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The Pocket Park and Citizen Satisfaction on the Quality of Urban Space: A Case Study of Gorgan, Iran

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Abstract

Nowadays, small spaces have become increasingly important as public places in cities. However, they cannot be used for medium and large-scale urban activities because of their limited size, location, and other issues. Unfortunately, because these locations are usually unsupervised, they become hotspots for various social crimes. In addition, it is vital to address these spaces because of the environmental and visual difficulties they create. Pocket parks are one type of urban green space. Given the importance of such parks in citizens' lives, paying attention to the needs of visitors, identifying the reason for their visit, and assessing their satisfaction with the park's current condition can provide circumstances for improving weaknesses as well as required measures for planning, implementation, management, and so on by relevant organizations. This research was carried out to assess visitors' satisfaction with the state of the designated pocket parks. The current study applied a quantitative descriptive-analytical approach of applied development, which included field observations and the distribution of questionnaires to park visitors. The investigation area was the 5th Boyeh and 48th Resalat pocket parks in Gorgan city; hence 30 questionnaires were provided for each park. A one-sample T-test was utilized to evaluate the data, as well as SPSS and Excel software. Autocad and Sketchup applications were used to produce the green space design map. In this study, eight evaluation factors were taken into account. According to the research findings, the location, furniture layout in both parks, proper condition of play equipment and lighting in 48th Rasalat Park had the highest level of satisfaction among visitors, while the condition of ramps, furniture, color, plant texture in both parks, proper condition of play equipment and lighting in 5th Boyeh Park had the lowest level of satisfaction. According to the research findings, community participation in these two areas for the development of such places has a high appeal and can be an assurance for their reconstruction towards the establishment and development of pocket parks.

Keywords: Gorgan city, Pocket Park, Visitor satisfaction

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1. Introduction

Given that the human habitat can provide the most desirability for them when it meets their expectations in various dimensions such as historical, environmental, social, physical, economic, and so on, if any of these variables are lacking in the human living environment and do not have desirable quality, it will affect the individual's views of the space and, as a result, their level of satisfaction with the living environment (Barati and Kakavand, 2013).

Nowadays, the concept of cities without effective green spaces is unimaginable in shaping their diverse forms. Because of the repercussions of urban development and the complexity of environmental concerns, the presence and development of green areas has become essential. Cities are hubs of activity and life, and to ensure their long-term sustainability, they must accept a functional structure affected by natural systems (Gkentsidis et al., 2021).

Green areas, in particular, play a fundamental and inseparable role in city metabolism, and their scarcity affects city life (Karimi and Shohani, 2014). Unquestionably, urban green spaces and parks are among the most important aspects in supporting natural and human life in urban areas today (Ikin et al., 2013). In this regard, paying attention to and identifying abandoned spaces, as well as planning for their appropriate use, not only improves security in urban environments and reduces problems caused by these types of vulnerable spaces, but also aids in the equitable distribution of services and the optimal use of land in urban development (Ahmed Abd El Aziz, 2017; Hussein et al., 2022). Pocket parks, which are intended for spaces smaller than 2000 square meters, are one of the most recent ideas for making the best use of abandoned spaces, particularly those spread across the center of urban neighborhoods, as green spaces (Shahhosseini et al., 2021). The question is whether pocket parks can fulfill the 5th Boyeh and 48th Resalt missions regarding visitor satisfaction. This question is investigated in this study.

2. Theoretical Foundations

Small spaces that, for different reasons such as their relatively small size, location, and so on, cannot be exploited for medium and large-scale urban uses are now one of the most significant public places in cities (Iorpenda et al., 2020). On the other hand, because these places are frequently abandoned, they constitute hotspots for a variety of social offenses (Barati and Kakavand, 2013). Besides, the environmental and visual issues produced by the presence of these areas are also among the reasons why they must be addressed (Ma et al., 2022). Pocket parks are small parks that are positioned near several blocks of a neighborhood unit. These parks can be thought of structurally as urban havens with green areas (Luks, 2001; Armato, 2017). As a result, their design is much more difficult than other parks, because the e little space requires very high efficiency (Zhou et al., 2022).

