Perceptions of Landscape Quality in the Historic City Center of Konya, Türkiye: A Multi-Site User Satisfaction Analysis

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ABSTRACT

This study aims to assess user satisfaction regarding the landscape design of public spaces in historic city centers. The design of these spaces, particularly within the context of historic city centers, plays a pivotal role in preserving local identity and fostering harmonious living environments. The existing literature generally focuses on single areas or broader concepts, whereas this research stands out with its comparative examination of four different public spaces in the historic city center of Konya, filling a critical gap in user-oriented evaluations of landscape design in such environments. To provide a comprehensive user experience analysis, the study systematically determined user perceptions and satisfaction levels in terms of perceptual, visual, and functional criteria related to landscape design through a survey administered to 400 participants. Survey data were analyzed using statistical tests to examine demographic and usage impacts. The findings clearly reveal users' assessments of landscape design in these areas, highlighting specific features that need improvement. Users expressed high satisfaction with plants' added visual appeal but voiced dissatisfaction with traffic density, noise pollution, pedestrian road occupation, and accessibility issues (e.g., disabled ramps, tactile surfaces). Satisfaction levels towards landscape design varied significantly due to age, employment status, and frequency/duration of usage. The study, based on user feedback, identifies the strengths and weaknesses of the landscape design in these areas and provides recommendations and practical insights for improving the design and management of these urban landscapes. This approach offers a valuable practical application to the existing literature from a user-oriented perspective.

Keywords: common areas, environmental quality, landscape design, satisfaction level, user perception

INTRODUCTION

Human beings are in a constant relationship with their environment, seeking engagement with nature while conducting their essential activities. In urban environments, the relationship between humans and the environment is most profound in public spaces, which are defined as common areas within the city. The initial conceptualization of communal spaces emerged in the 19th century, pioneered by the American landscape architect Frederick Law Olmsted, who contributed to this understanding through his work on the Boston Park System.

Urban spaces are considered common areas of use that differ and diversify in line with the cultural characteristics of societies. They are classified as regulated pedestrian areas (i.e., parks and areas for recreation, entertainment, and sports); shopping areas (i.e., bazaars, shopping streets, and marketplaces); transit areas (i.e., streets, roads, transportation areas, vehicle circulation, and sidewalks); and zones (i.e., squares, open prestige areas in the city, nodes, and intersections). While the environment can be perceived through various modes of movement, walking remains the most engaging and effective way to observe and appreciate the landscape. Within car-dependent cities, it has been observed that individuals inside vehicles tend to be less cognizant of micro-scale elements such as sidewalks and architectural details. This observation underscores the divergent sensory experiences associated with walking (Surinta, 2023).

To gain a more profound understanding of pedestrian behavior and user experience in public spaces, it is imperative to consider factors such as walking distance and the quality of walking infrastructure (Janpathompong & Murakami, 2021; Janpathompong et al., 2022). Research on green spaces within urban areas has demonstrated that tangible parameters such as pavement surface conditions, presence of obstacles, variations in elevation, thermal comfort, and traffic safety have a direct and significant impact on pedestrian experience and preferences (Man Rai et al., 2022). Moreover, enhancing these elements is imperative for the promotion of pedestrian-friendly and sustainable urban development (Janpathompong & Murakami, 2021).

In order to provide a comprehensive perspective on the user experience of public spaces, especially in historic city centers, it is necessary to take a holistic approach that considers not only physical elements but also the social and cultural values they embody. Methods such as the Historic Urban Landscape (HUL) approach integrate concrete elements such as the topography, built environment, infrastructure, and open spaces of an area with abstract dimensions such as social practices and economic processes. This allows for a more complete understanding of how urban areas are experienced and valued over time (Issarathumnoon, 2020). In contemporary society, common areas are conceived as spaces that prioritize individuals' social, physical, and psychological needs, while urban residents have expressed a need for outdoor areas that provide opportunities for recreation and relaxation. Therefore, in urban planning, landscape design for communal spaces should be approached with a focus on individuals' social, physical, and psychological needs in order to achieve greater human satisfaction.

Open green spaces serve a variety of functional purposes, including recreation, climate regulation, aesthetic enhancement of the landscape and the city, support for ecological functions, promotion of physical health, and facilitation of psychological well-being. The necessity of communal spaces in modern societies is predicated on the premise that they foster a sense of community. Consequently, novel communal spaces are emerging, and existing communal spaces are being renovated. To fulfil the designated function of common-use areas, both the designated area itself and its proximate environment must adhere to the established principles of landscape design, which can be approached from three distinct aspects: functionality, aesthetics, and perception. The evaluation of these criteria should be conducted in a manner that is specific to the physical characteristics of each space and the requirements of its users. To this end, feedback from users is necessary.

Considering these findings, although extant studies have contributed significantly to understanding the identity, livability, and preservation of historic city centers, there appears to be a critical gap in the consideration of user-centered evaluations of landscape design. A paucity of studies exists that address the following research questions: How do users perceive landscape elements in historical environments? How do users experience these elements visually? How do users interact with these elements functionally? This discrepancy is particularly pronounced in the case of Konya's historic city center, where the influence of demographic characteristics and usage patterns on user satisfaction has been examined in only a limited number of studies. By focusing on these dimensions, this study aims to provide an in-depth analysis that not only fills this gap in the literature but also offers practical insights for improving the design and management of historic urban landscapes.

This study differs from the existing studies in the literature in that it examines the landscape design of four different common-use areas in the historical city center of Konya, namely Alaaddin Boulevard, Kültür Park, Zafer Square, and Mevlâna Street, from a simultaneous and comparative perspective. Within the scope of the study, answers to the following questions were sought:

• How do the users of Alaaddin Boulevard, Kültür Park, Zafer Square, and Mevlâna Street in the historical city center of Konya evaluate the landscape designs in these common areas in terms of perceptual, visual, and functional aspects?

• Are there significant differences between users' perceptual, visual, and functional evaluations of landscape design criteria?

• Do the demographic characteristics (age, gender, educational status, occupation, etc.) and usage habits (frequency of use, purpose of use, preferred period, etc.) of the users affect their level of satisfaction with the landscape design?

• What are the specific features or areas in Alaaddin Boulevard, Kültür Park, Zafer Square, and Mevlâna Street suggested by users to be improved in landscape design?

In this direction, the data obtained from 400 participants following the completion of a comprehensive questionnaire were analyzed by statistical methods. Within this paradigm, this study possesses the potential to furnish local governments with more focused and viable recommendations to overcome the deficiencies in landscape design in these areas by centering on user feedback. The present approach is intended to contribute to the adoption of a user-oriented perspective in the design and management processes of common-use areas in the city. Furthermore, it offers a unique practical application proposal to the existing literature on the subject.

LITERATURE REVIEW

A comprehensive review of the existing literature yielded a range of studies addressing various topics. These include landscape design for common areas in historical city centers, as well as the importance of national components in such designs and their compatibility with historical textures. Landscape features that contribute to the character of the traditional street environment can be grouped into two main categories: those that contribute to the physical appearance and those that perform a function. Abdelfattah et al. (2024) sought to establish a framework that would enable the quantitative assessment of urban qualities within historic preservation areas, while Chahardowli et al. (2020), in analysis of 139 theoretical and empirical papers from the past two decades, found that the social dimension plays the most critical and foundational role in sustainable urban regeneration. Shehab El-Deen et al. (2024) used a questionnaire to collect street users' views on the problems in their study on historic commercial streets. The researchers concluded that renovation strategies developed based on survey data could enhance the vitality and livability of historic commercial districts.

Goussous and Hmood (2023) discussed contemporary issues, challenges, and perspectives in the reconstruction of historic urban centers, concluding that these areas

contain indispensable value such as cultural, economic, and social capital and should therefore be preserved. Similarly, Jiang et al. (2022), Li et al. (2022), and Sari et al. (2024) examined the fundamental contradictions between the historic urban landscape and the development of modern urban space. Rey-Pérez and Pereira Roders (2020) conducted a systematic literature review of 140 peer-reviewed publications to determine how UNESCO's Historic Urban Landscape recommendation is understood and implemented in the academic field. Petryshyn et al. (2022) concluded that in long-established areas of historic cities, effective landscape recommendations are based on the expression of local identity.

Rybchynskyi (2024) discussed design strategies for urban interpretation of courtyard spaces in historic towns, especially design and social aspects. The integration of urban morphology, social and cultural factors, and economic aspects is very important for the sustainability of historic city centers. Wang (2024) focused on urban landscape design strategies based on cultural heritage conservation. Taking the urban regeneration landscape in Wuhu Ancient City as an example, the study analyzed relevant examples from China and other countries and aimed to strengthen historical preservation, promote social inclusion and provide innovative urban landscape design strategies. The main purpose of Wang and Ismail (2024)'s study was to deeply investigate the urban historical and cultural heritage, which is the spiritual basis of the development of cities, and to create original landscape design schemes based on this heritage. They concluded that these schemes will develop the tourism industry by attracting tourists and, at the same time, enhance the cultural identity and pride of citizens. Preservation of historic landscape elements is of utmost importance in urban landscape renewal. In this context, it should not be forgotten that traditional landscape culture should be deeply understood, while modern landscape culture should be strengthened.

