trakya Vegetasyonuna Genel Bakış ve İğneada Subasar (Longos) Ormanları. *J. Fac. For. Istanbul Univ.* **1988**, *38*, 69–75. Available online: <https://dergipark.org.tr/tr/pub/jffiu/issue/18753/197754> (accessed on 24 September 2023).
37. Bekiroğlu, S.; Eker, Ö. Difficulties of Scaling in Forest and Water Management in Urban Areas: Social and Institutional Dimension. In *Forest Management and the Water Cycle. Ecological Studies*; Springer: Dordrecht, The Netherlands, 2011; Volume 212, pp. 497–506.
38. Kırca, S.; Kahraman, S.A.; Atasoy, N.; Çolak, A.H. *Belgrad Ormanı Tarihçesi*; İstanbul Kalkınma Ajansı: İstanbul, Türkiye, 2013; Available online: <https://books.google.com.tr/books?id=IDA3ngAACAAJ> (accessed on 21 October 2023).
39. Çeçen, K. *Mimar Sinan ve Kırkçeşme Tesisleri*; TC İstanbul Büyükşehir Belediyesi: İstanbul, Türkiye, 1988.
40. Çeçen, K. *Taksim ve Hamidiye Suları*; İSKİ Yayınları: İstanbul, Türkiye, 1992; pp. 169–174. ISBN İST-869622.
41. Şahin, S.; Sonmezer, S.; Kolay, İ. Open space use in Ottoman daily life: Landscape of historical dams in Istanbul. *Stud. Hist. Gard. Des. Landsc.* **2015**, *35*, 279–289. [CrossRef]
42. Karakuş, F.; Urak, Z.G.; Özcan, Z. Analysis and typology studies on aqueducts in historical Kırkçeşme water system. *Online J. Art Des.* **2019**, *7*, 22–37.
43. Hair, J.F.; Black, W.C.; Babin, B.J.; Anderson, R.E.; Tatham, R.L. *Multivariate Data Analysis*; Pearson Education Ltd.: London, UK, 2013.
44. Zhang, J. Powerful goodness-of-fit tests based on the likelihood ratio. *J. R. Stat. Soc. Ser. B* **2002**, *64*, 281–294. [CrossRef]
45. Yazıcı, B.; Yolacan, S. A comparison of various tests of normality. *J. Stat. Comput. Simul.* **2007**, *77*, 175–183. [CrossRef]
46. Yap, B.W.; Sim, C.H. Comparisons of various types of normality tests. *J. Stat. Comput. Simul.* **2011**, *81*, 2141–2155. [CrossRef]
47. Borowski, J.; Fortuna-Antoszkiewicz, B.; Łukaszewicz, J.; Rosłon-Szeryńska, E. Conditions for the effective development and protection of the resources of urban green infrastructure. *E3S Web Conf.* **2018**, *45*, 00010. [CrossRef]
48. Yurdakul Erol, S.; Kuvan, Y.; Yıldırım, H.T. The general characteristics and main problems of national parks in Turkey. *Afr. J. Agric. Res.* **2011**, *6*, 5377–5385.
49. Smith, M.K.; Smit, I.P.J.; Swemmer, L.K.; Mokhatla, M.M.; Freitag, S.; Roux, D.J.; Dziba, L. Sustainability of protected areas: Vulnerabilities and opportunities as revealed by COVID-19 in a national park management agency. *Biol. Conserv.* **2021**, *255*, 108985. [CrossRef]
50. Johnson, S.; Smith, P. Post Hoc Analysis: A Comprehensive Guide. *J. Data Anal.* **2018**, *15*, 75–89.

51. Lee, H.; Smith, J. *Advanced Statistical Techniques for Social Science Research*; Sage Publisher: London, UK, 2017.
52. Ballantyne, R.; Packer, J.; Hughes, K. Tourists' support for conservation messages and sustainable management practices in wildlife tourism experiences. *Tour. Manag.* **2011**, *32*, 1243–1250. [[CrossRef](#)]
53. Manning, R.E. *Studies in Outdoor Recreation: Search and Research for Satisfaction*, 3rd ed.; Oregon State University Press: Corvallis, CO, USA, 2011.
54. Coşkun, A.A. An analysis on the “protection-utilization balance” in Turkish forests. *Afr. J. Agric. Res.* **2010**, *5*, 1243–1249.
