International Journal of Contemporary Issues in Social Sciences
Volume 2, Issue 4, 2023 ISSN(P):2959-3808 | 2959-2461

COMMUNITY PERCEPTION OF URBAN OPEN SPACES AND QUALITY OF LIFE: A CASE STUDY OF SELECTED URBAN PARKS IN TWIN CITIES OF PAKISTAN

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Received: 03 November, 2023 **Revised:** 20 December, 2023 **Accepted:** 24 December, 2023 **Published:** 31 December, 2023

ABSTRACT

Visitor's perception affects user patterns and can help in the design and management of the open spaces in urban areas. The perceived quality of parks can influence a resident's perception of their overall well-being. The satisfaction level of the urban dwellers with their surroundings is one of the indicators of quality of life. The aim of this research was to analyzed the perception of visitors with different social profiles towards the urban open spaces (UOS) and its impact on of their own quality of life (QOL). For this purpose, two urban parks, Fatima Jinnah Park, Islamabad and Ayub Park, Rawalpindi were selected. In order to understand the visitor's perception about these parks and how it contributes to their quality of life, these urban parks were documented with neighborhood features such as transport linkages, physical and social activities of visitors. Common perceptions and positive contribution were found to the urban quality of life of the resident. Benefits which are directly associated to individuals and their families were found to be of prime importance, such as enhancement of health, promotion of social and physical development of children, and reduction of stress..

KEYWORDS

Urban open spaces, Quality of life, Community perception, Urban parks, Physical activity and development.

INTRODUCTION

Urban open spaces are strategic for the wellbeing of citizens' and sustainability of the modern city (Patil & Sharma, 2022; Riveros, Altamirano, La Barrera, Vásquez, Vieli& Meli, 2021). Urban open spaces are valued highly when they add to the positive attributes of city life, by providing multiple urban physical settings and opportunities; sociability as well as ecological and cultural diversity(Semeraro, Scarano, Buccolieri, Santino, & Aarrevaara, 2021; Burgess, Harrison, & Limb, 1988). These urban open spaces are distinct from merely vacant land, and are of high value and a cultural resource. Urban green space includes all urban parks, the trees on the street, all land used for agricultural purpose, roof gardens, green belts and residential lawns (Kabisch, Qureshi, & Haase, 2015; Qureshi, Breuste, & Jim, 2013). In this research, urban open space will refer to urban parks. The terms 'urban nature', 'urban parks', 'urban green space and 'urban open space' have been used interchangeably and presumed to be synonymous. Abbreviations of UOS and QOL have been used for urban open space and quality of life.

There is a strong evidence that the presence of urban nature like urban parks and forests, plays an essential role in providing environmental benefits to the overall society at large. These mainly include water and air purification, buffering of noise and wind with important physical and mental benefits to human societies, which in turn promotes sustainability in modern cities(Jim & Shan, 2013; Zhang, Cao, & Han, 2021). One of the indicators of quality of life is the level of satisfaction of an individual as well as the

society with the urban environment. UOS, both as a physical structure and a place for different kinds of activities, significantly benefits the citizens' quality of life, especially in fulfilling people need related to accessibility to health, recreation and a good quality urban environment (Mouratidis, 2021;Chiesura, 2004; Kabisch et al., 2015).

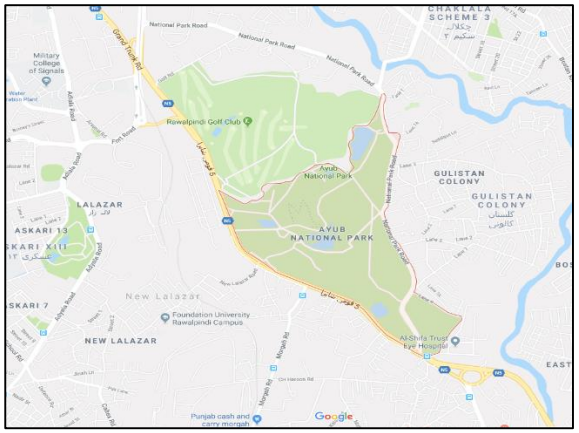
Urbanization has led to the urban sprawl, spread and conversion of open land to residential areas. In this rapid urbanization of the city, development of UOS has been ignored by the development authorities at large. This urbanization and subsequent urban densification has left residents with unequal access to UOS, with the poor having the least access, and as a result they have lost access to the environmental, friendly and social benefits that these UOS provide(Vukvic, Salama, Mitrovic & Devetakovic, 2021;Kabisch et al., 2015). The global urbanization rate has been high ever since. In 2008 for the first time in the world's history, the world's urban population reached the fifty percent mark. It is estimated that by year 2030 this figure will reach almost 5 billion, and the bulk of urban growth will be concentrated in Africa and Asia (UNFPA, 2007). The cities which are urbanizing rapidly, particularly in Asia e.g. Karachi, Hong Kong and Mumbai , are suffering great losses in UOS as a result of urbanization (Jim & Shan, 2013).

The benefits to the quality of life derived from UOS are fundamental for sustainable urban development therefore, citizens perceptions of urban green spaces are vital for educated urban planning. Exploring user's perceptions of urban is a difficult task because of cognitive, affective, and behavioral components (Kothencz, Kolcsár, Cabrera-Barona, & Szilassi, 2017; Nasution & Zahrah, 2014). Perception of UOS is dependent on the neighborhood features and composition as well as socio-economic background of users(Zhang et al., 2021). A positive perception of urban open space has a positive effect on the perceived urban quality of life (Kamran, 2015; Nasution & Zahrah, 2014; Giannico, Spano, Elia, D'Este, Sanesi & Lafortezza, 2021). Perception of a space can influence the behavior and attitude of visitors, which is really helpful in planning and management of UOS. A positive perception of urban green spaces encourages physical activity and enhances human health(Hanif, Shirazi, Jabbar, Liaqat & Yusoff, 2022; Halkos, Leonti & Sardianou, 2022, Jim & Shan, 2013). Many health promoting factors can be realized through well designed physical environments, especially natural environments like urban parks which serve as an effective resource (Haq, Nazrul Islam, Siddharta, Ahmed & Chowdhury, 2021; Kaplan & Kaplan, 2003).