The field of environmental psychology has been at the forefront of research, with studies emphasizing how individuals perceive their environment and the subsequent impact of these perceptions on their experiences and satisfaction. For instance, the work of Kaplan et al. (1998) centers on the relationships between individuals and natural environments, with a particular emphasis on the design and management of everyday natural environments to support human well-being. Kaplan et al.'s (1998) theories/approaches (coherence, legibility, complexity, mystery, etc.) provide a powerful framework for understanding perceptual dimensions in urban environments. These theories underscore the significance of perceptual qualities and cognitive processes in human interactions with their environment. This provides an in-depth perspective on how users experience the design and functionality of a space.

The presence of opportunities for walking within the urban environment constitutes a critical factor in the shaping of the user experience. Analyses of walkability underscore the pivotal function of micro-scale features, including sidewalk quality, connectivity, and aesthetic appeal, in fostering pedestrian activity. For instance, a study by Janpathompong and Murakami (2021) investigated how pedestrians in Bangkok's Central Business District experience walking infrastructure during lunchtime, detailing the influence of physical parameters such as sidewalk obstructions, surface conditions, level changes, and thermal comfort on user experiences and concerns. This study emphasizes that sidewalks function not only as spaces for circulation but also as venues for social and economic activities.

Debates on pedestrian behavior in public spaces underscore the importance of urban walking culture. Janpathompong and Murakami (2021) further noted that the walking culture in Bangkok is characterized by multipurpose uses, including eating, shopping, recovery from work, socializing, and running errands, often carried out in groups. Such multifunctional uses and social interactions create an "ecosystem" in which public spaces such as sidewalks must provide sufficient room for both mobility and interaction.

A study by Surinta (2023) on measuring streetscape qualities in car-dependent Bangkok highlighted the importance of user

perceptions. The research suggested that measurement tools encompassing micro-scale pedestrian infrastructure, such as sidewalk quality, building facades, street vendors, and lighting, may need to be adjusted for different contexts. Specifically, in a car-dependent city, pedestrians were found to be less attentive to small-scale sidewalk elements (e.g., planters, street furniture, and trees) and to building facade details (e.g., actively-used buildings and distinctive architectural features). This indicates that spatial perception and streetscape qualities may be overlooked or less noticeable in car-dependent cities. Similarly, Man Rai et al. (2022), in a study on user satisfaction with urban green spaces in Thimphu, found that proximity, size, and usability of green spaces influence user satisfaction, while features such as well-connected road networks facilitate physical activity.

Collectively, these studies demonstrate that landscape design should not be confined to aesthetic or functional components alone but should also encompass the complex interactions that shape users' perceptions and behaviors.

An examination of studies conducted in Türkiye reveals a variety of studies on historical city centers and historical landscapes. The commonality of these studies is that they draw attention to the importance of historical environments and urban landscapes in the formation of urban identity. There are also some studies on Konya's historical city center in literature. In all, these studies focus on issues such as quality of space, livability, the spirit of place, and problems encountered after pedestrianization.

A comprehensive overview of the existing literature reveals a substantial corpus of studies focusing on modern urban areas and green spaces. It is acknowledged that the limited number of studies conducted in historic city centers have primarily focused on the perspective of preservation and renovation. A significant proportion of these studies have focused on macro-level concepts such as urban identity, livability, conservation strategies, and sustainability. While these studies offer valuable insights, they predominantly remain at a conceptual or policy-oriented level, demonstrating limited engagement with user-centered evaluations of landscape design. A paucity of research, on the other hand, has been conducted on the perceptual, visual, and functional dimensions of user satisfaction in historic urban landscapes. In the context of Konya, previous studies have emphasized issues such as pedestrianization and spatial quality but have not systematically examined user experiences in relation to landscape design criteria. This gap highlights the need for research that integrates demographic factors and usage patterns with user perceptions, thereby contributing to both academic discourse and practical design strategies.

METHODOLOGY

Materials

Konya, located within the borders of Türkiye, has held a significant role in global history since antiquity. Historically, it was a small city surrounded by walls around Alaaddin Hill but is now a metropolitan city consisting of 31 districts. The geographical area selected for the present study is circumscribed by several key localities, namely Alaaddin Boulevard, Kültür Park, Zafer Square, and Mevlâna Street, which are strategically positioned at the nexus of three central districts of Selçuklu, Karatay, and Meram (Figure 1). The study areas are located within the city walls of the Seljuk capital. Today, these four areas constitute the historical city center of Konya.

Alaaddin Boulevard includes Alaaddin Hill, the intersection point of three central districts of Konya province. It is located on the border of the inner walls of the Seljuk capital. Alaaddin Boulevard is recognized as one of the preeminent commercial hubs in Konya Province. The area is characterized by a variety of amenities, including shopping centers, cafes and restaurants, open green spaces, and bus and tram stops.

Figure 1

Locations of the Study Areas
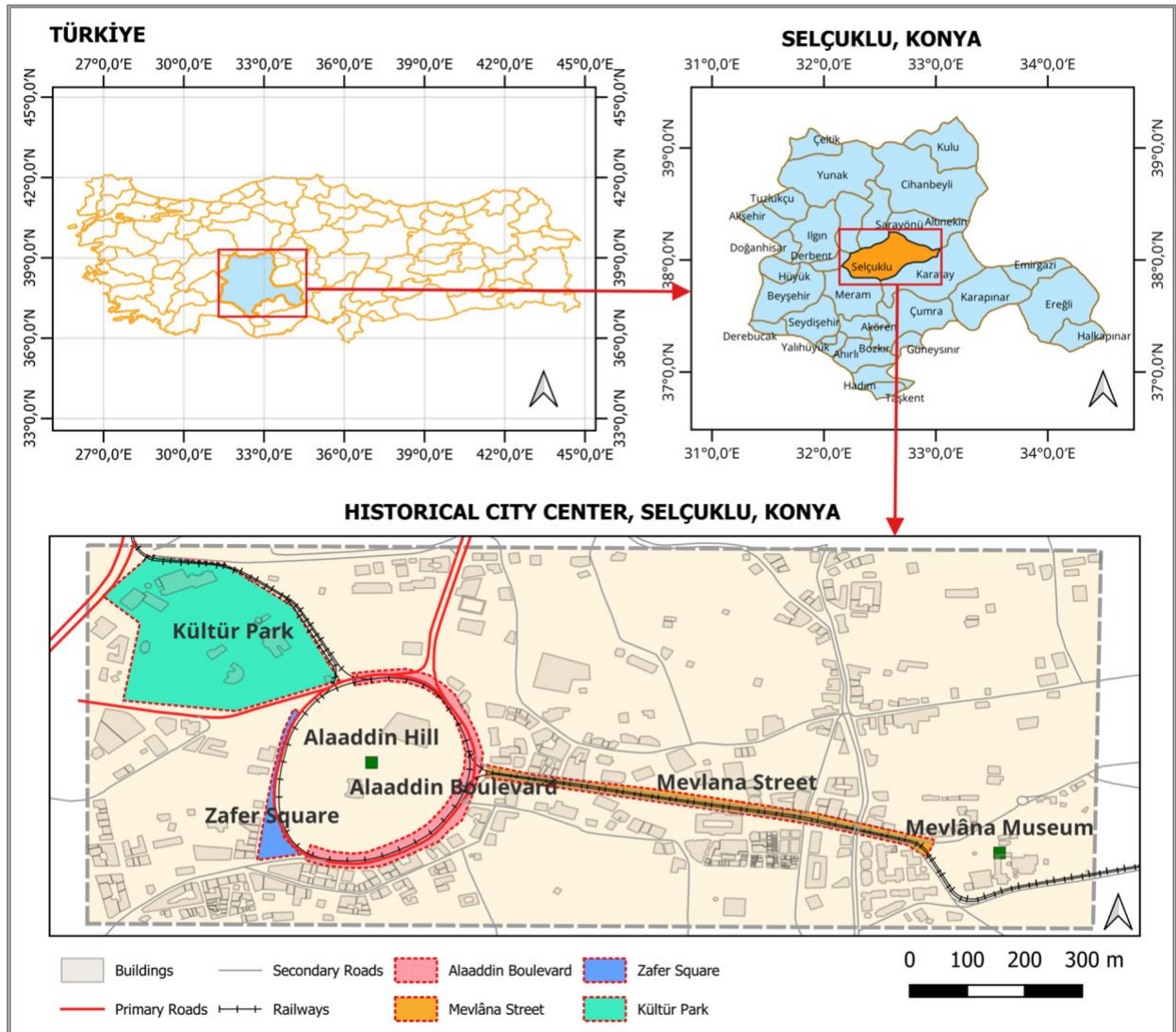
Kültür Park is near Alaaddin Hill. The site, characterized by an open green space, is home to a library, a public café, and various small businesses. It is well connected to the city's transport network, with taxi, bus, and tram stops in the vicinity.

Zafer Square, also located near Alaaddin Hill, has been identified as one of the most densely populated public squares in the city. A variety of amenities are available in the vicinity, including cafes, restaurants, shopping facilities, business centers, and public transport hubs such as bus and tram stops. In 2022, renovation works were carried out.