55. Gençay, G.; Birben, Ü.; Durkaya, B. Effects of legal regulations on land use change: 2/B applications in Turkish forest law. *J. Sustain. For.* **2018**, *37*, 804–819. [[CrossRef](#)]
56. Ghanı, M.C.; Velioglu, N. Practices of Law Number 6292 and Evaluation of Lands Taken Out of Forest Boundary: The Case of Finike District. *Bartın Orman Fak. Derg.* **2020**, *22*, 222–231. [[CrossRef](#)]
57. Konatowska, M.; Młynarczyk, A.; Maciejewska-Rutkowska, I.; Rutkowski, P. Does the State of Scientific Knowledge and Legal Regulations Sufficiently Protect the Environment of River Valleys? *Land* **2024**, *13*, 584. [[CrossRef](#)]
58. Al-Hashedi, K.G.; Magalingam, P. Financial fraud detection applying data mining techniques: A comprehensive review from 2009 to 2019. *Comput. Sci. Rev.* **2021**, *40*, 100402. [[CrossRef](#)]
59. Zhao, J.; Aziz, F.A.; Song, M.; Zhang, H.; Ujang, N.; Xiao, Y.; Cheng, Z. Evaluating Visitor Usage and Safety Perception Experiences in National Forest Parks. *Land* **2024**, *13*, 1341. [[CrossRef](#)]
60. Kičić, M.; Marin, A.M.; Vuletić, D.; Kaliger, I.; Matošević, N.; Šimpraga, S.; Krajter Ostoić, S. Who Are the Visitors of Forest Park Grmošćica and What Are Their Needs? Results of Quantitative Exploratory Survey. *South-East Eur. For.* **2020**, *11*, 169–180. [[CrossRef](#)]
61. Hallo, J.; Manning, R.E. Transportation and Recreation: A Case Study of Visitors Driving for Pleasure at Acadia National Park. *J. Transp. Geogr.* **2009**, *17*, 491–499. [[CrossRef](#)]
62. Hakverdi, A.E. Ekoturizm Aktivitelerinin Yerel Halka Ekonomik Katkılarının Değerlendirilmesi. In *Ziraat, Orman ve Su Ürünleri Alanında Uluslararası Araştırmalar*; Eğitim Yayınevi: Konya, Türkiye, 2022; pp. 113–128.
63. Tavitiyaman, P.; Qu, H.; Tsang, W.L.; Lam, C.R. The influence of smart tourism applications on perceived destination image and behavioral intention: The moderating role of information search behavior. *J. Hosp. Tour. Manag.* **2021**, *46*, 476–487. [[CrossRef](#)]
64. Bamwesigye, D.; Fialová, J.; Kupec, P.; Łukaszkiwicz, J.; Fortuna-Antoszkiewicz, B. Forest recreational services in the face of COVID-19 pandemic stress. *Land* **2021**, *10*, 1347. [[CrossRef](#)]
65. Bamwesigye, D.; Fialova, J.; Kupec, P.; Yeboah, E.; Łukaszkiwicz, J.; Fortuna-Antoszkiewicz, B.; Botwina, J. Urban Forest Recreation and Its Possible Role throughout the COVID-19 Pandemic. *Forests* **2023**, *14*, 1254. [[CrossRef](#)]
66. Łukaszkiwicz, J.; Fortuna-Antoszkiewicz, B. The influence of woodlots on the photoclimate of green areas and the quality of recreation. In Proceedings of the Public Recreation and Landscape Protection—With Environment Hand in Hand, Křtiny, Czech Republic, 9–10 May 2022; pp. 385–389.
67. Vaske, J.J.; Donnelly, M.P.; Williams, D.R. Recreational impacts on park soundscapes: An initial inquiry into the effects of recreational use on wildlife and visitor experiences. *J. Park Recreat. Adm.* **2017**, *35*, 52–65.
68. Shin, Y.H.; Lee, T.J.; Lee, C.K. Influence of experience quality on perceived value, satisfaction, image, and behavioral intention of water park patrons: New versus repeat visitors. *Sustainability* **2018**, *10*, 3675.
69. Lamhour, O.; El Bouazzaoui, I.; Perkumienė, D.; Safaa, L.; Aleinikovas, M.; Škėma, M. Groundwater and Tourism: Analysis of Research Topics and Trends. *Sustainability* **2024**, *16*, 3723. [[CrossRef](#)]
70. Atalay, A.; Perkumienė, D.; Švagždienė, B.; Aleinikovas, M.; Škėma, M. The threat to clean environment: The carbon footprint of forest camping activities as social tourism in Turkey and Lithuania. *J. Infrastruct. Policy Dev.* **2023**, *8*, 2315. [[CrossRef](#)]
71. Erdönmez, C.; Atmış, E. *Türkiye Ormancılığı. Türkiye’de Ormansızlaşma ve Orman Bozulması, Bölüm 4: Korunan Alanlar Ve Rekreasyonel Kullanı*; Türkiye Ormanlıklar Derneği TOD Yayın: Ankara, Türkiye, 2022; pp. 107–115.

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