Pocket parks, in general, are pleasant tiny public areas that provide a place to escape from the pressures and congestion of the city (Nordh and Østby, 2013). Such parks can be built in a variety of ways and integrated into the city's physical fabric. A good pocket park should have the following characteristics (Sinou and Kenton, 2013; Xu et al., 2018): vegetation cover such as trees, be open to everyone without restrictions, provide spaces for sitting and resting, and provide spaces for community gatherings in the neighborhood. These parks should be constructed in such a way that they contribute to a friendlier, greener, and more flexible urban environment (Elmaghraby, 2019). Lee, et al (2015), in their study titled "Attitudes of Citizens towards Urban Parks and Green Spaces for Urban Sustainability: The Case of Gyeongsan City," analyze the current status of citizen participation and the barriers to creating pocket parks. The analysis results show that the examined obstacles include: improper implementation of laws related to citizen participation, failure to guide citizens to access information, a lack of a clear legal framework and citizens' disillusionment with participation, differences in perception of social awareness and willingness to participate between citizens

with higher education and income and government officials and stakeholders, and so on. Shi, et al (2020), in an article titled "Evaluation of Urban Pocket Parks based on KANO model—A Case Study of Guilin," concluded that sustainable urban development is not only about providing essential aspects of human life, but also about citizen satisfaction with the living environment and the fundamental conditions for urban sustainability. According to the findings of Kerishnan and Maruthaveeran's (2021) research, urban green spaces and parks not only have recreational value, but also serve as suitable places for people to spend their free time. The findings of this research suggest that creating pocket parks at the neighborhood level can be effective in boosting the social dimensions and increasing the relationship between nature and human beings in the urban environment, as well as having a significant impact on improving citizens' quality of life (Praveena Balai Kerishnan and Sreetheran Maruthaveeran, 2021; Bajwoluk et al., 2023). According to the outcomes from evaluating the research hypotheses, parks can help citizens meet some of their psychological and social requirements (Pickett et al., 2016). As a result, establishing and promoting the usage of these areas is an unavoidable step toward improving inhabitants' quality of life. Hassan Zahi et al. (2016) published "The Use of Pocket Parks for Ecological and Landscape Development in Zahedan City in Iran." Parks have the capacity to play an important ecological role in boosting urban quality, and in many cases, a big number of them are distributed around the city, possibly having ecological value, and it is critical to pay attention to them (Pickett et al., 2016; Hou et al., 2022). Small-scale green spaces can help to improve the quality and readability of the urban landscape, influencing citizens' perceptions and potentially ensuring that environmental information is appropriately translated into action (Peschardt & Stigsdotter, 2014). In addition to ecological and biological characteristics, these areas serve critical social and human activities (Ahmed Abd El Aziz, 2017; Hussein et al., 2022). This study tried to convey subjects linked to the creation of tiny parks in such a way that the design of these parks could be explained simply while paying attention to them, taking into account multiple dimensions such as ecological, social, economic, and population concerns. Their research strategy is such that the theoretical foundations of the research were formed by library studies based on the research outcomes. In the last step, research on two sets of development and design in Zahedan city were undertaken. Ahadnejad et al. (2019) carried out a study named Evaluation of the development of pocket parks with citizen participation approach in urban neighborhoods (Case study: Zibashahr and Amir Kabir neighborhoods in Zanjan city, Iran). The idea of building pocket parks through citizen engagement has been presented as one of the most successful approaches for compensating for the lack of green space in urban neighborhoods in this study. In terms of its practical application and nature, the research approach utilized in this study is descriptive-analytical. The T-test, Analysis of Variance, and Path Analysis methods were employed with SPSS software to examine the data.