Mevlâna Street is in the Karatay district of Konya province. The street commences at Alaaddin Hill and concludes at the Mevlâna Museum. The area boasts the presence of two squares, Kayalı Park, in addition to a plethora of commercial establishments, dining options, and business centers. Furthermore, it is well-served by public transportation, with bus and tram stops located nearby, thereby facilitating ease of access to and from the site.

Photographs of the four areas in question can be found in Figure 2. The other materials used in the study were: aerial photographs, computer, questionnaire forms, Microsoft Office 365, Adobe Photoshop 2022, and IBM SPSS 27.0.1 software.

Figure 2

Photographs of the Study Areas

Methods

This study examines the common areas of Konya historical city center with respect to their perceptual, visual, and functional landscape aspects according to landscape design criteria. The study was carried out by face-to-face interviews with the users of the area and the questionnaire application method. The questionnaire was provided to 100 people in each study area to mirror the population of Konya city and the intensity of use of the area. The study group included 400 people in total. The data were then subjected to digitalization using MS Office 365 Excel software before being transferred to and subsequently analyzed using IBM SPSS 27.0.1 and various statistical tests. The analysis yielded key findings. A questionnaire examining the landscape designs of the common-use areas of the Konya historical city center on a 5-point Likert scale was created. It aimed to reveal the opinions and thoughts of the participants about these areas by employing 42 statements categorized as 'General Usage Information', 'Perceptual Landscape', 'Visual Landscape', and 'Functional Landscape' prepared by making

use of statements in similar studies (Acik Etike & Erdonmez Dincer, 2024; Han et al., 2024; Köksaldı & Turkan, 2023). To ensure the relevance and accuracy of the questionnaire, a preliminary research study and focus group interviews were conducted prior to its finalization. This process ensured that the data obtained served the objectives of the research and comprehensively revealed users' thoughts on landscape design.

There were a total of six questions under Demographic Information, each of which were about gender, age, graduation status, employment status, monthly income, and the most used area. There were a total of eight questions under General Usage Information, each of which were about the purpose of use of the area, utilization status, means of transport, ease of access, frequency of use, most used period, most used season, and average duration of use. The nine statements under Perceptual Landscape encompassed issues such as the suitability of the sun angle for the road direction, bad or pleasant odor, pedestrian and vehicle traffic density, noise pollution, pedestrian road occupation, and pedestrian safety. The six statements under Visual Landscape included the width of

pedestrian pathways, the angle of sunlight for seating units, the color and texture of urban furniture and ground elements, the harmony of the design with the city and nature, and the visual contribution of plants. The 27 statements under Functional Landscape included various features such as walking and cycling paths, car parks, bicycle parks and pedestrian crossings, rubbish bins, disabled ramps and tactile surfaces for visually impaired people, information signs, and lighting. A total of 42 statements under Perceptual, Visual and Functional landscape and the short codes to be used for these statements in the following sections of the study are given in Table 1.

An additional option of "No Opinion" was incorporated into the five-point Likert-type scale utilized as a measurement tool. A review of the extant literature reveals that the validity and reliability of Likert-type scales, as developed for the measurement of attitudes, is superior to that of other scales. In the study, rather than utilizing a scale with a neutral option ("No Opinion"), it would have been preferable to employ a scale without such a category. Nevertheless, the inclusion of a "No Opinion" option on the scale served to reduce the utilization of the "Undecided" option, thereby ensuring more consistent results.

Table 1

Statements and Codes Related to Perceptual, Visual, and Functional Aspects

Aspect	Item Code	Description	Aspect	Item Code	Description
Perceptual Landscape	P1	Foul Odor	Functional Landscape (continue)	F7	Tactile surfaces
	P2	Fragrant plants		F8	Information signs (sufficiency)
	P3	Pedestrian density		F9	Lighting
	P4	Vehicle density		F10	Seating units
	P5	Noise pollution		F11	Garbage bins
	P6	Pedestrian road occupation		F12	Floor paving (comfort)
	P7	Feeling comfortable in the area		F13	Water features
	P8	Pedestrian safety (accidents etc.)		F14	Information signs (maintenance)
	P9	Pedestrian security (crime)		F15	Lighting fixtures (maintenance)
Visual Landscape	V1	Sun direction (when walking)		F16	Seating units (maintenance)
	V2	Sun direction (Sitting)		F17	Garbage bins (maintenance)
	V3	Urban furniture (color/pattern/etc.)		F18	Floor paving (maintenance)
	V4	Floor paving (color/pattern/texture)		F19	Drainage issues
	V5	Urban and nature harmony		F20	Water features (maintenance)
	V6	Appearance of plants		F21	Plantation (sufficiency)
Functional Landscape	F1	Walkway/bike lane		F22	Grass area (sufficiency)
	F2	Car parking lot		F23	Flowers (sufficiency)
	F3	Bicycle Park		F24	Shrubs (sufficiency)
	F4	Pedestrian crossing		F25	Shade tree (sufficiency)
	F5	Pedestrian way width		F26	Plantation (maintenance)
	F6	Disabled ramps		F27	Allergenic plants

The following Likert scale was employed to evaluate the statements included in the Perceptual Landscape, Visual Landscape, and Functional Landscape sections of the questionnaire. Respondents were invited to indicate their level of agreement or disagreement with the following statements on a five-point scale: Strongly Agree (5), Agree (4), Undecided (3), Disagree (2), Strongly Disagree (1), No Opinion (0).

The study group comprised users of the study areas, selected by random sampling, and volunteers from different age groups over 18, with a range of education levels. Age groupings among the demographic characteristics of participants were made to better reflect different stages of life and behavioral patterns in urban area usage. This allowed for a more detailed analysis of satisfaction with landscape design across different age groups. Employment status and monthly income were used to understand how different employment profiles affect satisfaction with landscape design. These groupings reflected the standard categorizations frequently used in social science research. The minimum sample size for the questionnaire was determined using the methodology outlined by Adam (2020), resulting in a calculated minimum sample size of 385.

The study was conducted in four distinct areas, with 100 people surveyed in each area, for a total of returned 400 questionnaires. The participants who met the criteria for inclusion in the study group were invited to complete the prepared questionnaires, and the survey data were collected through face-to-face administration in all study areas.

The data obtained from field users participating in the study group were transferred to a computer environment using MS Office 365 Excel software. Cronbach's alpha coefficients were checked to determine whether the consistency of the questions in the questionnaire was at a reliable level. In analysis of demographic information, frequency and percentile information were evaluated. As a result of the quantification of the responses received from the users, Independent T-test and One-Way ANOVA tests were applied in addition to frequency and percentile analyses for the analysis of Likert-type statements. The results were evaluated at a 95% confidence interval and significance at $p<0.05$ level. During the analysis, participants who had selected "No Opinion" in response to the questionnaire items were excluded from evaluation of those items. To calculate the percentiles for each questionnaire item, the ratio of the score for the relevant item to the maximum possible score on an item basis was determined by Eq. (1).

$$S_{max_{ij}} = N_{ij} \; x \; L \qquad (1)$$

where $S_{max_{ij}}$ - maximum attainable score for item j in aspect i; N_{ij} - number of valid responses (excluding "No Opinion") for item j in aspect i; L - highest Likert scale value (5).

In addition, the ratio of the score obtained from each of the questionnaire sections (Perceptual, Visual and Functional aspects) to the maximum score that can be obtained based on the section was calculated using Eq. (2).

$$S_{max_i} = \sum_{j=1}^{M_i}(N_{ij} \; x \; L) \qquad (2)$$

where M_i - total number of items in aspect i; N_{ij} - number of valid responses (excluding "No opinion") for item j in aspect i; L - highest Likert scale value (5).

This structure ensured that situations that would have made the average misleading due to "No Opinion" responses were avoided. Furthermore, analyses specific to each item were conducted, as were comparisons of each landscape aspect. The schematic representation of the Landscape Design Evaluation Process was carried out based on user feedback within the study's scope, and the basic stages of the data analysis are presented in Figure 3.

In summary, in the initial phase of the process, the perceptual, visual, and functional aspects of the landscape design in the designated study areas, along with the features that constitute them, were determined. The data about these features was collected through user feedback. The collected data were analysed comparatively, both based on aspects and landscape design as a general

concept. The analyses conducted revealed the strengths and weaknesses of the landscape design of the areas in question, thereby clarifying the revisions needed.

RESULTS

Regarding utilization of specific areas, 199 out of 400 participants indicated Zafer Square as their primary location (Figure 4). The analysis indicated that Zafer Square was followed by Kültür Park and Alaaddin Boulevard, with Mevlâna Street exhibiting the lowest level of usage.

In Table 2, the abbreviations "AB" for Alaaddin Boulevard, "KP" for Kültür Park, "ZS" for Zafer Square, and "MS" for Mevlâna Street are employed. A subsequent analysis of the information provided by all participants reveals that 58% were male, 57% were between the ages of 18 and 24, 39% had a high school diploma, and 52% were unemployed.

Based on area usage preferences, it is seen that users mostly prefer to use Alaaddin Boulevard (37%) a few times a month, Kültür Park (32%) a few times a week and a few times a month, Zafer Square (40%) a few times a week, and Mevlâna Street (33%) a few times a month.