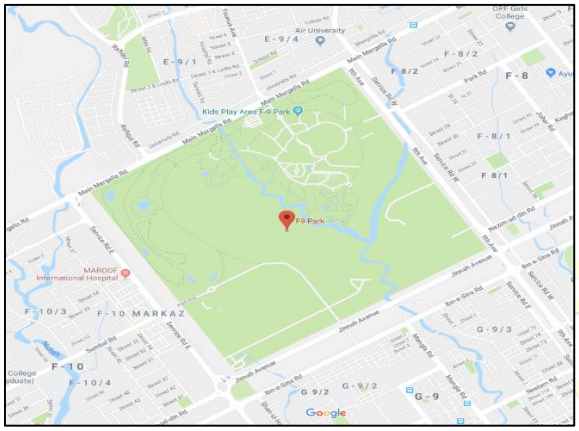
In this research, it was aimed to study the people's perception of the selected urban parks in the twin cities of Islamabad and Rawalpindi, and relate it to their quality of life through three factors: health, recreation and urban environment.These cities are physically integrated but institutionally disintegrated. Islamabad and Rawalpindi have become one urban entity by the emerging housing schemes and have strong impact on each other (Maria & Imran, 2006). The purpose was to understand the factors which influence public preference, and play a role in improving or reducing the quality of life of the city's inhabitants. It helped to reflect the similarities and differences of the user's perception of the quality of UOS, within communities as well as to the perception in developed countries, and educate authorities for better planning in future. With respect to the recent pandemic based urban challenges faced by people due to lockdown and lack of access to social engagement by practicing social distancing (Bhatti et al., 2023), these urban open spaces proved their significance towards social wellness and integration. At community level, these parks have lead to better engagement of the neighborhood as well as improving the mental and physical health of the people in the context (Bhatti et al., 2023).

Study area

The selection of the urban open spaces was made after observational and survey study. Two parks including Fatima Jinnah Park, F-9 Islamabad and Ayub National Park, G. T. Road, Rawalpindi were selected for the research as represent the largest public parks in the cities and offer a wide range of recreational facilities and are extensively used by all segments of urban people (Javaid & Waheed, 2021). This gave the opportunity to identify the differences and similarities of user perceptions in the adjacent cities of Rawalpindi and Islamabad. The location plans of these parks can be seen in Figure 1.



Ayub National Park, Rawalpindi



Fatima Jinnah Park, Islamabad

Figure 1: Location of selected Parks (Google Earth Image)

Ayub National Park is a national park which was established before the creation of Pakistan and covers an area of 2300 acres. Historically known as Topirakh and was renamed in 1960 after the President of Pakistan(Economy, 2022). Currently it is a popular tourist spot managed by the Army Heritage Foundation, providing a multitude of sport activities, a zoo, a museum, a recreational ride area besides playgrounds, gardens, lakes, tracks and play areas (Tribune, 2020). Fatima Jinnah Park was inaugurated in 1992. A Japanese firm GICA was responsible for the master plan of the park. The total area of the park is 760 acres. This has been developed in three phases. Only two phases have been completed. The second phase of 240 acres was developed by Nayyar Ali Dada & Associates under CDA and managed by the Directorate of Parks (Haq, 2014; Hussain, 2016). This park was opened to the public in 2007 and provides multiple activities including walking, jogging and cycling tracks.

Materials and Methods

The research mainly had an exploratory character. The main objective of the data analysis was to interpret people's perceptions in a qualitative way so it can be applied in future planning. Pre-activity was done to judge the active open spaces (urban parks) in the twin cities of Islamabad and Rawalpindi. Two parks including Fatima Jinnah Park-F 9, Islamabad and Ayub National Park, G.T. Road, Rawalpindi were chosen because they represent the largest parks of the city, provide varied recreational facilities, and are intensively used by all segments of urban people. The research was limited to only two selected urban parks in the twin cities of Rawalpindi and Islamabad, which are Fatima Jinnah Park F-9, Islamabad and Ayub National Park, Rawalpindi.

Data collection

Two types of data were collected to achieve the objectives. The first type was associated with the physical activity aspects of the UOS which was collected through observations during physical survey of the selected parks. Selected indicators related to quality and perception of UOS were identified from literature review. On the basis of these indicators two checklists were formulated to record researchers' observation and visitors' perception. The detailed conceptual framework of the research is shown in Figure 2.

