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ASSESSING QUALITY OF LIFE THROUGH PEOPLE'S PERCEPTION: A CASE STUDY OF LAHORE-PAKISTAN

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ABSTRACT

Urban green spaces and parks play a significant role in improvement of the quality of life of citizens. They also support the sustainability of the cities. Rapid growth of urbanization has affected the green spaces by transforming them into residential areas. As the quality of life is directly linked with the people's well-being in the cities. So, the role of people about the awareness of benefits gained from the urban parks is necessary to be identified. In this context a survey was conducted based on questionnaire in selected parks of Lahore, Pakistan in year 2019. Fifteen parks (Jillani Park, Greater Iqbal, Gulshan-e-Iqbal, Nasir Bagh, Nadra Begum Park, National Bank park, FCC park, Jam e Shirin Park, Bagh e Jinnah, Fatima Jinnah ladies park, Gulabi Bagh, Shahdrah Bagh (Noor Jahan's tomb), Family Park Samanabad, Rehmania Park and Botanical Garden Jallo)in Lahore were selected and the sample size was 300. The aim was to assess the quality of life of citizens by asking various relevant questions ranging from their motivation to visit parks, to satisfaction and perception of people about ecosystem services obtained from the parks. For this purpose, SPSS (Version 25.0) was used to analyze the data. Results showed that 45.3% of the visitors came to parks for recreation; 55.7% feel satisfied with their health due to visit in park and 69% perceived it important to live near parks. The outcomes will be helpful in planning process by considering the resident's demands and preferences in achieving the sustainability development goals.

KEYWORDS: Quality; sustainability; preferences; urbanization; Pakistan

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INTRODUCTION

Health and well-being of residents is considered important to mention in studies of parks, recreation and tourism. Improving health and well-being of people are significant factors in enhancing quality of life. Improving quality of life has long been a prime goal for people, societies, countries and international organizations. Quality of life is an emerging field of research that not only concerned about public health, social attitude, environmental and planning policies but also about parks, recreation and tourism. Studies about quality of life have gained interest of researchers from many fields since 1960s. This trend has been accelerated in past decade due to focused study on well-being and happiness of people. Now the present research has developed a connection between parks, green space and recreation opportunities with health, well-being and quality of life (Liu *et al.,* 2016).

As urban green spaces provide various ecosystem services such as carbon absorption, air filtration, biodiversity conservation, water regulation and climate regulation therefore, they are directly linked with the sustainability of cities. It is observed that the relationship between urban environment and human well-being is not studied enough due to lack of interest of the planners. Since the planners in cities are more concerned to economic growth rather than social interactions. Therefore, Ayala-Azcárraga *et al.* (2019) proposed that the well-being is a state of the human being that arises with the good health (physical and mental), establishment of social relationship of trust and cooperation and with the level of contentment to attain their goals (Gashu *et al.,* 2020) . A study was carried out to understand the contribution of ecosystem services approach to improve the planning strategies. The areas to be addressed were identified and highlighted the already existing framework in urban planning (Cortinovis and Geneletti, 2018).

It is generally agreed that urban green spaces can significantly contribute to the well-being of its residents (Peng *et al.,* 2017). In this context, urban parks also play a distinctive and vital role in provision of public space and recreation facilities for the residents. They form a link between human environment relations besides offering various urban ecosystem functions. Therefore, the availability and the quality of urban parks are considered as indicators of livable and sustainable cities. In many researches, the availability and quality of public parks are adopted as indicators to assess the urban quality of life, livability, urban stability and even

ecosystem services (Riaz *et al.,* 2002).To maintain and improve the urban green spaces is an essential component in designing strategies and policies. Stessens *et al.* (2020) conducted a research based on people's perception about the important quality of green spaces was conducted in Brussels capital region . Madureira *et al.* (2018) also investigated preferences of urban dwellers about qualities of urban green spaces in three cities of Portuguese.

Urban Park is an area having natural environment in urban context. Urban Park situated near the residential areas (less than 5 to 10 km) are known as activity center for the residents. They provide a place for vegetation and environment conservation in urban areas. Besides that, they also have positive impact on human's social and psychological behavior which ultimately leads to the quality of life. Urban parks provide the opportunity of recreation, relaxation, to spend time with family and friends, to enjoy nature, attraction to tourists etc. besides other services (Bolund and Hunhammar, 1999).