As illustrated in Table 3, weekend usage was observed to be the most intensive (57%), summer was the most utilized season (54%), and the duration of use was predominantly between one to three hours (46%).
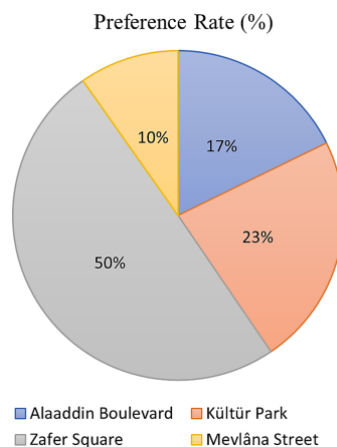
Figure 3

Landscape Design Evaluation Process
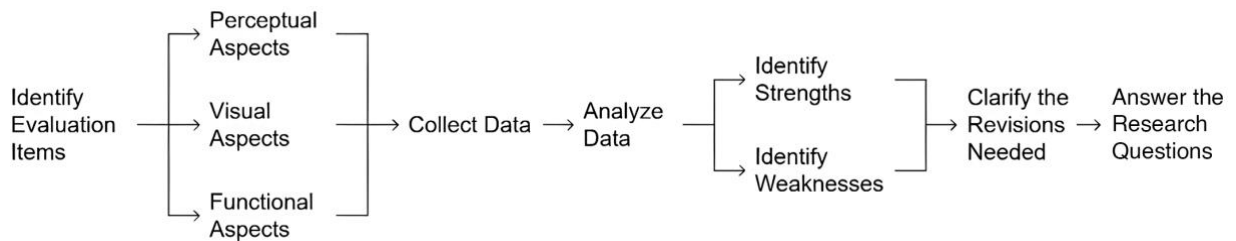
Figure 4

Preference Rates of the Areas

Table 2

Findings Related to the Study Group (%)

Study Area	Gender		Age						Graduation					Employment				
	Female	Male	18–24	25–34	35–44	45–54	55–64	65+	Primary School	Middle School	High School	Associate degree	Bachelor's	Postgraduate	Not Working	Public Employee	Private Sector	Other
AB	45	55	62	18	7	7	4	2	4	6	33	12	42	3	62	10	13	15
KP	37	63	49	23	8	9	5	6	15	4	41	15	22	3	46	13	20	21
ZS	37	63	55	20	7	4	9	5	5	5	40	14	33	3	48	14	19	19
MS	47	53	63	17	10	2	5	3	5	2	43	14	32	4	52	12	15	21

Table 3

Findings on Usage Preferences (%)

	Frequency of Use				Days		Season				Duration of Use			
	Every day	Several times a week	Several times a month	Several times a year	Weekdays	Weekend	Spring	Summer	Autumn	Winter	Less than 1 hour	1–3 hours	3–5 hours	More than 5 hours
Alaaddin Boulevard	7	27	37	29	39	61	27	57	5	11	35	49	12	4
Kültür Park	16	32	32	20	44	56	22	52	18	8	38	40	16	6
Zafer Square	13	40	31	16	43	57	19	55	18	8	33	48	11	8
Mevlâna Street	12	30	33	25	45	55	27	53	8	12	33	48	13	6

Findings on Satisfaction Scores

The data obtained from the questionnaires were evaluated based on total scores. The highest total score was calculated as 210 points (42 statements x 5 points). The mean scores for each of the four areas were calculated at 124.34 for Alaaddin Boulevard, 131.01 for Kültür Park, 131.79 for Zafer Square, and 121.29 for Mevlâna Street. Therefore, Zafer Square received the highest score, while Mevlâna Street received the lowest score in terms of overall satisfaction with landscape design.

The maximum possible value for the statements in the Perceptual Landscape aspect was 45 (9 statements x 5 points) and the mean average scores for each area were:

Alaaddin Boulevard (28.7), Kültür Park (29.2), Zafer Square (28.78), and Mevlâna Street (29.08). In sum, Kültür Park attained the highest score, while Alaaddin Boulevard received the lowest.

The maximum total score for the statements in the Visual Landscape aspect was calculated at 30 points (6 statements x 5 points). The mean scores for this aspect were: Alaaddin Boulevard (18.30), Kültür Park (18.81), Zafer Square (19.54), and Mevlâna Street (18.36), making Zafer Square the highest rated and Alaaddin Boulevard the lowest.

The maximum total score for the statements in the Functional Landscape aspect was 135 points (27 statements x 5 points). The mean average scores for this aspect were: Alaaddin Boulevard (77.34), Kültür Park (83), Zafer Square (83.47), and Mevlâna Street (73.85),

respectively. Zafer Square therefore received the highest score and Mevlâna Street the lowest.

The next step involved evaluation of the total scores as percentages, which are shown in Figure 5. A subsequent analysis of the satisfaction levels for all areas based on the aspects of landscape design revealed that the lowest scores were in the Perceptual aspect, and the highest scores were in the Visual aspect.

To ascertain satisfaction levels for the statements in the Perceptual, Visual, and Physical aspects, the total scores were calculated for each statement. The full score for each statement was 5, and the total score for each statement, therefore, ranged from 0 to 500, since 100 people were selected to participate in each area. The satisfaction percentages were determined by proportioning the total score calculated for each statement to the maximum possible score (500 points) (Equation 1). The data presented in Figure 6, which comprises the calculated percentages, offers a quantitative comparison of perceptual, visual, and functional landscape design features among the study areas. This approach facilitates the identification of the strengths and weaknesses of each area concerning landscape design.
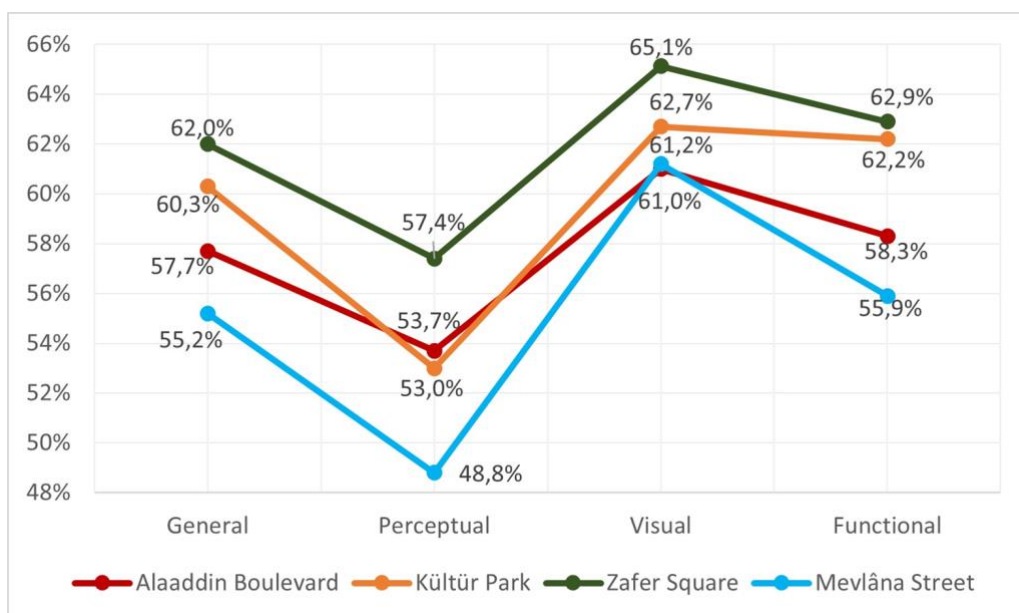
Statements in the Perceptual Landscape Aspect

Upon analysis of perceptual factors, significant discrepancies were observed with respect to user experiences concerning the general atmosphere of the areas. The highest level of satisfaction regarding the expression "foul odor" (P1) was recorded in Zafer Square at 74.2%, while the lowest rate was recorded in Mevlâna Street at 58.2%. Conversely, the perception of "fragrant plants" (P2) was highest at Alaaddin Boulevard at 67.0% and lowest at Mevlâna Street at 56.6%.