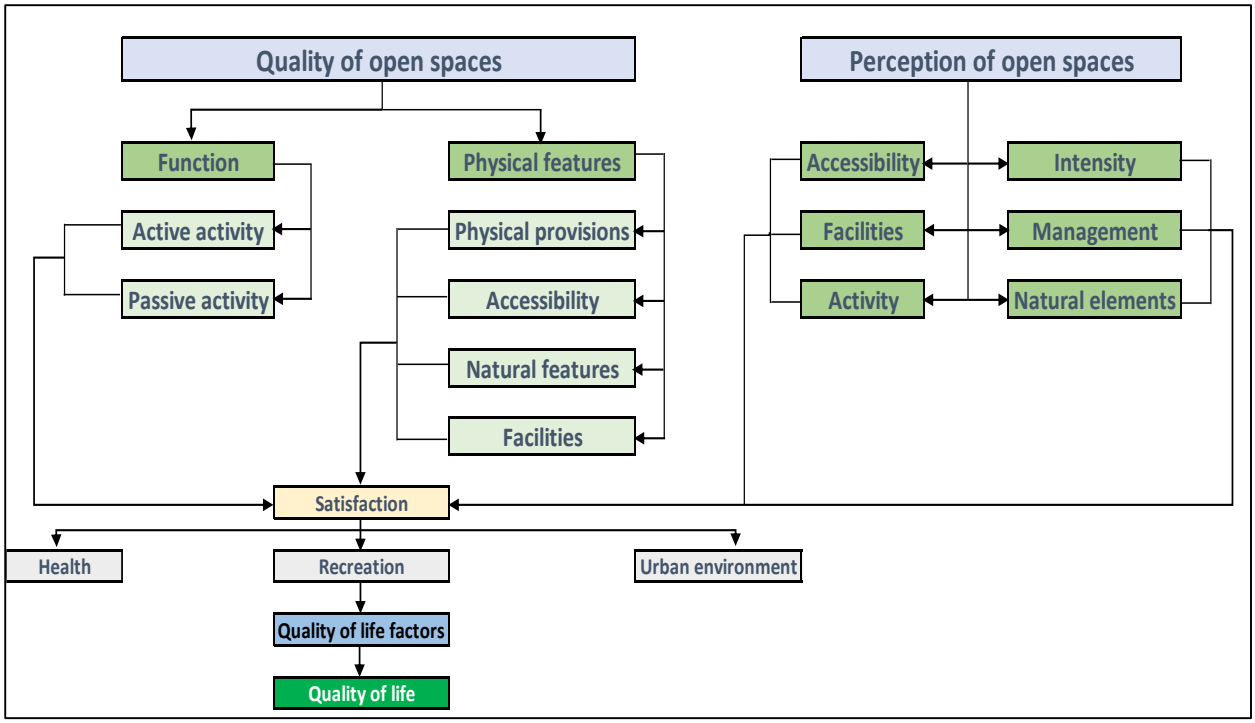


Figure 2: The Conceptual Framework of the Research

Secondly, the data was collected through interviews based on a questionnaire which recorded the visitors' perception about quality of UOS. Purposive sampling method was employed for selection of the respondents. The respondents' ages were of eighteen and above because children below eighteen years were accompanied and supervised by adults.

Questionnaire Design

The questionnaire consisted of multiple sections including: (1) the respondents' profile e.g. gender, age, education etc.; (2) the characteristics of activities done in the urban open space; (3) the relation between the use of urban open space and urban environment facilities; (4) the relationship between use of the urban open space and quality of life factors; (5) the level of satisfaction with some factors of urban open space, both positive and negative; and (6) the level of satisfaction with some factors of quality of life. The level of satisfaction was measured by using a five-point Likert scale ranging from "1" for very dissatisfied, "2" for dissatisfied, "3" for neutral, "4" for satisfied and "5" for very satisfied.

Sampling and Data Analysis

Both qualitative and quantitative techniques of analysis were employed to analyze and understand the data. Microsoft Excel was used for data analysis through bar graphs, pie charts and tables. SPSS was used to analyze multiple significant factor analysis and central tendency test to interpret the responses and identify the significant factors of which led to use of the UOS by visitors. The research was carried out in 2019 during the months between March and June. The parks were visited on weekdays as well as weekends and also on public holidays at two times of the day, first at 8:30 am in the mornings and 5:00 pm in the evenings.

Pilot-testing and Implementation of the Questionnaire

A pilot study was also conducted during the month of February in both selected urban parks using 15 interviews at each park. The gaps were identified and the questionnaire was revised after the pilot test. The peak visiting hours were identified and the parks were visited during the timings 6:30am- 9:00am in mornings and 4:30pm-6:30pm in the evening. The visits were done on both weekdays andweekends. The peak load was on weekends and holidays. Sixty questionnaires were used per park. The responses of 103 questionnaires were analyzed out of a total of 120.

Findings from the Questionnaires

Male as well as female participant were responded for questionnaire. Sometimes, due to the reflection of cultural values, females avoid talking

directly and male as head of the family responded. The demographic information was identifying the usability of both parks, which is indicated by the

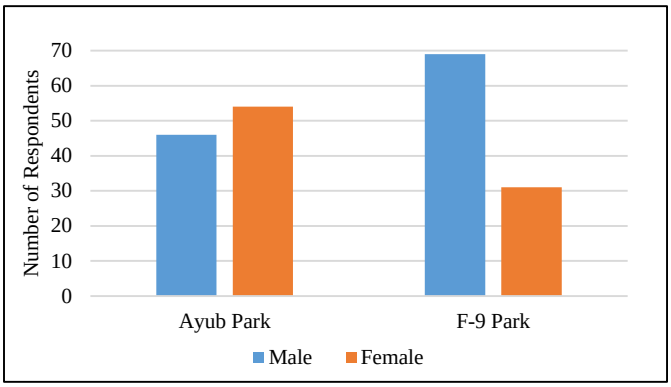


Figure 3: Gender distribution of respondents in parks

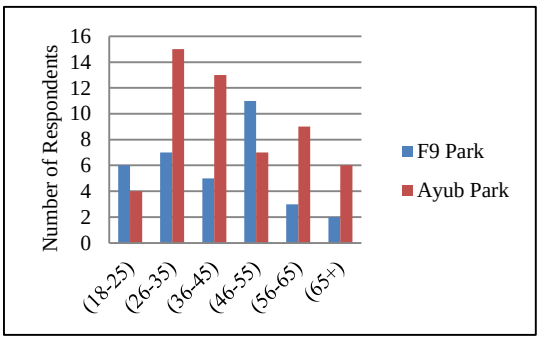
Respondents of all age groups have been visited both parks. The maximum number of visitors were in the range of 26-35 years in Ayub National Park as compared to the 46-55 years in the case of Fatima Jinnah Park shown in Figure 4. Due to easier accessibility to the park and connectivity from the surrounding neighborhoods, the number of senior citizens visiting Ayub Park is significantly higher.The number of activities offered at Ayub Park is much more like, yoga classes, museum, jungle

Figure 4: The age distribution of visitors in F-9 Park and Ayub Park

The education profile of most of the visitors is high. Figure 5 showed that Ayub Park attracts more

range of users and their activity. The findings shown that both the parks were visited by both males and females. The gender distribution of visitors is shown in Figure 3. In Fatima Jinnah, F-9 Park the proportion of male visitors is considerably higher than the females.

world etc., whereas F-9 Park only offers a walking track and a great view of the Margalla Hills. Parents brought kids for organized sport to Ayub Park since they wanted the kids to be more involved in physical



activity. Though the kids were training for football the parents tended to spend time at the park to be close to children for safety reasons. While being at the park some parents also indulged in physical activity like walking or just watching kids and avail the benefits of being in an open space.

visitors with lower literacy. This is reflective of the location of the park which is close to many lower class neighborhoods. F-9 park is surrounded by posher localities thus more literate users.