According to Gupta urban green spaces play vital role in improving the quality of urban life, balancing heat budget and thermal comfort. They also help individuals to reduce physical and mental stress in daily routine. They contribute in improvement of quality of life through air filtration, beautification, rising land values and minimizing the cost for cooling. Thus, urban green spaces are considered as a backbone in sustainable development of cities. The main purpose of urban green spaces is to provide space to kids to play. This is important for the physical, mental and social development of kids (Gupta *et al.,* 2016).

To understand the significance of resident's perception about green infrastructure in framing the policies during planning process, a study was conducted in urban and peri-urban areas of Islamabad and Rawalpindi, Pakistan (Bokhari *et al.,* 2018). In the frame work of the Rio + 20 UN Conference on Sustainable Development, the growth of UGS is considered as important indicator of sustainability due to its contribution in human health and well-being. The relation between urban green spaces with sustainability and safe living is also expressed in official document by mentioning the indicators of UGS (Badiu *et al.,* 2016).

Chiesura (2004) argued that urban parks and open green spaces have significant contribution in improving the quality of life in rapidly increasing urban societies. Empirical evidence shows that presence of natural assets like urban parks and forests, green belts etc. and their components like trees, water etc. leads a way to improve the quality of life in urban settings (Buchel, 2013).

Breuste also proposed the ecosystem services and indicators for the quality of life in perspective of urban sustainability in his study (Mancini *et al.* 2018). Chiesura (2004) studied the relation between urban parks and city sustainability through the assessment of urban nature. He considered the urban parks as provider of social services which are essential for the quality of human life. Ultimately for the sustainability, quality of life is a vital component.

MATERIALS AND METHODS

The present study was conducted in Lahore city, capital of Punjab province in Pakistan during 2019. The city is administratively divided into nine towns and one cantonment board. Parks and Horticulture authority (PHA) is the concerned department working on development and maintenance of green areas in Lahore. It was established in September 1998 under the Punjab development Act of cities 1976 with Government of Punjab. Both primary and secondary data was collected to highlight the existing ecosystem services contributing in the maintenance of quality of life. Secondary data was primarily focused on literature review. For primary data collection, fifteen (15) parks (Jillani Park, Greater Iqbal, Gulshan e Iqbal, Nasir Bagh, Nadra Begum Park,National Bank park, FCC park, Jam e Shirin Park, Bagh e Jinnah, Fatima Jinnah ladies park, Gulabi Bagh, Shahdrah Bagh (Noor Jahan's tomb),Family Park Samanabad, Rehmania Park and Botanical Garden Jallo) of Lahore were selected as shown in Fig 1. It was tried to take at least one park from each administrative zone marked by PHA. There are seven zones identified by PHA to look after the parks and their maintenance in Lahore. Previously a survey based on questionnaire included socio-demographic data, open ended and close ended questions to study motivation to visit and impact on their health was conducted (Razak *et al.,* 2016). Similarly, a survey based on questionnaire was conducted in above mentioned selected parks of Lahore. Respondents were randomly chosen among the visitors of the parks, regardless of their social class or profession. Total 300 respondents were asked to fill the questionnaires. They were briefed about the purpose of survey before getting the responses. Questionnaires were given to only those participants, who were willing to respond. Questionnaire were get filled on weekdays as well as on weekends in different hours of the day during park timings. Questionnaire was designed to address the multiple indicators of quality of life related to the sustainability in urban context. For this research paper the assessment was done under these headings: 1) motivation to visit the park covered the question about the purpose of visit, the activities people prefer to do