Regarding density perceptions, "pedestrian density" (P3) and "vehicle density" (P4) were highest in Zafer Square, at 44.2% and 47.2%, respectively. Mevlâna Street was lowest in density satisfaction levels, with 34.2% and 36.8% for both statements, respectively. In a similar vein, the highest rate of satisfaction was reported at Zafer Square for "noise pollution" (P5), with 48.6% of participants expressing satisfaction. Conversely, the lowest rate was reported at Mevlâna Street at 39.2%. For "pedestrian road occupation" (P6), Zafer Square saw the highest level of satisfaction at 51.4% and Mevlâna Street the lowest at 43.0%.
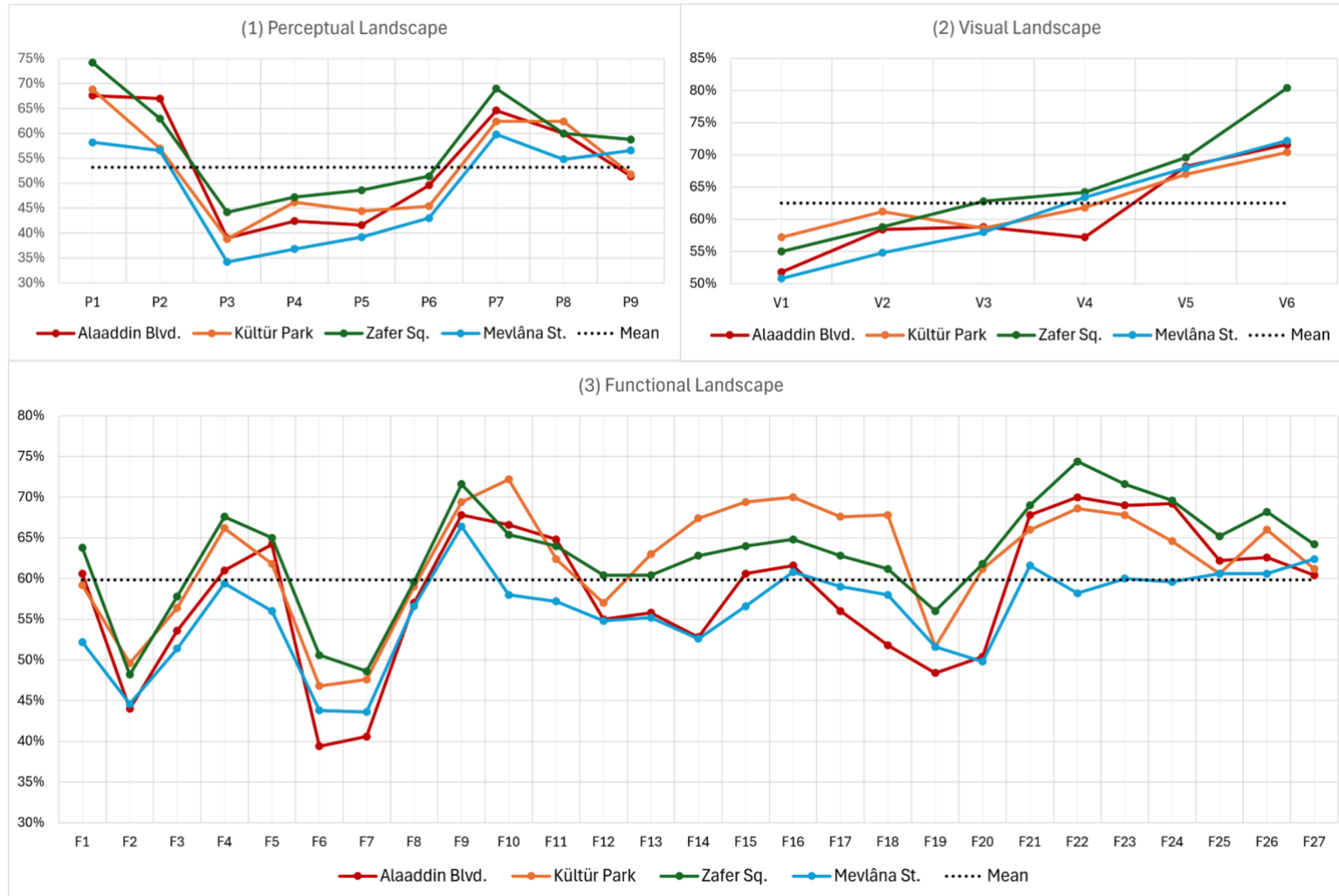
Figure 5

Percentages of Satisfaction Level for Landscape Design (%)

Figure 6

User Satisfaction Levels for Statements in Perceptual, Visual, and Functional Landscape Aspects (%)

In contrast, perceptions of comfort and safety demonstrate distinct distributions. The perception of "making you feel comfortable" (P7) was highest at Zafer Square at 69.0%, while the lowest rate was recorded at Mevlâna Street at 59.8%. Concerning the issue of "pedestrian safety (accidents, etc.)" (P8), Kültür Park saw the highest satisfaction levels at 62.4%, while Mevlâna Avenue recorded the lowest at 54.8%. In the perception of "pedestrian security" (P9), the highest rate was observed in Zafer Square at 58.8%, and the lowest rate was observed in Alaaddin Boulevard at 51.4%.

Statements in Functional Landscape Aspect

Functional landscape features focused on two key aspects: the usability of spaces and the adequacy of infrastructure. Zafer Square was perceived as offering the greatest adequacy for a significant number of functional items: "walking/bike lane" (F1, 63.8%), "bicycle park" (F3, 57.8%), "pedestrian crossing" (F4, 67.6%), "pedestrian way width" (F5, 65.0%), "disabled ramps" (F6, 50.6%), "tactile surfaces" (F7, 48.6%), "adequacy of information signs" (F8, 59.6%), "lighting" (F9, 71.6%), and numerous items related to planting (F21–F26).

In the context of specific functional items, disparate rates have been documented across multiple areas. The highest rate of satisfaction with "car parking lot" (F2) was recorded in Kültür Park at 49.6%; however, this rate was found to be relatively low across all areas. "Seating units" (F10) were reported to be the most sufficient in Kültür Park at 72.2%. The highest satisfaction with "garbage bins" (F11) was recorded in Alaaddin Boulevard at 64.8%, while "water features" (F13) were perceived to be most sufficient in Kültür Park, with 63.0% of respondents expressing this opinion.

A comprehensive analysis of perceptions regarding maintenance items reveals that Kültür Park consistently emerges as the area with the highest perceptions in this regard. The highest rates of "information sign maintenance" (F14, 67.4%), "seating unit maintenance" (F16, 70.0%),

"garbage bin maintenance" (F17, 67.6%), and "floor paving maintenance" (F18, 67.8%) were recorded in Kültür Park. "Lighting fixture maintenance" (F15) saw its highest rate in Kültür Park at 69.4%. In relation to the subject of "plantation maintenance" (F26), Zafer Square was the leading area, with a rate of 68.2%.

For Zafer Square, the satisfaction level regarding "drainage" (F19) was 56.0% and, regarding "water features maintenance" (F20), 61.8%, the highest level across areas. The levels of satisfaction regarding the "presence of allergenic plants" (F27) were similar in all areas, with the highest observed in Zafer Square at 64.2%.

In general, Mevlâna Street tended to receive the lowest scores among the areas for several items in the perceptual, visual, and functional aspects. Accessibility items such as disabled ramps (F6) and tactile surfaces (F7) had lower perceived adequacy rates than other functional items in all areas. Similarly, the adequacy of car parking amenities (F2) was perceived to be comparatively inadequate.

In addition to the comparative analyses on the satisfaction levels regarding the statements in the questionnaire, various statistical analyses were applied. The following tests are independent sample t-tests and one-way ANOVA tests. The findings obtained by these tests are presented under two headings.

Independent Sample t-test Results

The study posed the question of whether the gender of the users and the period in which they use the areas the most have a statistically significant effect on their satisfaction with the landscape design. Statistically significant differences were identified between gender and perceptual landscape design aspect, as well as between weekday–weekend use preference and visual landscape design aspect on Mevlâna Street (Table 4). In addition to the aforementioned points, the independent sample t-test results revealed no statistically significant differences across all areas of inquiry.

Ahmet Akay

Table 4

Mevlâna Street Independent T-Test Results

	Aspect	Variable	Subgroup	N	X̄	SD	t	df	p
Mevlâna Street	**General Landscape Design**	Gender	Female	47	114.45	26.82	-0.45	98	0.280
			Male	53	117.09	31.63			
		Usage	Weekdays	45	109.56	31.91	-1.97	98	0.190
			Weekend	55	121.00	26.27			
	Perceptual Landscape Design	Gender	Female	47	21.28	5.38	-0.98	98	0.020*
			Male	53	22.57	7.46			
		Usage	Weekdays	45	21.20	6.76	-1.05	98	0.450
			Weekend	55	22.58	6.39			
	Visual Landscape Design	Gender	Female	47	18.32	5.35	-0.07	98	0.440
			Male	53	18.40	6.09			
		Usage	Weekdays	45	17.53	6.64	-1.31	98	0.038*
			Weekend	55	19.04	4.81			
	Functional Landscape Design	Gender	Female	47	74.85	19.68	-0.31	98	0.770
			Male	53	76.13	21.32			
		Usage	Weekdays	45	70.82	22.03	-2.12	98	0.200
			Weekend	55	79.38	18.42			

Note. * $p < 0.05$ statistically significant.

A significant difference was found with respect to the gender of the users on their level of satisfaction with the perceptual landscape design of Mevlâna Street (t=-0.980, p=0.020). The findings indicate that the mean satisfaction of women (X̄=21.28) was lower than that of men (X̄=22.57). The data indicates that user satisfaction with the perceptual landscape design of Mevlâna Street varies according to gender.

Furthermore, a statistically significant discrepancy was identified in the impact of the period during which the area was used most extensively on satisfaction levels pertaining to the visual landscape design (t=1.31, p=0.038). The findings indicate that the average satisfaction levels of participants who predominantly use the area during weekdays (X̄=17.53) are lower in comparison to those who use it during weekends (X̄=19.04). This suggests that user satisfaction levels with the visual landscape design of Mevlâna Street vary according to the period of use.