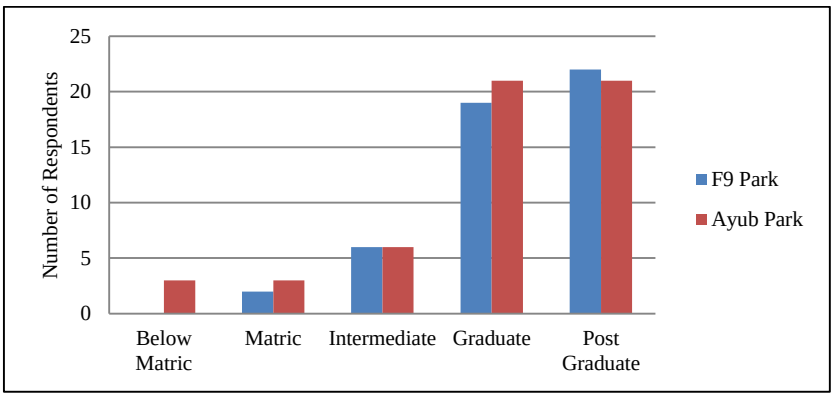


Figure 5: Literacy level of visitors to both parks

Also, the socio-economicstatus of visitors of the parks is different. 12% of the respondents did not mention their income. The maximum visitors to Ayub Park are those whose income is in the Rs.50k-100k. The number of visitors of the higher income bracket is more in Fatima Jinnah Park. Details are shown in Figure 6.

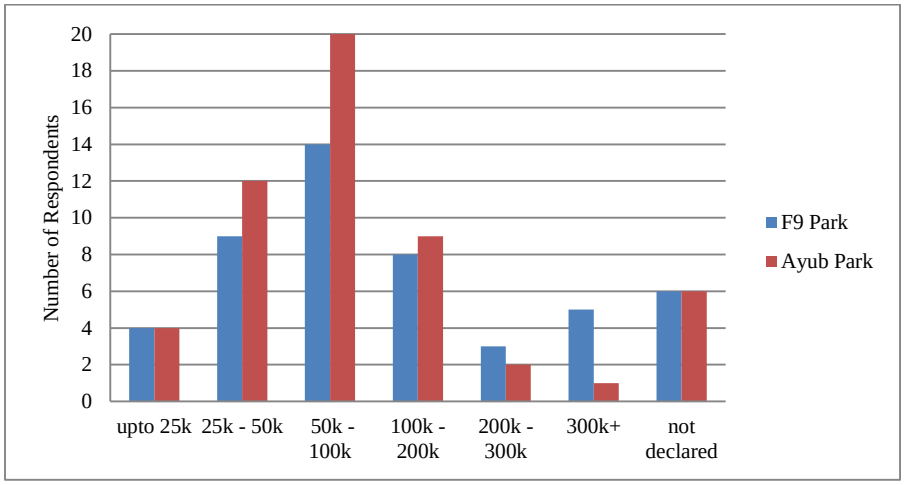


Figure 6: The economic status of visitor in parks

Figure 7 showed the maximum visitors to both the parks. This is an indicator of the usability and activeness of UOS. Both parks are active urban open spaces.

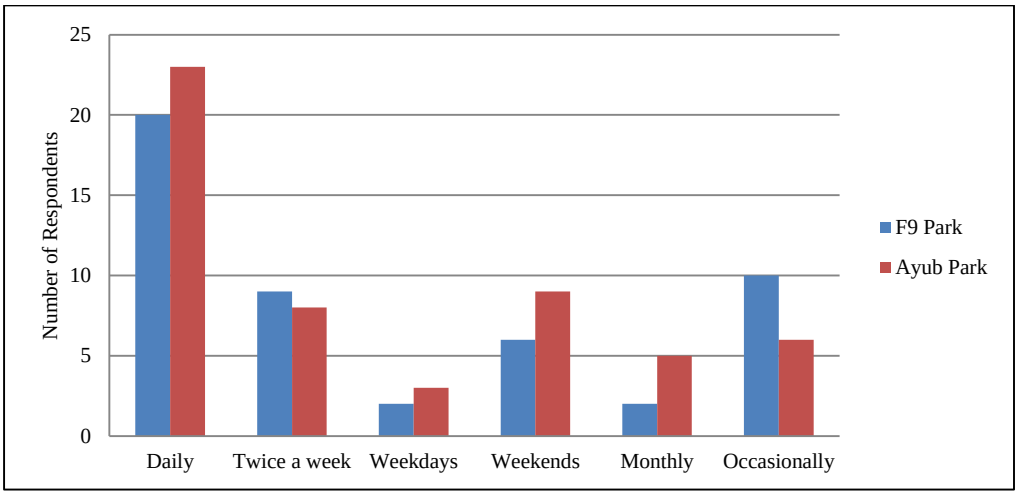


Figure 7: The visit frequency of the visitors

People generally come to the park with family members or alone. The ratio of visitors coming alone is more in F-9 Park as compared to Ayub Park as shown in Figure 8. This could be due to the fact that people exercise alone, parents bring children to park for sports and recreation. This is also a reflection of our cultural values of family orientation. Women and children generally visit the parks with family as it is considered safer. The incidence of girls visiting the park alone is rare as most people discourage girls to go out alone to prevent them being teased or harassed.

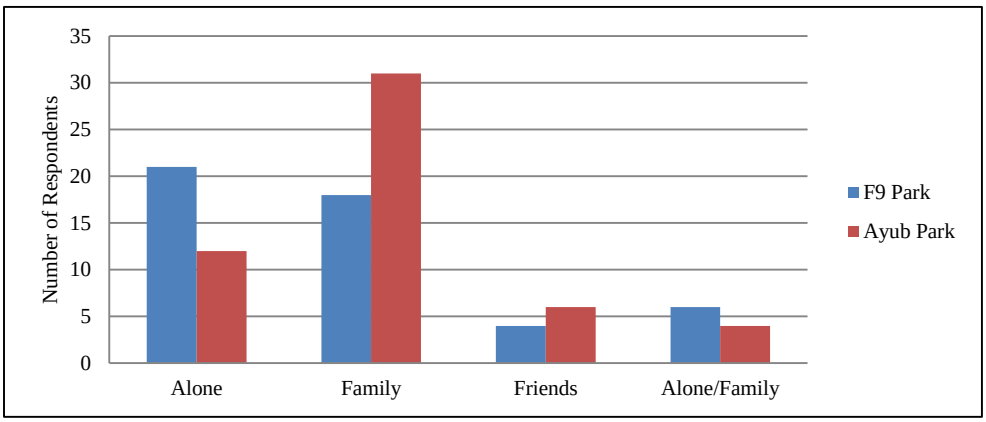


Figure 8: The visitors company in park visit

About 78% of the total visitors are using private transport.Only 6% is using public transport. This showed that the accessibility which is one of the important indicators of the quality of an UOS is quite low. Since there is no proper pedestrian linkage and an integrative transport system so the results indicate poor accessibility. However the users did not perceive it as so because for them accessibility was understood as 'how easy it was to get to the park through a vehicle' as opposed to other form of transport. Figure 9 showed that most of the visitors (44%) to Ayub Park were coming from 2-3 km distance as compared to the 4-10km range of the maximum visitors (45%) to Fatima Jinnah Park. However the proportion of people coming to Ayub Park from distances greater than 10km was higher in Ayub Park as compared to Fatima Jinnah Park as Rawalpindi has less urban parks than Islamabad and also because of higher number of activities available.