3. Materials and Methods

The method utilized in this study is a quantitative descriptive-analytical approach of the applied development type, and field data was collected using a survey method. In this study, eight variables were assessed for visitor satisfaction at the 5th Boyeh and 48th Resalat pocket parks in Gorgan, including ramps, park location, furniture, furniture appearance, color, vegetation texture, lighting, and equipment safety. Each park received a total of 60 questionnaires, for a total of 30 questionnaires per park. The survey data and information have been handled utilizing questionnaires and citizen surveys. GIS software was used to create the study area map. Furthermore, the data were statistically analyzed using SPSS and Excel software, and the green space design maps were made using AutoCAD and SketchUp software.

3.1 The scope of the research study

The city of Gorgan, located in the southern section of Golestan province, is the subject of the research study. This city is bounded to the north by Aqqala and Bandar-e Torkman counties, to the south by Semnan province,

to the east by Aliabad county, and to the west by Kordkuy county. Gorgan County has a total size of 308,000 hectares and is divided into two major regions of Baharan, three cities of Gorgan, Sorkhankalateh, and Jelin, and 98 villages (Portal of Iran Statistics Center, 2021). Gorgan, with a land size of 3,567 hectares, is one of Iran's northern cities and the administrative seat of Golestan province, which is located southeast of the Caspian Sea. It is located at the foothills of the northern Alborz mountain range and is geographically bounded by 37°00' - 37°30' north latitude and 54°00' - 54°30' east longitude. According to the 2016 census, the population of Gorgan County was 541,480 persons, accounting for approximately 7.27% of the province's population (Portal of Iran Statistics Center, 2021).

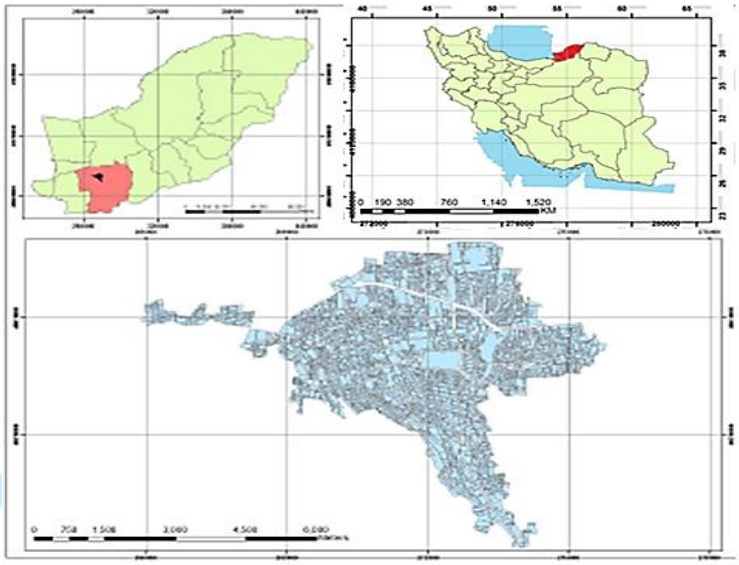

Fig. 1 Represents the map of the location of Golestan province and Gorgan city

3.2 Analysis

In this section, a questionnaire was prepared to evaluate the satisfaction of visitors regarding the quality and condition of 5th Buoyeh and 48th Resalat parks.