Anova Test Results

This section details the findings concerning the one-way ANOVA test results presented in Table 5. The analyses were conducted to determine if there were statistically significant differences in participants' landscape perceptions (General, Perceptual, Functional, Visual) based on certain socio-demographic and various usage characteristics (Employment Status, Age, Frequency of Use, Daily Usage Time) across the four study areas (Alaaddin Boulevard, Kültür Park, Zafer Square, and Mevlâna Street). The most significant difference between the areas was found for Kültür Park (5) and the least for Zafer Square (2).

Considering the situation based on the variables; three significant differences were determined for employment status, four for frequency of use, four for age, and four for daily usage time. To examine the significant difference between the groups, the Tukey test was used as one of the post-Hoc tests.

Table 5

Anova Test Findings Related to Statistically Significant Issues

	Variable	Aspect	Source of Variation	Sum of Squares	df	X̄	Mean Sq.	F	p
Alaaddin Boulevard	Employment	General Landscape	Between Groups	7821.16	3	2607.05	30.24	3.026	.033*
			Within Groups	82697.40	96	861.43			
			Total	90518.56	99				
		Perceptual Landscape	Between Groups	541.77	3	180.59	7.50	3.444	.020*
			Within Groups	5033.67	96	52.43			
			Total	5575.44	99				
	Frequency of Use	Perceptual Landscape	Between Groups	897.18	3	299.06	7.50	6.137	.001*
			Within Groups	4678.26	96	48.73			
			Total	5575.44	99				
Kültür Park	Age	General Landscape	Between Groups	8496.47	3	2832.16	26.46	4.469	.006*
			Within Groups	60838.92	96	633.74			
			Total	69335.39	99				
		Functional Landscape	Between Groups	4541.52	3	1513.84	18.68	4.840	.004*
			Within Groups	30024.44	96	312.76			
			Total	34565.96	99				
	Frequency of Use	General Landscape	Between Groups	7729.25	3	2576.42	26.46	4.015	.010*
			Within Groups	61606.14	96	641.73			
			Total	69335.39	99				
		Visual Landscape	Between Groups	260.84	3	86.95	5.24	3.384	.021*
			Within Groups	2466.55	96	25.69			
			Total	2727.39	99				
		Functional Landscape	Between Groups	3657.04	3	1219.01	18.68	3.786	.013*
			Within Groups	30908.93	96	312.97			
			Total	34565.96	99				
Zafer Square	Age	Perceptual Landscape	Between Groups	450.08	3	150.03	6.27	4.184	.008*
			Within Groups	3442.68	96	35.86			
			Total	3892.76	99				
	Employment	Functional Landscape	Between Groups	4622.41	3	1540.80	21.57	3.567	.017*
			Within Groups	41470.10	96	431.98			
			Total	46092.51	99				
Mevlâna Street	Age	Functional Landscape	Between Groups	3586.74	3	1195.58	20.47	3.027	.033*
			Within Groups	37914.17	96	394.94			
			Total	41500.91	99				
	Daily Usage Time	General Landscape	Between Groups	7840.43	3	3920.22	29.35	4.910	.001*
			Within Groups	77470.32	96	798.66			
			Total	85310.75	99				

Table 5 (Continued)

Variable	Aspect	Source of Variation	Sum of Squares	df	X̄	Mean Sq.	F	p
Mevlâna Street	Perceptual Landscape	Between Groups	344.40	3	172.20	6.56	4.260	.017*
		Within Groups	3921.44	96	40.43			
		Total	4265.84	99				
	Functional Landscape	Between Groups	3600.51	3	1800.25	20.47	4.607	.012*
		Within Groups	37900.40	96	390.73			
		Total	41500.91	99				

Note. * p<.05 statistically significant.

Alaaddin Boulevard

The ANOVA analyses conducted for Alaaddin Boulevard revealed a statistically significant difference in participants' general landscape perceptions based on the Employment Status variable (F=3,026, p=0.033). The highest mean satisfaction level was observed among users who selected the "Other" option (X̄=133.40), while the lowest was among private sector employees (X̄=102.30).

Similarly, a statistically significant difference was also detected in participants' perceptual landscape perceptions based on employment status in the same area (F= 3.444, p=0.020). The mean satisfaction levels of the participants were as follows: public employees (X̄=29.00); users who selected the "Other" option (X̄=26.33); non-employed participants (X̄=23.73); and private sector employees (X̄=20.00).

Looking at the usage characteristics, a statistically highly significant difference was observed for the perceptual landscape based on the frequency of use variable (F=6.137, p=0.001). The highest mean satisfaction level was found among those who used the area a few times a week (X̄=27.63), while the lowest was found in those who used the area a few times a year (X̄=19.83).

These findings reveal that general and Perceptual Landscape perceptions for Alaaddin Boulevard differ according to employment status, and Perceptual Landscape perception differs according to frequency of use.

Kültür Park

Examining the ANOVA results regarding landscape perceptions for Kültür Park, statistically significant differences were found in participants' perceptions of both General Landscape (F=4.469, p=0.006) and Functional Landscape (F=4.840, p=0.004) based on the Age variable. For both landscape design aspects, the highest mean satisfaction levels were attained by participants in the 55 and over age group (X̄=152.73 and X̄=102.82).

Regarding the usage variables, statistically significant differences were determined for General Landscape (F=4.015, p=0.010), Visual Landscape (F=3.384, p=0.021), and Functional Landscape (F=3.786, p=0.013) perceptions based on Frequency of Use. For both landscape design aspects, the highest mean satisfaction levels were attained by participants who use the area several times a week (X̄=138.38, X̄=19.17 and X̄=92.44).

These results demonstrate that the General, Functional, and Visual landscape perceptions of Kültür Park vary among groups depending on age and frequency of use.

Zafer Square

The ANOVA findings obtained for Zafer Square indicate a statistically significant difference in participants' Perceptual Landscape perceptions based on the age variable (F=4.184, p=0.008). The mean satisfaction levels of users were found to be highest in the 55+ age group (X̄=28.71) and lowest in the 35–54 age group (X̄=20.64).

A statistically significant difference was also detected in functional landscape perception based on employment status (F=3.567, p=0.017). The mean satisfaction levels of users were found to be highest in those who selected the "Other" option (X̄=90.16) and lowest among private sector employees (X̄=72.47).

This suggests that the perceptual landscape in Zafer Square is perceived differently based on age, and the functional landscape is perceived differently based on employment status.

Mevlâna Street

In the analysis for Mevlâna Street, a statistically significant difference was found in participants' Functional Landscape perceptions based on the Age variable (F=3.027, p=0.033). The mean satisfaction levels of users were found to be highest in the 45 and over age group (X̄=92.80) and lowest in the 35–44 age group (X̄=69.90).

Regarding the usage variables, statistically significant differences were observed in perceptions of both General Landscape (F=4.91, p=0.001), Perceptual Landscape (F=4.260, p=0.017), and Functional Landscape (F=4.607, p=0.012) based on Daily Usage Time. It is particularly noteworthy that the Daily Usage Time variable showed significant relationships with three different landscape aspects (General, Perceptual, and Functional) at Mevlâna Street.

Overall, the ANOVA test results indicate that there are statistically significant differences between participants' demographic characteristics (age and employment status), their usage patterns (frequency of use and daily usage time), and their perceptions of different landscape aspects in the four areas examined. These findings support the notion that urban landscapes are perceived and evaluated non-homogeneously by different user groups or usage profiles.

DISCUSSION

In all areas, pedestrian density, vehicle traffic density, and noise pollution were identified as the issues with the lowest level of satisfaction. These areas are located at the intersection of three central districts of the city, where both vehicle traffic and areas reserved for pedestrian activities are intertwined. Consequently, noise pollution is also a prevalent issue in these areas, stemming from both vehicular traffic and pedestrian activities. There are various studies in the literature that support these findings. One study conducted on a park noted significant traffic noise problems, particularly due to its proximity to the highway, leading to citizen complaints (Jin et al., 2024). Another study on the redevelopment project of another park identified transport–pedestrian conflicts while analyzing spatial conflicts within the park area (Lukashchuk et al., 2023). These findings indicate that urban planners and local governments should prioritize integrated strategies such as instituting traffic calming measures, increasing pedestrian-priority areas, using noise barriers, or creating appropriate green buffer zones in these dense areas. The goal is to create calm and user-friendly environments in public spaces while efficiently managing both human and vehicle traffic.