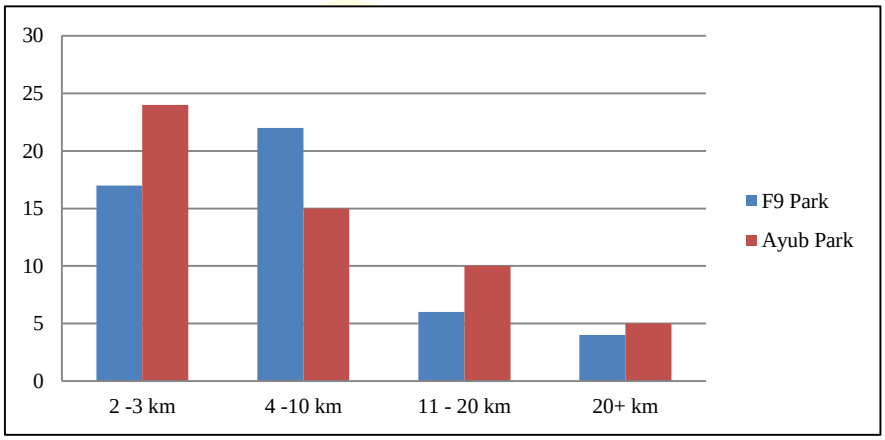


Figure 9: The distance travelled to reach the park

Most of the visitors come for active activity like walking, jogging, sport, etc. to both the parks. The proportion of visitors coming to F-9 Park for active activity was greater than those for passive activity as compared to Ayub Park because it has limited items to offer in terms of recreational facilities. There is a built area called mega-zone which has indoor recreational games. More visitors were coming for passive activity like recreation, picnicking or sitting in Ayub Park. This is indicative of better recreational activities and natural attractions. Details can be seen in Table 1.

Table 1: percentage distribution of different activities performed in the parks

Reason For Visiting Park	No. of Respondents		
	F-9 Park	Ayub Park	Total
Exercise & health benefits	23	25	48
Relaxation& peace	12	8	20
Recreation area with kids	3	8	11
Recreation/relaxation	5	8	13
Social interaction	1	0	1
All of the above	5	4	9
Grand Total	**49**	**53**	**102**

Figure 10 showed that 56% visitors preferred the sport areas like walking track, jogging track and sport fields if available as more preferable areas. The second preferred area was the gardens, sitting areas and natural features like lakes and mountain views. 24 % of the total visitors said that they enjoy these areas more as this makes them more physically active and enjoying nature relaxes the soul and takes their stress away. These reasons indicated that health is a significant factor in the perception of people. Parents added that bringing the children to parks was a mean of getting children more active in physical activity as at home kids are absorbed by use of internet and video games.

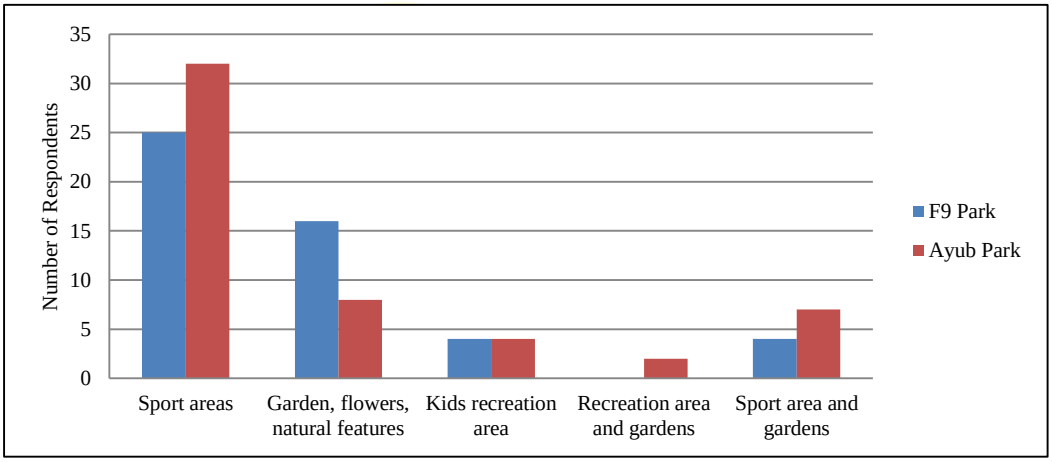


Figure 10: The most popular area of the parks

The concept of QOL is complex and can be interpreted in different ways depending on the context. Since the current research is concerned with factors which may improve and have some impact on the quality of life of the user in relation to their activity, in the park it was interpret that both physical and mental health are of significant importance to the user both individually as well as for their children. They perceive physical activity as healthy and beneficial and this adds to their satisfaction with their lifestyle and surroundings.

4.2 Satisfaction with the Facilities and Quality of Urban Open Space

The satisfaction level of people is an indicator of quality of life. Perception about facilities and indicators of quality of urban open space was judged in the questionnaire on a Likert scale of 1-5.Figures 11 and 12 showed that the satisfaction level of the visitors of both the parks was extremely low for toilets, drinking water facility and with food kiosks indicating negative perception of these facilities. However, respondents were very satisfied with parking, cleanliness and accessibility in both the

parks indicating positive perception thus visitors were using these parks intensively. Peoples' perception was also positive for activities, plantation, landscape and safety as well in Ayub Park. Whereas, in F-9 park the overall satisfaction with activites provided and landscape was lower as compared to Ayub Park which is indicative of need of improvement of these features.