4. Results and Discussion

According to the research data reported in Tables (1 and 2), 43.3% of participants in the 5th Boyeh Park were men and 56.7% were women. The 48th Resalat Park has 36.7% men and 63.3% women. Furthermore, the statistics obtained from the Boyeh Park show that 36.7% of individuals were in the adolescent age group (12 to 17 years old), 26.7% were in the children (1 to 11 years old) and youth (18 to 35 years old) age groups, 6.7% were in the adult (36 to 45 years old) age group, and 3.3% were in the elderly (66 years old and above). In comparison, 36.7% of 48th Resalat Park visitors are teenagers (12 to 17 years old), 30% are young people (18 to 35 years old), 13.3% are children (1 to 11 years old), and 10% are middle-aged (46 to 65) and elderly (66 and above). Finally, the bulk of visitors to the 5th Boyeh and 48th Resalat Parks are adolescents, with adults and the elderly being the least frequented age groups. In the 5th

Boyeh Park, 10% are self-employed, 6.7% are students, 60% are educated, and 23.3% are homemakers, whereas in the 48th Resalat Park, 3.3% are civil servants, 6.7% are self-employed, 10% are students, 56.7% are educated, 3.3% are retired, and 20% are homemakers. Finally, students made up the vast majority of visitors to these parks.

Table 1 The gender status of the visitors

Gender	5th Boyeh Park (%)	48th Resalat Park (%)
Male	43.3	36.7
Female	56.7	63.3

Table 2 The status of age group and occupation of visitors

Status	Type	5th Boyeh Park (%)	48th Resalat Park (%)
Age category	Children	26.7	13.3
	Teenagers	36.7	36.7
	Youth	26.7	30
	Middle-aged	6.7	10
	Elderly	3.3	10
Occupation	Civil servants	0	3.3
	self-employed	10	6.7
	Student	6.7	10
	Educated	60	56.7
	Retired	0	3.3
	Homemakers	23.3	20

The reason for individuals' presence as visitors was evaluated in terms of four alternatives based on the results of Table 3: the results obtained at 5th Boyeh Park indicate that 56.7% of people go to the park for leisure time and 36.7% go there for children's recreation. In contrast, an analysis of the reasons for people's presence in the 48th Resalat Park reveals that 46.7% go for children's recreation and 40% go for leisure time. While a few people visit these parks to walk and escape from residential areas.

Table 3 The status of the purpose of the visitors' presence

Status	5th Boyeh Park (%)	48th Resalat Park (%)
Walking	3.3	6.7
Escape from residential areas	3.3	6.7
children's recreation	36.7	46.7
Leisure time	56.7	40

In Boyeh Park, there is a positive correlation coefficient between the two variables of park location choice and residential fabric disruption, as shown in Table 4. According to the significance level (sig), there is a substantial association between these two variables. The majority of park users are pleased with the park's location, and according to studies, this park has not caused any disturbances to the neighboring residential fabric owing to children's noise. Table 4 reveals a correlation coefficient of -0.29 between the two variables of park placement choice and residential fabric disruption in 48th Rasalat Park. This correlation value suggests a negative relationship between these two variables, and the park's location has caused disruptions to the adjacent residential fabric. The presence of teens in the park, their obscene jokes, the noise of children's play, and other disturbances have generated difficulties for the residential fabric, according to neighbor complaints.

Table 4 Evaluation of the relationship between the location selection of the parks and the interference with the residential fabric in 5th Boyeh Park and 48th Resalat Park

Park	Correlation coefficient	Significance coefficient
5th Boyeh Park	0.004	0.982
48th Resalat Park	-0.029	0.877

Table 5 reveals that there is a negative correlation coefficient of -0.48 between the ability to use the park at night and its brightness in Bouye Park, confirming that the park's lack of light makes it challenging to use at night. However, there is a positive correlation coefficient of Resalat Park, indicating a substantial relationship between the park's brightness at night and its ability to be used at night. The ability to use the park at night grows as the park's brightness increases. Based on the level of significance, the association between these two variables is significant. Women use the park in the early hours of the morning.

Table 5 Evaluation of the relationship between the ability to use the park at night and its brightness in 5th Boyeh Park and 48th Resalat Park

Park	Correlation coefficient	Significance coefficient
5th Boyeh Park	-0.048	0.803
48th Resalat Park	0.281	0.132

Table 6 illustrates that there is a -0.1 association coefficient between the presence of women and the level of brightness in Boyeh Park. Women have a low presence in the park at night due to the lack of a lighting system, limiting their ability to use it for leisure and children's entertainment. The correlation coefficient in Resalat Park between the presence of women and the level of brightness, on the other hand, is 0.128, indicating a positive relationship between these two factors. The park's illumination system of projectors and light projectors allows women to enjoy their leisure time in the park at night.