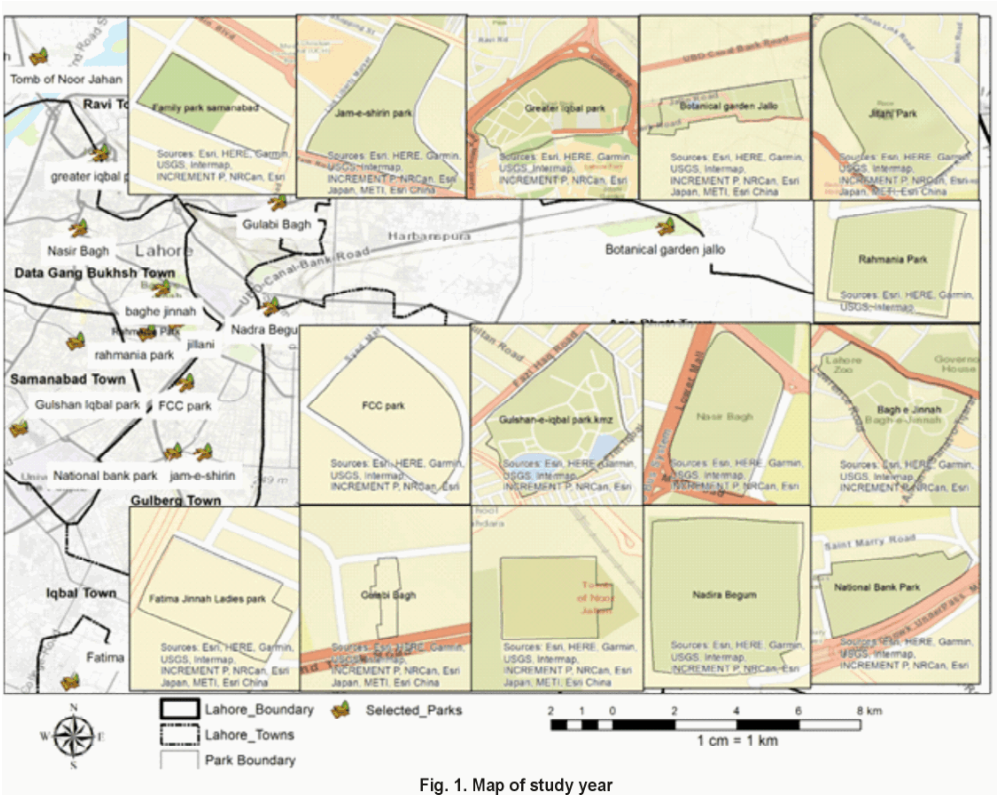


Fig. 1. Map of study year

and their wish to find any particular activity in the park. 2) satisfaction was addressed by the impact of visit on the health of people and the basic facilities provided by the parks. 3) perception was inquired through their choice to have green area near the residents and familiarity about the benefits received from the parks. Data were analyzed statistically (Steel *et al.,* 1997).

RESULTS AND DISCUSSION

Total 300 questionnaires were distributed in 15 (fifteen) selected parks of Lahore. Socio-economic attributes like age, gender, profession, education, and income were also asked and documented. Results showed that 153 (51%) respondents were female as shown in Table 1**.** Among all respondents, most of them belonged to the age group of 18 to 30 (48.3%) and 27.3% to the age group of 31 to 45as depicted in Table 2. It shows that mostly youngsters participated in survey as respondents.

Motivation to visit and the preferred activity to do in the park depicts the demand of people they expect from parks and need of people they wish to be fulfilled. Thus, public need is highlighted in this way, which is helpful for planners and administrators to plan policies in context of people's needs and demands. In this study people were asked about the purpose of the visit in park with the given options of exercise, recreation, jogging, study/research, cycling, aesthetic, sport and others. Previously a frequency analysis was done to show the most frequent purpose to visit the park (Chiesura, 2004). Similarly, in this study frequency analysis identifies that recreation is the most dominating purpose marked by the people with 45.3% as shown in Table 3. Similar result were obtained in a study conducted in urban parks to observe the well-being of people (Razak *et al.,* 2016). In scenario of high inflation rate, people preferred to visit park as it is an easy and economical way of entertainment in urban context. After this, 22% people visit parks to do exercise and 8% come for sports activities.

Table 1. Catagory of respondents on the base of gender

Parameters	Frequency	Percent	Valid percent	Cumulative percent
Female	153	51.0	51.0	51.0
Male	147	49.0	49.0	100.0
Total	300	100.0	100.0	

Table 2. Catagory of respondents on the base of age group

Parameters	Fre-quency	Percent	Valid percent	Cumulative percent
Less than 17	35	11.7	11.7	11.7
18 to 30	145	48.3	48.3	60.0
31 to 45	82	27.3	27.3	87.3
46 to 60	35	11.7	11.7	99.0
Above 60	3	1.0	1.0	100.0
Total	300	100.0	100.0	

Results reveal that the most preferred activity by people (24.3%) is to enjoy nature as shown in Table 4. As parks

provide exposure to experience natural environment so people came in the park to feel and observe nature. While 22.3% people marked the activity to improve their physical and mental health. Result also shows that 16.3% people preferred to spend time with friends, relatives and children during their visit to parks.