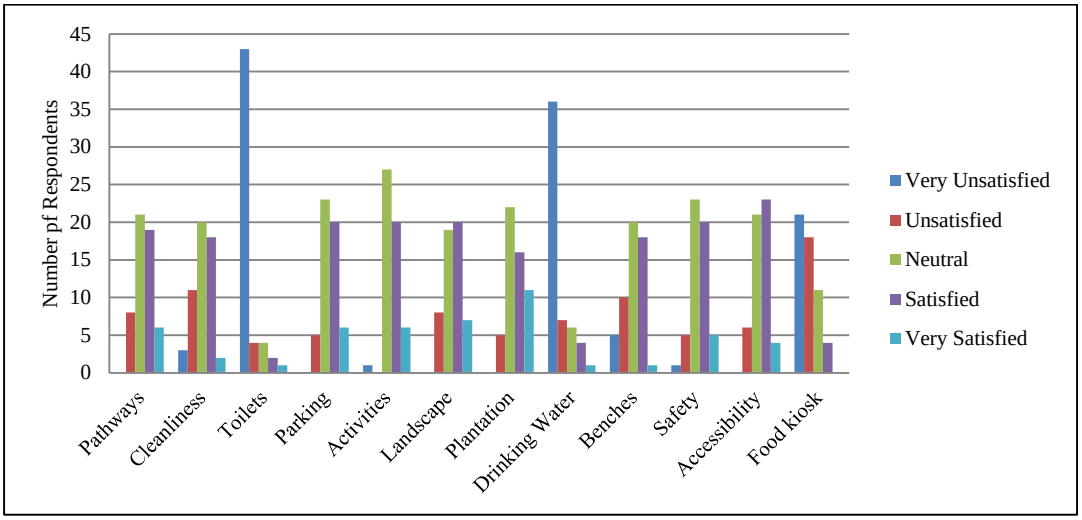


Figure 11: Satisfaction with the facilities available in Ayub Park

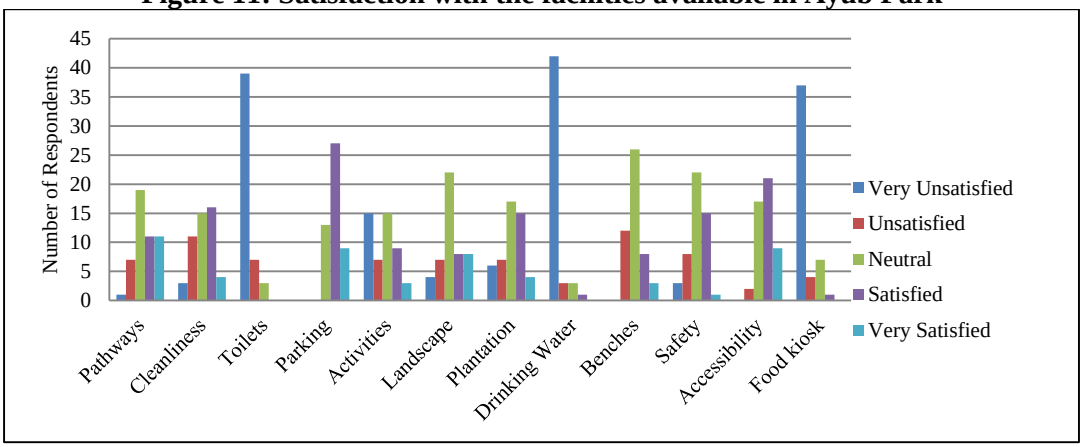


Figure 12: Satisfaction with the facilities available in F-9 Park

The findings shown that the satisfaction level of the visitors of both the parks was extremely low for toilets, drinking water facility and with food kiosks indicating negative perception of these facilities. Whereas, respondents were very satisfied with parking, cleanliness and accessibility in both the parks indicating positive perception thus visitors were using these parks intensively. Peoples' perception was positive for activities, plantation, landscape and safety as well in Ayub Park. Whereas, in F-9 park the overall satisfaction with activites provided and landscape was lower as compared to Ayub Park which is indicative towards need of improvement of these facilities.

The respondents were unanimous in their response on the necessity of having urban parks in the city for their benefits to physical, mental and social health of citizens. This is indicative to the awareness among urban park users of the social, health and recreational benefits provided by the parks. The different feelings such as active, fresh, relaxed, healthy, good, recharged, happy, free and euphoric, energized, restored, free, rejuvenated, alive etc. were described by the respondents. These adjectives reflect the positive contribution of parks to the well-being of the urban dweller and their role in improving their QOL. This endorses that positive perception of the urban open spaces has positive effect on the quality of life of the user (Huai&Voorde, 2021).In the response of the suggestions for the improvements in park, the main concerns were cleanliness and maintenance of parks

and provided facilities including toilets and kids swings. Also they have demanded for more activities which could enhance their health like open gyms, cycling tracks, swimming pools.

Component Factor Analysis

Table 3 showed the Factor Analysis extracted six selected principal components in accordance with previous researches (Wan, Shen & Choi, 2020; Bahriny& Bell, 2020; Basu& Nagendra, 2020) including health, management, maintenance, accessibility, security and visit characteristics that can be affected the perception of open spaces. An attempt was made to understand the perception of people about UOS by studying their satisfaction level for identified factors of UOS on community perception including accessibility, provision of facilities, natural environment features, activity, administration (Stoia, Niţă, Popa & Iojă, 2022; Nasution & Zahrah, 2014)

Table 3: Component factor analysis of six selected principal components

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	Variance (%)	Cumulative %	Total	Variance (%)	Cumulative %
Health	4.003	22.237	22.237	2.607	14.481	14.481
Management	1.783	9.907	32.144	2.152	11.954	26.436
Maintenance	1.546	8.59	40.734	2.144	11.914	38.349
Accessibility	1.424	7.912	48.645	1.593	8.852	47.201
Security	1.143	6.352	54.997	1.319	7.329	54.53
Visit characteristics	1.128	6.269	61.266	1.212	6.735	61.266

The findings as shown in Table 4 showed that most visitors perceived UOS as highly satisfied with their satisfaction score of neutral (mean average score 3)but the participants who were 'satisfied' (score 4) were more than those who were 'unsatisfied' (score 2). Objectively accessibility was low but peoples' perception was positive even then. The individuals' personal perception was taken as the base of measurement. The people's subjective statements, about their satisfaction with their quality of life, showed that there is a difference between the subjective quality of life and the objective quality of life because most people felt satisfied with the open space.

Table 4: Users' satisfaction perception on various factors of UOS.