Table 6 Assessment of the relationship between the presence of women at night and the brightness of 5th Boyeh Park and 48th Resalat Park

Park	Correlation coefficient	Significance coefficient
5th Boyeh Park	-0.1	0.597
48th Resalat Park	0.128	0.5

4.1 The statistical test of the research

In this test, the Likert spectrum was employed for measuring satisfaction. Based on the worth of options, score 1 (very low) denotes the lowest value, and score 5 (very high) indicates the highest value. As a result, the number (3) is known as the indices' stability mean.

Table 7 Frequency distribution of respondents' opinions regarding the status of 5th Boyeh Park (%)

Indexes	Very low	Low	Medium	High	Very high
Ramp	80	10	10	0	0
Park location	10	3.3	30	43.3	13.3
Furniture	46.7	26.7	16.7	3.3	6.7
Locating furniture	3.3	23.3	16.7	40	16.7
Color	30	13.3	40	16.7	0
Plant texture	33.3	23.3	23.3	10	10
Lighting	36.7	36.7	13.3	3.3	10
Playground equipment quality	16.7	13.3	46.7	10	13.3

Table 8 Distribution of respondents' opinions regarding the status of 48th Resalat park indicators (%)

Indexes	Very low	Low	Medium	High	Very high
Ramp	86.7	13.3	0	0	0
Park location	6.7	10	10	30	43.3
Furniture	30	33.3	20	13.3	3.3
Locating furniture	20	10	6.7	20	43.3
Color	53.3	6.7	40	0	0
Plant texture	93.3	6.7	0	0	0
Lighting	20	6.7	26.7	23.3	23.3
Playground equipment quality	6.7	13.3	26.7	20	33

A disabled citizen has the same social rights as normal citizens. According to direct observations and a study done in these parks, no adequate design has been considered to meet the leisure time needs of this group, which is a significant and vital necessity. Because of the non-parallel access roads to these parks, it will never be suitable for such people or the elderly (Cohen et al., 2014). Finally, the park does not cover these people. The average achieved for the ramp condition in the 5th Boyeh Park is 1.3, and it is 1.33 in the 48th Resalat, and because it is less than the average limit (3), it suggests that this indication has not been successful in satisfying visitors.

Table 9 Results of the one-sample T-test for the "ramp" indicator in the satisfaction of visitors to the park

Park name	Index	Descriptive statistics		Analytical statistics					
				Test value				%95confidence interval	
		Mean	SD	Mean difference	T value	df	Sig	Lower bound	Upper bound
5th Boyeh	Ramp	1.3	0.65	1.3	10.93	29	0.000	1.05	1.54
48th Resalat		1.33	0.34	1.33	17.95	29	0.000	1	1.26

The level of satisfaction of visitors with the furniture in 5th Boyeh Park suggests that the majority, 46.7%, of these people are dissatisfied. Based on direct observations from Boyeh Park, it can be stated that this park lacks trash cans and restrooms, and people, particularly children, use the trash cans in the adjacent alley, which is not very safe for them and may cause them to leave the park (Barati and Kakavand, 2013; Ahadnejad et al., 2019). Even parents leave the park due to the lack of water services to quench their children's thirst and are unwilling to return once their children's thirst has been satisfied. According to statistics, satisfaction with the furniture situation in 48th Resalat Park is rather pleasant, with very low satisfaction at 33.3%, very low satisfaction at 30%, medium happiness at 20%, high satisfaction at 13.3%, and very high satisfaction at 3.3%. According to the results and direct observations, one of the most significant facilities required by all tourists is the lack of water facilities. In evaluating the level of satisfaction with the park's furniture, the average in Boyeh Park is 1.96, and in Resalat Park is 2.26, both of which are lower than the average limit (3). Finally, visitors to these two parks are displeased with the park's furnishings issue.