The satisfaction scores of users of both Kültür Park and Mevlâna Street with regard to pedestrian road occupation were found to be lower than for the other statements. The underlying causes of this phenomenon may include the presence of vehicles parked on pedestrian routes due to a shortage of designated car parking zones, the placement of tables and chairs in outdoor areas adjacent to retail establishments, or the positioning of urban furniture in a manner that impedes the movement of pedestrians. An analysis of urban morphology and public perception, as undertaken by Zhang et al. (2024), employs accessibility and mobility as indicators of urban morphology. This supports the assertion that pedestrian movement is of significance for both design and perception. This situation underscores the pressing need for urban planners and landscape architects to take action by addressing parking shortages, strategically placing street furniture, and protecting pedestrian walkways from commercial

activities. This will support pedestrian mobility. The statement with the lowest score for Alaaddin Boulevard and Kültür Park was: "Disabled ramps are sufficient." For Alaaddin Boulevard, Zafer Square, and Mevlâna Street, the statement that was given the lowest score was: "Tactile surfaces are sufficient for the visually impaired." Yaralioglu and Kara's (2024) analysis of the sustainable urban design approach in public spaces clearly states that the United Nations Sustainable Development Goals (SDGs)—in particular, Goal 11, by Article 7—aim to "ensure universal access to safe, inclusive and accessible green spaces and public spaces for all, especially children, women, the elderly and people with disabilities." The persistent low satisfaction levels reported indicate a clear necessity for local governments and designers to conduct comprehensive accessibility audits in accordance with universal design principles. These audits must address infrastructural deficiencies, including but not limited to disabled ramps and tactile surfaces. This is a critical step toward ensuring that public spaces are truly inclusive for all user groups.

The statement "Plants add visual value" received the highest score for all areas of the study. It is widely acknowledged among users that the incorporation of plants into design schemes enhances the visual appeal of the resulting aesthetic. The highest-ranking common statement concerning Alaaddin Boulevard and Zafer Square was "The seasonal flowers are sufficient." The highest-rated statement concerning Alaaddin Boulevard was "Shrubs are sufficient." The satisfaction levels of users may be high due to the perception that the plant designs and quantities are adequate. This consistent positive feedback underscores the critical role of biophilic design principles in the design of urban public spaces. Local governments and designers should continue to prioritize the implementation of robust planting schemes that include a variety of seasonal vegetation and well-maintained shrubs. The efficacy of these elements in increasing user satisfaction and aesthetic perception has been demonstrated. Li et al. (2024) conducted a study to ascertain the impact of landscape features in urban parks on aesthetic value. The present study lends support to the proposition that specific landscape features can exert influence on user experience, and consequently,

satisfaction. The importance of stakeholder engagement and user needs identification in the sustainable design of public spaces is also emphasized in various studies (Alraouf, 2024; Yaralioglu & Kara, 2024; Zhao et al., 2024).

Following a thorough analysis of the satisfaction scores presented in the findings section, it was determined that Zafer Square received the highest score among the four areas under consideration, possibly due to recent renovations in that area. This finding indicates that the successful implementation of urban renewal initiatives can lead to substantial enhancements in public perception and user experience and clearly demonstrates the potential return on investment in contemporary and thoughtful landscape revitalization efforts.

Analysis of the results obtained from the questionnaire administered to visitors of Kültür Park reveals that the 55+ age group reports a higher level of satisfaction than the other age demographics. This may be attributable to the fact that this group has observed the evolution of Kültür Park over time. The present study analyzed user satisfaction with the sites and its relationship with factors such as age and frequency of use. This approach is consistent with the extant literature in the field of urban planning and heritage management and is supported by a range of sources. A study by Ji et al. (2020) highlighted the importance of determining resident satisfaction to ensure community participation in the management of historic urban landscapes. A study by Zhao et al. (2024) also utilized semi-structured interviews with stakeholders as a data collection method in the reuse of heritage sites. In short, the literature demonstrates the significance of the user perspective in the evaluation of urban transformation and heritage areas. The approach adopted in the aforementioned study was consistent with the user-oriented perspective that formed the foundation of this research.

Analysis of the daily frequency of use results for Mevlâna Street reveals that those spending one to three hours in the area report higher levels of satisfaction compared to those spending less than one hour. Similarly, the answers to the "frequency of use" question for Alaaddin Boulevard show that people who use the area a few times a week are more satisfied than those who use it a few times a year. The main reason

for this situation in both areas may be that people who use these places more frequently benefit more from them.

In terms of visual landscape design, Zafer Square had the highest average score. This phenomenon may be attributed to the recent redesign and renovation of Zafer Square. However, the mean average scores from the remaining areas were found to be relatively similar.

Based on the findings related to Kültür Park's usage frequency, individuals who utilize the space on a weekly or monthly basis reported higher levels of satisfaction compared to those who use it daily. This phenomenon may be attributed to the fact that daily users develop a more in-depth familiarity with the park, which allows them to spot its shortcomings more easily.

That is, continuous and prolonged use by daily visitors provides them with extensive observational insight into all facets of the park. This thorough evaluation might lead to a heightened awareness of factors that negatively impact overall satisfaction, whereas less frequent or periodic users are more likely to focus on the park's positive attributes. These findings, characterized by their nuances, offer critical information that is essential for the development of effective planning strategies. For instance, the high level of satisfaction reported by users aged 55 and over at Kültür Park indicates the efficacy of elements designed to address their specific needs, including comfortable seating, accessible pathways, and designated quiet zones. In contrast, the lower satisfaction of daily users at Kültür Park, likely stemming from a deeper awareness of shortcomings, indicates a need for ongoing maintenance and subtle improvements

based on their detailed feedback. Likewise, the positive correlation between prolonged or frequent usage and higher satisfaction on Mevlâna Street and Alaaddin Boulevard indicates that design interventions that promote sustained engagement, such as the provision of more diverse activity areas or enhanced amenities, may potentially enhance the overall user experience. Local governments should go beyond a "one size fits all" approach to urban public spaces and use this data to develop user-segment-specific design and management strategies.

CONCLUSION

This study aims to systematically reveal user perception and satisfaction levels regarding the landscape design of four different public spaces located in the historical city center of Konya (Alaaddin Boulevard, Kültür Park, Zafer Square, and Mevlâna Street) within the context of perceptual, visual, and functional criteria. Data collected through surveys demonstrate users' evaluations of the landscape design in these areas and how these evaluations vary according to demographic characteristics and usage habits.

By centering user feedback, this study has concretized the strengths and weaknesses of landscape design in the four examined areas within Konya's historical city center (Table 6).

The findings have the potential to provide local administrations and landscape designers with more targeted and applicable suggestions for future interventions or improvements in these areas, based on user needs and expectations (Table 7).

Table 6

The Strengths and Weaknesses of Landscape Design in the Study Areas

Area	Strengths	Weaknesses
Alaaddin Boulevard	Visual value of plants, sufficiency of the flowers and shrubs Highest score: visual landscape	Pedestrian/vehicle density, noise pollution, lack of disabled ramps and tactile surfaces Area with the lowest score for the visual landscape aspect
Kültür Park	Maintenance and sufficiency of seating units, visual value of plants Highest score: visual landscape	Pedestrian road occupations, insufficient disabled ramps, pedestrian/vehicle density, noise pollution. Lowest score: perceptual landscape

Table 6 (Continued)

Area	Strengths	Weaknesses
Zafer Square	High overall satisfaction after renovation Highest scores in all aspects of landscape design	Pedestrian/vehicle density, noise pollution, lack of tactile surfaces and parking lots Lowest score: perceptual landscape
Mevlâna Street	Visual value of plants and sufficiency of lighting Highest score: visual landscape	Foul odors, pedestrian/vehicle density, noise pollution, pedestrian road occupation, lack of parking and tactile surfaces Lowest scores in overall satisfaction, perceptual and functional landscape aspects
All Areas	Visual value of plants, sufficiency of lighting, sufficiency of flowers and shrubs, sufficiency and maintenance of seating units	Pedestrian and vehicle traffic density, noise pollution, pedestrian road occupation, insufficient parking, accessibility issues (ramps for the disabled and tactile surfaces)

Table 7

Practical Implications / Recommendations based on the Findings

Area	Practical Implications / Recommendations
Alaaddin Boulevard	• Traffic calming measures • Increasing pedestrian priority areas • Developing accessibility infrastructure • Developing policies that will improve visual quality from an aesthetic perspective
Kültür Park	• Eliminating parking space shortages and protecting pedestrian roads, especially against occupation, to support pedestrian mobility • Comprehensive audits for accessibility improvements • Regular user feedback to increase perceptual satisfaction
Zafer Square	• Successful renovations serve as a model for other areas • Traffic calming and pedestrian priority areas for density and noise management • Addressing deficiencies in accessibility infrastructure
Mevlâna Street	• Creation of a comprehensive revision plan • Crowding and noise management • Parking solutions, protection of pedestrian routes and pedestrian prioritization • Improving accessibility infrastructure
All Areas	• Traffic calming in public areas, noise barriers, and creation of pedestrian-priority areas • Comprehensive accessibility audits and infrastructure improvements in line with universal design principles • Increasing parking capacity or promoting alternative transportation solutions • Prioritizing biophilic design principles and ensuring the continuity of planting design • Developing customized design and management strategies for user profiles

In particular, the results underscore the importance of addressing issues related to crowding and noise, enhancing accessibility infrastructure, and shaping design criteria by considering the unique user profile of each area. Considering the findings, the following practical implications and policy recommendations are presented for local governments and landscape designers.

• *Crowding and Noise Management:* Strategies to reduce perceptual issues such as pedestrian and vehicle traffic density and noise pollution (e.g., traffic calming measures, sound barriers, or the creation of pedestrian-priority areas) should be prioritized.