Table 3. Respondents purpose of visit in parks

Parameters	Frequency	Percent	Valid percent	Cumulative percent
Exercise	66	22.0	22.0	22.0
Recreation	136	45.3	45.3	67.3
Jogging	20	6.7	6.7	74.0
Study/research	21	7.0	7.0	81.0
Cycling	1	.3	.3	81.3
Aesthetic	15	5.0	5.0	86.3
Sports	24	8.0	8.0	94.3
Other	17	5.7	5.7	100.0
Total	300	100.0	100.0	

Table 4. Preferred activity to do in park

Parameters	Frequency	Percent	Valid percent	Cumulative percent
To enjoy Nature	73	24.3	24.3	24.3
To spend time with friends/ relatives/ children	49	16.3	16.3	40.7
To improve physical/mental health	66	22.0	22.0	62.7
To pursue hobbies	26	8.7	8.7	71.3
To observe birds/butterflies/ animals	12	4.0	4.0	75.3
To breath in fresh air	36	12.0	12.0	87.3
To avoid noise	23	7.7	7.7	95.0
To find shelter in summers	8	2.7	2.7	97.7
For sports	6	2.0	2.0	99.7
Others	1	.3	.3	100.0
Total	300	100.0	100.0	

It is also observed in Table 5 that 25.3% people wanted to find an opportunity regarding environmental education. They showed their interest to update their knowledge and made themselves more familiar to the environmental concerns. Similarly, 18.7% people expressed their opinion to have an opportunity for active sports. However, 14.7% people wanted to watch movies/open air theatre in parks of Lahore.13.7% visitors also wished to find water bodies and 12.7% demanded to have swimming classes in parks.

Satisfaction visitors were asked to tell about the most satisfying facility in the park and the result was accessibility and silence both with 31% as shown in Table 6.

Table 5. Wish to find an activity to do in park

Parameters	Frequency	Percent	Valid percent	Cumulative percent
Environmental education activities	76	25.3	25.3	25.3
To watch movie/ open air theatre	44	14.7	14.7	40.0
Active sports	56	18.7	18.7	58.7
Swimming classes	37	12.3	12.3	71.0
Water bodies	41	13.7	13.7	84.7
Cultural activities	33	11.0	11.0	95.7
Others	13	4.3	4.3	100.0
Total	300	100.0	100.0	

Table 6. Most satisfying facility in park

Parameters	Frequency	Percent	Valid percent	Cumulative percent
Accessibility	93	31.0	31.0	31.0
Silence	93	31.0	31.0	62.0
Direction signs for guidance	18	6.0	6.0	68.0
Parking facility	25	8.3	8.3	76.3
Shelter	5	1.7	1.7	78.0
Canteen	7	2.3	2.3	80.3
Additional facilities	23	7.7	7.7	88.0
Others	36	12.0	12.0	100.0
Total	300	100.0	100.0	

People are more attracted to nearby parks, if they provide the maximum facilities. Parking facility ranked afterward with 8.3%. When visitors were asked about how much they are satisfied with their health due to visit in the parks. However, Table 7 shows that 55.7% visitors were satisfied with their health and 15.7% were very satisfied due to provision of natural environment provided by parks in cities. Parks offer opportunities to people to improve their quality of life by rendering many services like jogging tracks, gyms, sports areas, vegetation, biodiversity etc.

Table 7. Satisfaction level of health by visiting park

Parameters	Frequency	Percent	Valid percent	Cumulative percent
Very satisfied	47	15.7	15.7	15.7
Satisfied	167	55.7	55.7	71.3
Neutral	42	14.0	14.0	85.3
Dissatisfied	40	13.3	13.3	98.7
Very dissatisfied	4	1.3	1.3	100.0
Total	300	100.0	100.0	

People were also asked to response on how important for them to live near parks to comprehend their perception about the significance of parks. 69% respondents mentioned that it was important for them to live near parks while 31% did not consider it important as shown in Table 8. Then people were directed to

choose the preferred green area in this regard. Table 9 reveals that 47.3% visitors made a choice to have parks near their residential areas. To understand the knowledge of people about the significance of parks more deeply, they were asked to mark any benefits they know, received from the parks. Result shows that 44.3% respondents were familiar with air filtration, 16% with pollination, 13.3% with temperature regulation and 11.3 % with noise reduction due to presence of parks as shown in Table 10.