Table 10 The results of the one-sample T-test for the "furniture" index in the satisfaction of visitors to the park

Park name	Index	Descriptive statistics		Analytical statistics					
				Test value				%95 confidence interval	
		Mean	SD	Mean difference	T value	df	Sig	Lower bound	Upper bound
5th Boyeh	Furniture	1.96	1.18	1.96	9.06	29	0.000	1.52	2.41
48th Resalat		2.26	1.14	2.26	10.86	29	0.000	1.84	2.69

According to the poll, park visitors had issues with the benches due to a lack of plant coverage and not taking into account the position of the benches in relation to sunlight in summer and winter. With a mean score greater than the usual limit (3), it can be inferred that this index was successful in attracting tourists to the 5th Boyeh and Resalat 48th Parks.

Table 11 The results of the one-sample T-test of the "Furniture Locating" index in visitors' satisfaction with the park

Park name	Index	Descriptive statistics		Analytical statistics					
				Test value				%95confidence interval	
		Mean	SD	Mean difference	T value	df	Sig	Lower bound	Upper bound
5th Boyeh	Furniture Locating	3.43	1.13	3.43	16.56	29	0.000	3	3.85
48th Resalat		3.56	1.61	3.56	12.11	29	0.000	2.96	4.16

Visitors' satisfaction with the quality of park equipment in 5th Boyeh Park suggests that encouraging children to utilize the playground equipment has resulted in increased damage to the equipment. Furthermore, the trampoline and slide, which are designed for children aged 1 to 11, are the most popular playground equipment in this park. The 12 to 17-year-old girls, who do not have facilities for their age group, spend the majority of their leisure time in the park in groups and use playground equipment that is not specific to their age group, and the presence of broken fences and a lack of playground equipment has caused significant damage to these equipment. Visitors have requested that the number of playground equipment be increased, and parents have stated that their children are the reason for their presence in this park. All parents in 5th Boyeh Park are satisfied with the playground equipment's safety and are willing to let their children alone for a few moments. In contrast, parents in 48th Resalat Park were relatively comfortable with the playground equipment's safety but were unwilling to separate from their children. The safety and standardization of park sports and playground equipment are critical. Non-standardization and a lack of safety might have negative implications. According to the statistical findings earned from the safety of playground equipment in 48th Resalat Park, with an average of 3.6, which is greater than the average limit (3), the playground equipment has taken visitor satisfaction into consideration. However, in the 5th Boyeh Park, with an average of 2.9, which is lower than the average limit (3), it suggests that visitors are generally satisfied with the safety of the equipment.

Table 12 The results of the one-sample T-test for the "Playground equipment quality" indicator in visitors' satisfaction with the park

Park name	Index	Descriptive statistics		Analytical statistics					
				Test value				%95confidence interval	
		Mean	SD	Mean difference	T value	df	Sig	Lower bound	Upper bound
5th Boyeh	Playground equipment quality	2.9	1.21	2.9	13.09	29	0.000	2.44	3.35
48th Resalat		3.6	1.27	3.6	15.45	29	0.000	3.12	4.07

According to the results of the color analysis in the 48th Resalat Park, 53.3% of the visitors were dissatisfied with the colors employed, while the remainder thought they were appropriate. The most complaints were about the incorrect colors of game equipment and wall decorations. However, the colors utilized in the 5th Boyeh Park are reasonably acceptable. Visitors were generally pleased with the colors employed in the design of Park-e-Booyeh. Creating a variety of colors in playground and sports equipment, as well as park furniture,

can help to improve the quality and functionality of pocket parks. The data from Table 13 show that visitors to both parks are unsatisfied with the parks' coloration since the average is lower than the average limit (3).