• *Development of Accessibility Infrastructure:* It is essential to conduct comprehensive inspections to address deficiencies in accessibility features such as ramps for people with disabilities and tactile surfaces, and to make improvements in line with universal design principles. This is also in line with the United Nations Sustainable Development Goals.

• *Solution to the Parking Problem:* Due to the problems caused by insufficient parking spaces, it is necessary to increase parking capacity or encourage alternative transportation solutions to prevent the occupation of pedestrian roads*.*

• *Shaping User Profile-Focused Design Criteria:* Considering satisfaction differences based on demographics and usage habits such as age, frequency of use, and duration of use, it is important to adopt design and management approaches specific to the unique user profile of each area. For example, the satisfaction of users over the age of 55 at Kültür Park emphasizes the importance of quiet and accessible areas tailored to the needs of this age group.

• *Continuity of Planting Design and the Impact of Revisions:* The preservation and enrichment of elements that provide high satisfaction, such as the visual value added by plants, should be encouraged. Furthermore, the replication of successful renovation projects, such as that at Zafer Square, in other areas should be considered.

The methodology and approach employed in this study are of paramount importance in adopting a user-oriented approach in the design and management of urban public spaces. It is crucial to acknowledge the significance of these elements in ensuring the sustainability of urban landscapes and in enhancing user satisfaction.

DISCLOSURES AND ACKNOWLEDGEMENTS

REFERENCES

Abdelfattah, D., Alansary, S., & Ashour, S. (2024). Beyond conservation: A framework for quantifying urban qualities in historic city venters. *E3S Web of Conferences, 586*, Article 03003. https://doi.org/10.1051/e3sconf/202458603003

Acik Etike, B., & Erdonmez Dincer, M. E. (2024). Determining the interaction of social sustainability with the physical environment: A case study of Adana, Turkey. *Sustainability, 16*(12), Article 4947. https://doi.org/10.3390/su16124947

Adam, A. M. (2020). Sample size determination in survey research. *Journal of Scientific Research and Reports, 26*(5), 90–97. https://doi.org/10.9734/jsrr/2020/v26i530263

Alraouf, A. A. (2024). Conservation and regeneration of architectural and urban heritage: The case of the Xinmalu historical site, Ningbo, Zhejiang, China. *Journal of Chinese Architecture and Urbanism, 6*(4), Article 2623. https://doi.org/10.36922/jcau.2623

Chahardowli, M., Sajadzadeh, H., Aram, F., & Mosavi, A. (2020). Survey of sustainable regeneration of historic and cultural cores of cities. *Energies, 13*(11), Article 2708. https://doi.org/10.3390/en13112708

Goussous, J., & Hmood, K. F. (2023). Reconstruction of the urban historical centre: Contemporary problems, difficulties, and perspectives. *Problemy Ekorozwoju, 18*(2), 263–267. https://doi.org/10.35784/preko.4040

Han, T., Tang, L., Liu, J., Jiang, S., & Yan, J. (2024). The influence of multi-sensory perception on public activity in urban street spaces: An empirical study grounded in landsenses ecology. *Land, 14*(1), Article 50. https://doi.org/10.3390/land14010050

Issarathumnoon, W. (2020). Applying the historic urban landscape approach to the identification of urban heritage attributes of Bangkok old town. *Nakhara: Journal of Environmental Design and Planning, 19*, 25–38. https://doi.org/10.54028/NJ2020192538

Janpathompong, S., & Murakami, A. (2021). Understanding Thai urban pedestrian culture during noon break: How sidewalk users experience the walking infrastructure in Bangkok, Thailand. *Nakhara: Journal of Environmental Design and Planning, 20(*3), Article 115. https://doi.org/10.54028/NJ202120115

Janpathompong, S., Tontisirin, N., & Murakami, A. (2022). How far people walk During lunchtime: Comparing actual and perceived walking distances in the Central Business District of Bangkok, Thailand. *Nakhara: Journal of Environmental Design and Planning, 21*(3), Article 227. https://doi.org/10.54028/NJ202221227

Ji, X., Shao, L., & Du, Y. (2020). Collaborating with local communities to identify improvement priorities for historic urban landscape based on resisdents' atisfaction: An application of asymmetric impact-performance analysis in Dandong, China. *Sustainability, 12*(4), Article 1463. https://doi.org/10.3390/su12041463

Jiang, J., Zhou, T., Han, Y., & Ikebe, K. (2022). Urban heritage conservation and modern urban development from the perspective of the historic urban landscape approach: A case study of Suzhou. *Land, 11*(8), Article 1251. https://doi.org/10.3390/land11081251

Jin, T., Lu, J., & Shao, Y. (2024). Exploring the impact of visual and aural elements in urban parks on human behavior and emotional responses. *Land*, *13*(9), Article 1468. https://doi.org/10.3390/land13091468

Kaplan, R., Kaplan, S., & Ryan, R. (1998). *With people in mind: Design and management of everyday nature.* Island Press. https://islandpress.org/books/people-mind#desc

Köksaldı, E., & Turkan, Z. (2023). Urban furniture in sustainable historical urban texture landscapes: Historical squares in the walled city of Nicosia. *Sustainability, 15*(12), Article 9236. https://doi.org/10.3390/su15129236

Li, J., Huang, Z., Zhu, Z., & Ding, G. (2024). Coexistence perspectives: Exploring the impact of landscape features on aesthetic and recreational values in urban parks. *Ecological Indicators, 162*, Article 112043. https://doi.org/10.1016/j.ecolind.2024.112043

Li, X., Hou, W., Liu, M., & Yu, Z. (2022). Traditional thoughts and modern development of the historical urban landscape in China: Lessons learned from the example of Pingyao Historical city. *Land, 11*(2), Article 247. https://doi.org/10.3390/land11020247

Lukashchuk, H., Onufriv, I., & Tupis, S. (2023). Green space and planning structure optimisation ways in parks and monuments of landscape architecture. *Architectural Studies, 9*(1), 23–35. https://doi.org/10.56318/as/1.2023.23

Man Rai, C., Dorji, Y., & Zangmo, S. (2022). User satisfaction and the social and environmental benefits of urban green spaces: A case study of Thimphu City, Bhutan. *Nakhara: Journal of Environmental Design and Planning, 21*(2), Article 216. https://doi.org/10.54028/NJ202221216

Petryshyn, H., Kryvorychko, O., Lukashchuk, H., Danylko, N., & Klishch, O. (2022). Changing the qualities of urban space by means of landscape architecture. *Architectural Studies, 8*(1), 22–33. https://doi.org/10.56318/as2022.01.022

Rey-Pérez, J., & Pereira Roders, A. (2020). Historic urban landscape: A systematic review, eight years after the adoption of the HUL approach. *Journal of Cultural Heritage Management and Sustainable Development, 10*(3), 233–258. https://doi.org/10.1108/jchmsd-05-2018-0036

Rybchynskyi, A. O. (2024). Design strategies for the urban interpretation of courtyard spaces in historic cities: Design and social aspects. *Modern construction and architecture, 9*, 33–40. https://doi.org/10.31650/2786-6696-2024-9-33-40

Sari, V. S., Marzuki, I. W., Kristiawan, Sujana, U., Iriyanto, N., Erick A, Y. P., Kamajaya, P., Wulandari, A., & Sulistiyono, S. T. (2024). Employing the historic urban landscape approach for planning of historic places: Directions for the preservation of Kota Lama Gorontalo, in Indonesia. *ISVS e-journal, 11*(9), 126–146. https://doi.org/10.61275/ISVSej-2024-11-09-09

Shehab El-Deen, A. S., Aboulsaadat, A. H., & Nour, W. A. (2024). Reviving the past: Urban strategies for renovating historic commercial streets in city centers. *Journal of Engineering and Applied Science, 71*(1), Article 155. https://doi.org/10.1186/s44147-024-00488-6

Surinta, P. (2023). Measuring streetscape qualities in a car-dependent city: The case of three historical streets in Bangkok. *Nakhara: Journal of Environmental Design and Planning, 22*(1), Article 305. https://doi.org/10.54028/NJ202322305

Wang, Y. (2024). Urban landscape design strategies based on cultural heritage protection. *Academic Journal of Management and Social Sciences, 7*(3), 63–68. https://doi.org/10.54097/7kr9t632

Wang, Y., & Ismail, N. H. (2024). Digging into urban historical and cultural heritage and constructing unique landscape design scshemes. *Journal of Humanities, Arts and Social Science, 8*(2), 387–391. https://doi.org/10.26855/jhass.2024.02.015

Yaralioglu, I., & Kara, C. (2024). Sustainable urban design approach for public spaces using an analytical hierarchy process (AHP). *Land, 14*(1), Article 19. https://doi.org/10.3390/land14010019

Zhang, R., Martí Casanovas, M., Bosch González, M., & Sun, S. (2024). Revitalizing heritage: The role of urban morphology in creating public value in China's historic districts. *Land, 13*(11), Article 1919. https://doi.org/10.3390/land13111919

Zhao, Y., Jin, K., Zhang, D., Wang, L., Li, J., & Dai, T. (2024). Transforming urban landscapes: Reuse of heritage sites through multi-value interpretations in Xi'an, China. *Land, 13*(7), Article 948. https://doi.org/10.3390/land13070948