Peoples' perception of factors of Urban Open Spaces	**Ayub Park (Mean Value)**	**F-9 Park (Mean Value)**	**Combined Average**
Accessibility			
Pathways	3.43	3.49	3.46
How easy it to approach	3.46	3.76	3.61
Facilities			
Parking	3.5	3.92	3.71
Toilets	1.41	1.27	1.34
Water for drinking	1.65	1.24	1.45
Benches	3	3.04	3.02
Food Vendors	1.96	1.43	1.70

Management			
Cleanliness	3.09	3.14	3.12
Safety	3.43	3.06	3.25
Natural elements			
Landscape	3.48	3.18	3.33
Trees and plantation	3.61	3.08	3.35
Activities			
Sports and recreation	3.56	2.55	3.06

The mean value for accessibility was 3.46 which show that people perceive it as satisfactory. This is in contrast with the studies of (Gehl & Soholot, 2002), which indicate the importance of having clear pedestrian linkages and interactive public transport. It seems that people take the meaning of accessibility as 'how easy it was to reach the public park' It is also consistent with research on community perception in Indonesia and Pakistan that people perceived physical accessibility as a way to reach the urban open space by vehicles (Nasution & Zahrah, 2014; Qureshi et al., 2013; Zhang et al., 2021)

People perceived the facilities like parking and sitting spaces high with mean values of 3.71 and 3.02. The mean value in F-9 Park is higher with 3.92 then in Ayub Park where parking fell short as shown in Figure 13. The mean values for services like toilets and drinking water were 1.34 and 1.71 in F-9 Park and Ayub Park respectively which is low thus indicating poor quality of these and concern of people. Visitors ranked sitting benches higher than neutral in both parks and were satisfied with the facility. The administration had concerns, about misuse and vandalism of public toilets. Vandalism in urban open spaces is a complicated issue due to difference in perception in communities and social inequities (Thompson et al., 2005).

a) Parking for cars in Ayub Park

b) Parking in F-9 Park shaded by trees

Figure 13: Provision of Parking Facility

Visitors perceived that the maintenance and cleanliness of the UOS is high with mean values of 3.12 and for safety is3.25 which indicating satisfaction. This is in accordance with studies by (Beck, 2009; Nasution & Zahrah, 2014) that clean and well managed spaces leave a positive perception. Another reason that people felt the place safe was the presence of other people and security in the park. A strong association was noted between maintenance of the park and factors relating to the satisfaction of the users with their surroundings and generally enjoying life and feeling satisfied (Beck, 2009). The mean score was more than neutral in both parks but the mean was 3.42 in Ayub Park because of better administration. Management of F-9 Park cited lack of funds as a reason forinadequate number of security guards, and inadequate lights after daylight hours.

It was observed that families generally kept an eye on the kids in the park. For organized sport facilities mothers generally sat near the football and training fields to keep an eye on kids. Hence, confirming the need for visible accessibility which depends on age,

pace, and gender etc. (Polko, & Kimic, 2021; Rao, 2021). This is also in accordance with research that women, kids and older people more concerned with safety and are uncomfortable in UOS which look risky(Burgess et al., 1988; Ward& Aspinall, 2011) People perceived the landscape of the urban parks high with mean value of 3.33 and satisfaction with trees and plantation with mean value of 3.35. This indicates that people perceive these urban parks positively and use them actively making them successful UOS. Natural elements hold a position of attraction in both these urban parks and their role in providing aesthetic value is undeniable as shown in Figure 14.

a) View of the Margalla Hills from the walking track at F-9 Park, Islamabad

b) Rose Garden in Ayub Park

c) View of the lake at Ayub Park,

Figure 14: View of parks that increase the beauty and serenity to the surroundings

People perceived the activities as 3.06 which is a little above neutral with the value of 3.56 in Ayub Park compared to 2.55 of F-9 Park. Both parks are active urban open spaces providing a wide variety of activities to the visitors of the park as shown in Figure 15.

a) A community yoga class held in Ayub Park

b) Annual spring flower exhibition held in Ayub Park

Figure 15: Activities occurred in the park

Ayub Park is providing sport facilities both organized like football grounds managed by certified trainers as well as allocated space for different sports like cricket grounds and shooting etc. These places can be rented as well. Also the parks recreational area is quite crowded on weekends. It is in accordance with the research that more activities make people stay for a longer time and attract visitors (Gehl & Soholot, 2002). The value of activities was lower than neutral for F-9 Park because many respondents complained the lack of organized sports for kids or designated grounds for sports like football, cricket, badminton etc. Since F-9 park attracts more visitors from higher socio economic and literacy level they expect more and felt that the park was an underutilized open space. This supports the idea that more visits mean positive perception and higher quality of life and its reverse logic of greater perception leading to more usage of the UOS (Constantinescu, Orîndaru, Căescu, & Pachițanu, 2019). But the value is not that low it is 2.55 which showed the desire of people to use the urban parks and is in accordance with research that people often

go out of their way to use the urban parks (Qureshi et al., 2013).

Discussion: Quality of Urban Parks

There are three factors which indicated the quality of an urban open space: accessibility, natural features and facilities. Accessibility indicators are distance, easy to approach and ability to enter the UOS. Ayub Park provides a wide range of activities from jogging, walking tracks, football and cricket fields, boating in lakes, zoo, museums, yoga etc. Gardens and lake with sitting are central to the park. Majority of visitors come for active activities. Whereas, the uninterrupted view of the Margalla Hills is a highlight of F-9 Park. It also provides walking and jogging tracks and a recreation ride area for kids. An activity zone with game facility and is a venue for events like flower show and different festivals. The amount of organized activities for visitors is limited as there are no organized training fields for football, badminton etc. and people expressed a desire for this kind of improvement.

The results showed that the accessibility of these urban parks is low due to lack of continuous pedestrian linkages and integrated public transport. Characteristics of UOS of higher quality are; the presence of a good pedestrian network which is interlinked with public transportation system (Gehl & Soholot, 2002;), which though present but not good hence peoples' preference for private means of transport. It also includes both physical and visible accessibility and it depends on the age, mobility, gender and since most visitors are young its role is minimized (Rao, 2021).Selected urban parks have natural features which are central to both of the parks. The findings of the current research are consistent with previous researches that quality of UOS is not only defined by physical functionality but by meeting the social, cultural and psychological needs (Das, 2008; Nasution, Shalleh, & Wahid, 2014; Quintas & Curado, 2009). It is also consistent with the findings that quality relates to the usability of the urban space (Kallus, 2001) and if not it becomes useless (Carr, Stephen, Francis, Rivlin, & Stone, 1992). There are certain facilities like toilets and food vendors which are not of good quality and people expressed their dissatisfaction with them. It was consistent with the idea that stronger association are found between maintenance and indicators of peoples satisfaction (Beck, 2009).