Table 13 The results of the one-sample T-test for the "color" index in the satisfaction of visitors to the park

Park name	Index	Descriptive statistics		Analytical statistics					
				Test value				%95confidence interval	
		Mean	SD	Mean difference	T value	df	Sig	Lower bound	Upper bound
5th Boyeh	Color	2.43	1. 1	2.43	12.06	29	0.000	2.02	2.84
48th Resalat		1.86	0.97	1.86	10.5	29	0.000	1.5	2.23

The state of the plant textures used in the 48th Resalat Park had a 3.93% dissatisfaction among the park's responders. The plant texture analyses show that the park is weak due to a lack of plant cover and shade trees, and as a result, its performance and efficiency are poor during sunny hours due to a lack of shade. As a result, planting shade trees and producing plant cover appropriate for the region's environment is required. However, the majority of visitors to 5th Boyeh Park were somewhat content with the existing plant tissue, but only a few stated their great happiness as a result of the park's orange tree planting. This park's lack of plant coverings, such as flowers and shrubs, is observable. Despite the park's suitable space for creating various plant covers, no action has been taken. The majority of park visitors suggest growing flowers for visual attractiveness, contentment, and a nice smell. Visitors to the 5th Boyeh and 48th Resalat Pocket Parks are unsatisfied with the state of the plant tissue in the park, according to the table below, because the average achieved is lower than the average limit (3).

Table 14 The results of the one-sample T-test for the "plant texture" index in the satisfaction of park visitors

Park name	Index	Descriptive statistics		Analytical statistics					
				Test value				%95confidence interval	
		Mean	SD	Mean difference	T value	df	Sig	Lower bound	Upper bound
5th Boyeh	Plant texture	2.4	1.32	2.4	9.89	29	0.000	1.9	2.89
48th Resalat		1.06	0.25	1.06	23.02	29	0.000	0.97	1.16

Visitors will find 48th Resalat Park to be reasonably accessible, with relatively easy pedestrian access, visibility, and access from both the eastern and western sides. People are pleased with the park's convenient location. However, the park has created inconvenience to the nearby residential area during busy periods. Due to a lack of facilities for this age group, the presence of teens in the park has resulted in many social abnormalities. However, in the instance of 5ht Boyeh Park, the majority of visitors are pleased with the park's location, and surveys show that the park has not caused any disruption to the nearby residential districts. Table 15 shows that visitors to the 5th Boyeh and 48th Resalat Pocket Parks are pleased with the parks' location, since the average achieved is more than the average threshold (3).

Table 15 The results of the one-sample T-test for the "Location" index in the satisfaction of park visitors

Park name	Index	Descriptive statistics		Analytical statistics					
				Test value				%95confidence interval	
		Mean	SD	Mean difference	T value	df	Sig	Lower bound	Upper bound
5th Boyeh	Location	3.46	1.1	3.46	17.17	29	0.000	3.05	3.87
48th Resalat		3.93	1.25	3.93	17.13	29	0.000	3.46	4.4

The capability to use the park at night is not conceivable, according to evidence gathered from 5th Boyeh Park, due to a lack of illumination. The lack of a lighting system is one of the park's key issues. This issue inadvertently discourages parents and children from visiting the park. As a result of such concerns, women have lost the ability to visit the park at night for their children's enjoyment and leisure time. Women can be found at the park till it becomes dark. The 48th Rasalat Park, on the other hand, has an effective lighting system that all visitors use. Women's presence in the park at night is possible because of the park's projector and lighting; however, there is not enough light in some areas. Table 16 data show that visitors to 5th Boyeh Park are unsatisfied with the lighting conditions, as the average achieved is 2.13, which is below the average threshold of (3). On the other hand, 48th Rasalat Park has a more desired scenario and has been able to meet people's happiness with an average greater than the average threshold of 3.23.