Table 8. Importance to live near park

Parameters	Frequency	Percent	Valid percent	Cumulative percent
Yes, it is important for me	207	69.0	69.0	69.0
No, it is not important to me	93	31.0	31.0	100.0
Total	300	100.0	100.0	

Table 9. Preference of any green area near residence

Parameters	Frequency	Percent	Valid percent	Cumulative percent
Park	142	47.3	47.3	47.3
Forest	21	7.0	7.0	54.3
Play ground	63	21.0	21.0	75.3
Where I could do gardening	31	10.3	10.3	85.7
Green area along river or canal	33	11.0	11.0	96.7
Others	10	3.3	3.3	100.0
Total	300	100.0	100.0	

Pearson correlation was performed among selected non-parametric variables by using SPSS (version 25.0) as shown in Table 11. Previously Pearson's correlation was performed to assess the association between perceived and explored variables in urban green spaces (Gashu *et al.,* 2020), results of current

Table 10. People's familiarity about benefits of park

Parameters	Frequency	Percent	Valid percent	Cumulative percent
Air filtration	133	44.3	44.3	44.3
Pollination	48	16.0	16.0	60.3
Water retention/ absorption	15	5.0	5.0	65.3
Noise feduction	34	11.3	11.3	76.7
Nutrient recycling	14	4.7	4.7	81.3
Temperature regulation	40	13.3	13.3	94.7
Habitat provision	11	3.7	3.7	98.3
Others	5	1.7	1.7	100.0
Total	300	100.0	100.0	

study shows that positive weak association (r = .143) between importance to live near park and preference of any green area near residence exists. p = 0.006 shows statistically significant correlation between them. It interprets that due to immense benefits of green spaces, people prefer to have parks near their residence. So that they can pursue their desired activities easily near their homes. Moderate positive correlation (r = .310) between satisfaction level of health by visiting park and importance to live near park which is also significant with p = 0.000. This shows that people have knowledge that the existence of parks near their residence contributes to improve their physical and mental health. The p value between the wish to find an activity in park and preferred activity to do in park is 0.000 which indicates the correlation is significant, while value of r = .225. It highlights that people visit mostly those parks where they found their desired activity easily and also want to get all their needs fulfill in the same parks. So that they might not visit to other parks as it is hard to spare time due to busy life in cities.

Table 11. Pearson correlations

Parameters		Importance to live near park	Preference of any green area near residence	Satisfaction level of health by visiting park	Preferred activity to do in park	Wish to find any activity to do in park
Importance to live near park	Pearson correlation	1	.143**	.310**	.017	-.039
	Sig. (1-tailed)		.006	.000	.386	.253
	N	300	300	300	300	300
Preference of any green area near residence	Pearson correlation	.143**	1	.111*	.054	.077
	Sig. (1-tailed)	.006		.027	.176	.093
	N	300	300	300	300	300
Satisfaction level of health by visiting park	Pearson correlation	.310**	.111*	1	-.030	.001
	Sig. (1-tailed)	.000	.027		.300	.493
	N	300	300	300	300	300
Preferred activity to do in park	Pearson correlation	.017	.054	-.030	1	.225**
	Sig. (1-tailed)	.386	.176	.300		.000
	N	300	300	300	300	300
Wish to find an activity to do in park	Pearson correlation	-.039	.077	.001	.225**	1
	Sig. (1-tailed)	.253	.093	.493	.000	
	N	300	300	300	300	300

**. Correlation is significant at the 0.01 level (1-tailed), *. Correlation is significant at the 0.05 level (1-tailed).

CONCLUSION

Parks are developed for the wellbeing of people, so the people are the main stakeholders in sustainable development of cities. Thus, to improve the quality of life in urban areas, it is worthy to mention the needs and demands of visitors while developing strategies in urban planning. From this study it can be concluded that urban parks play a significant role in enhancing the quality of life of urban dwellers. Therefore, peoples' perception is important to consider in designing and maintaining the urban parks. Different age groups preferred different activities to do in parks with d ifferent motivation. Ultimately it leads to help the management to take care of all targeted groups in providing ecosystem services .

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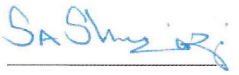
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Sr. No.	Author's name	Contribution	Signatures
1.	Aysha Hanif	Conducted the research and wrote-up the manuscript	
2.	Safdar Ali Shirazi	Supervised the research work and helped in mapping	
3.	Abdul Majid	Helped in data analysis and proof read the manuscript	