Usability of the Urban Parks

The findings are consistent with the research that the access of the UOS should be for people belonging to all social strata and it should be reflective of the local (Carr et al., 1992). Both parks meet this criterion. It was also consistent with the fact that it reflects local culture as it was noted that during survey it was always a male member who would come forward to answer the questionnaire and more so in case of F-9 park as is reflected in the gender ratio as it is the culture for males to take out females and families for recreation. This family culture is also reflected in the results with whom the visitors come to these urban parks and a high percentage comes with family. Also, it was noted that because of lack of organized sport facilities in the F-9 Park as compared to Ayub Park the ratio of females is less as the mothers were usually responsible for bringing kids for after school sport activities. The UOS is considered usable and high quality if it meets the requirements of the users and is perceived positively by the user (Nasution & Zahrah, 2014). The usability of the space depends on the people's activities. If it does not satisfy the needs of people than they stop using that urban open space and it becomes useless(Carr et al., 1992). Generally, lack of maintenance and upkeep fails to attract users and reduces safety of the place (Ward & Aspinall, 2011). The current research findings showed that both urban parks are intensely used and frequented by a vast variety of urban residents thus rending them as active and live-able UOS.

Health

Parks provide the urban residents with a chance to participate in both active and passive recreational activities which can enhance their overall quality of life. Both the urban parks had similar results and not much difference was noted. It was clearly observed that health was one of the main factors for peoples' usage of these urban open spaces. This is evident from the result of preference of activity and the most valued area in the park is the activity areas of jogging and walking. There are slightly more recreation visitors in Ayub Park because of better recreation facilities.The findings were consistent with previous studies that reconfirm the aesthetic value and appeal of natural landscapes to people belonging to different cultural backgrounds(Burgess et al., 1988; Kabisch et al., 2015; Özgüner, 2011). This was in contrast with research conducted in Karachi and Lahore that

people are not concerned with health associated benefits of urban green spaces (Qureshi et al., 2013; Hanif, Shirazi & Majid, 2020) and in accordance with the research that positive perception of urban green spaces has a positive impact on the health of the individuals and adds to the quality of life of the user (Douglas, Russell, & Scott, 2019; Oviedo, Drescher & Dean, 2022).

It was in agreement with the research that activities performed in UOS and presence of urban natural elements improves physical and psychological health (Nasution & Zahrah, 2014). It was also consistent with research that people who use urban parks report many benefits like reduced stress, improved health and greater social interaction, which is particularly important for the elderly (Lynch, 2007). Children's' play separate from adults is an important activity that takes place in urban open spaces. Many of the kids physical and mental needs are met by outdoor play (Qutub & Anjum, 2015).It is evident from the findings of the research that in both urban parks the preferred area was sport activity areas especially organized activity fields of football and cricket. These were very popular for kids and many parents were visiting the park for this sole reason to provide kids with opportunity of outdoor play as open space in schools are limited and the use of gadgets are making children obese and inactive.

Conclusions

The purpose of this study was to identify the quality of the urban open spaces. It was also to explore the perception of the community about the selected urban open spaces, and to analyze how perception of the urban open space affects the quality of life of the users. The resultsindicated that the selected urban parks are of adequate quality, and fulfill both the functional and activity aspects of an UOS. The study also found that there is not a significant difference in the perception of urban parks by the visitors in the twin cities of Rawalpindi and Islamabad.The results of the component factor analysis showed that both the urban parks are of average quality but the perception of the community is positive for these UOS.From the factors extracted it indicates that the quality of the Ayub Park is objectively better than Fatima Jinnah Park.The positive community perception about these urban parks is reflected in the intensity of use by the visitors of all age groups, economic status, gender, and education level, rendering them as active and usable urban open spaces.

The study further affirmed that physical factors of UOS have a strong relation with the space perception. Visitor's perception is greatly affected by security, maintenance and management. The urban park with greater provision of activities was perceived more positively. Visitors perceived basic facilities such as toilets and availability of drinkable water poorly. Accessibility was not a dominant factor in encouraging park visitation. It was taken as how easy it was to visit the park by private transport. Positive perception of the UOS was reflected in the satisfaction level of the visitors and was adding to their QOL by fulfilling their physical, mental, recreational, social and environmental needs.The health factor of the QOL was perceived as the most important benefit of these urban open as it was the main reason for visit was for exercise purpose. Users believe that UOS are an integral part of the city as they provide relief from the built environment and provide aesthetic and mental relief.

In developing countries, the wellbeing of the people is not always mirrored by the condition of the urban environment. The quality of life is a subjective measurement which is based on an individual's personal perception of a place. The research showed that there is a difference between objective and subjective quality of life. The peoples' subjective statement showed satisfaction with their quality of life which might not be justified objectively.The importance of the role that nature plays in the city, by providing not only aesthetic value but also because of its contribution to the ecological, physical, psychological, environmental and social value of the city is undeniable. Physical factors of urban parks have a strong relation with the UOS perception. Visitor's perception is greatly affected by security, maintenance and management. The results of this research reaffirmed that natural elements are greatly appreciated by park users and it's not only the content of the scene but also a sense of exploration which provides a great feeling of satisfaction and is potent mean of mental well-being.

Research showed that the basic parameters required in the planning of parks are inadequate. F-9 Park has large chunks of underutilized and unplanned land and a waste of urban green resources.This research is a step towards better understanding of UOS, and links residents' perception between the uses of parks and QOL. Realizing what urban residents require or

desire in their parks, in order to meet their recreational, social and mental needs, community needs to be revitalized by education and awareness, because improvement of the urban environment is only possible if the citizens are aware and motivated to feel the responsibility of their role in sustainability of the urban environment. This is particularly important in dealing with management issues of cleanliness and maintenance. Waste of land resources needs to be minimized and the value of these UOS needs to be enhanced to develop and improve urban open spaces more appropriately.

The research was limited to only urban parks as UOS in the city; therefore, it is recommended that future studies should include all urban open spaces like public open areas, green belts along roads and outside residential areas, for better understanding of their role in the urban structure of the city. Different cities should be selected with distinct functional characteristics as this would vary the results substantially. It will lead to better understanding of the choices made by urban residents in the urban environment and eventually lead to development of a better urban planning framework, with higher satisfaction for the people and ultimately higher quality of life.

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