Table 16 The results of the one-sample T-test for the "Lighting" index in the satisfaction of park visitors

Park name	Index	Descriptive statistics		Analytical statistics					
				Test value				%95confidence interval	
		Mean	SD	Mean difference	T value	df	Sig	Lower bound	Upper bound
5th Boyeh	Lighting	2.13	1.25	2.13	9.32	29	0.000	1.66	2.6
48th Resalat		3.23	1.43	3.23	12.37	29	0.000	2.69	3.76

Proposed designs have been given in the following formats based on visual observations, surveys done on visits to the researched parks, and statistical analysis performed using the relevant software.

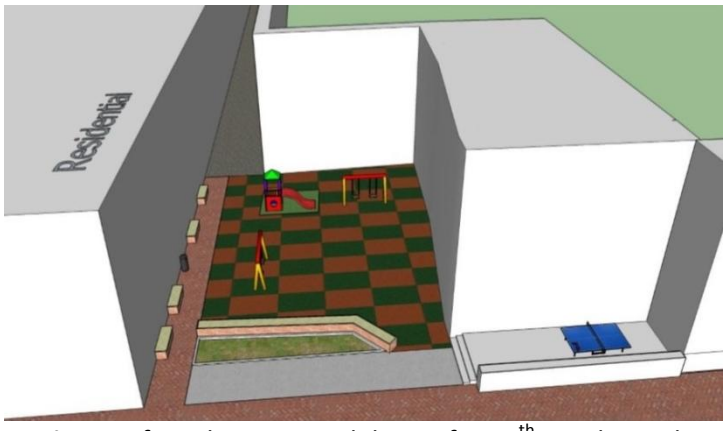

Fig. 2 Before the proposed design for 48th Resalat Park

Fig. 3 Proposed design for 48th Resalat Park

Fig. 4 Before the proposed design for 5th Boyeh Park

Fig. 5 Proposed design for 5th Boyeh Park

5. Conclusion

Pocket parks have the capacity to provide a place for all neighborhood inhabitants to spend their leisure time while also meeting their psychological and emotional requirements. Overall, based on the findings, it can be concluded that the investigated pocket parks have satisfied inhabitants to the point that children and adolescents spend the majority of their free time in parks, and women see these parks as a venue for neighborhood social activities. However, in some circumstances, they have functional and performance flaws. The results of questionnaires and surveys administered to visitors to the 48th Resalat and 5th Boyeh pocket parks were divided into two areas of concern, which were represented by purchased leaflets. These include a lack of park facilities and equipment (playground equipment, sports facilities), insufficient water fountains, insufficient plant life and shady trees, improper coloring, a lack of social supervision, and insufficient lighting. In terms of social issues, families are disturbed by graffiti (writing and images on walls). Based on this, urban managers and planners should take steps to create appropriate infrastructure and solutions for the optimal use of pocket parks in communities, allowing all groups of inhabitants to enjoy them. Taking into account the responses and opinions of the people, as well as the outcomes of those, solutions are proposed to improve the quality and proper functioning of park entrances, including accessibility, with a focus on designing park entrances for the disabled, elderly, and even people with mobility impairments. Furthermore, it is proposed that a park lighting project be developed to encourage families and citizens to use the park as often as possible, which should be a priority. By utilizing the open space in the park, such measures lead to an increase in safety and a decrease in abnormalities and crimes, including designing fountains, sports equipment specifically for the middle-aged, homemakers, and retirees, repairing playground equipment, and paying sufficient attention to the selection of location and arrangement of park furniture. Park furniture serves as a focal point for individuals and facilitates more social interactions. As a result, upgrading park furniture and installing appropriate equipment should be a priority. Planting shade trees and greenery should be addressed, as should taking into mind weather conditions that may increase the presence of people, particularly youngsters, in the park. In conclusion, just as community engagement can lead to neighborhood development, leveraging community participation in park beautification can lead to park advancement toward visitor demands.

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