

Investigating the Impact of QoL Program on Public Spaces Case of Riyadh Neighbourhoods

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Abstract

Two primary objectives of the Saudi QoL program are Improving individuals' lifestyles by developing new approaches that boost residents' participation in cultural, entertainment, and sports activities. The second is enhancing the quality of life by creating activities that contribute to diversifying economic activity and boosting the status of sustainable development plans of Saudi Arabian cities are. Improving and adapting open public spaces and streets in the city of Riyadh into pedestrian-friendly ones and fewer cars' dependent can do much change and help accomplish the country's vision. In this regard, the main research goal is to investigate the reflections of the QoL program on the urban and social life in Riyadh neighborhoods with a focus on the quality of public spaces to promote social activities and walkability as the prime physical activity of neighborhoods residents.

The research follows mixed methods for its different parts. The research followed a qualitative approach is in the theoretical studies and literature review. The research involves a quantitative analysis for the research survey, which investigates factors affecting the community's tendency to use public spaces and practice walkability as a main physical activity in their daily lives within their neighborhoods.

The research significance is to link the national perspective of QoL and international best practices in placemaking and public spaces according to their global initiatives and the UN-Habitat Public Space program launched in 2020. On that track reducing the dependence on autos and encouraging physical activities and walkability among all community members. The research outcomes will help transform Riyadh Neighborhoods into more pedestrian-friendly urban public spaces by concluding the main parameters and their responsive design solutions to promote community tendency of using public spaces and practice walkability. The research provides recommendations for developing public spaces and pedestrian infrastructure to encourage the city planners to bear that in mind in the early stage in planning transportation infrastructure, an appropriate level of pedestrian service must be established and provided across the roading hierarchy and path network. In addition, the research results include proposing design guidelines for different members of the community, older people, children, and disabled people.

Scope of work and limitations: This research's main scope of implementation is the residential neighborhood Al-Falah in the City of Riyadh, yet the suggested strategies and design guidelines could be extended and applied to most cities of Saudi Arabia and beyond.

Keywords: Quality of life, Public Space, Saudi Vision 2030, walkability, neighborhood design

1.0 Introduction

With the increasing pace of urbanization and population growth in big cities, many problems affected the environment, and people's lifestyles appeared. Where Roads and streets overwhelmed the other alternative transportation, neighborhoods became oriented towards providing housing to accommodate demand. While growing, many neighborhoods became poor of humanization. Rapid developments in cities led to the absence of a human dimension in residential neighborhoods and a lack of interest in forming the built environment. They were associated with increased vehicle usage rates at the expense of the pedestrian-friendly environment, which

ultimately led to urban environments that do not meet human needs. The quality of life, QoL, in a city begins with a relationship between human beings and the surrounding environment, reflecting on his lifestyle and behavior. The focus on physical activity is explained by how inactivity today accounts for an increasing proportion of deaths and disability worldwide and is associated with high health care costs and productivity losses (Lee Im. et al., 2012). The relationship between physical activity levels and the physical environment in cities has been subject to many different studies. Studies often focus on specific subsections of cities or key aspects of the built environment that might influence activity levels, such as parks, cycle paths, and public transportation systems (Sallis JF et al. 2016). In these studies, the built environment has consistently been shown to affect the level of physical activity among the population; thus, there is much scope to use the city's setting to increase physical activity opportunities. In light of this, WHO and other bodies have recommended that the discipline of urban planning consider the population's needs in terms of physical activity, 15. This relation has been strongly reflected in the well-defined concept of a "healthy city" (WHO, 2016). Therefore, Saudi Arabia's Vision 2030 focused on improving the quality of urban life through the QoL program launched in 2020 to enhance Livability in Saudi cities. This paper aims to highlight the role of planning and design Urbanism in shaping neighborhoods' urban environment within the framework of humanizing cities and QoL in line with Saudi vision 2030.

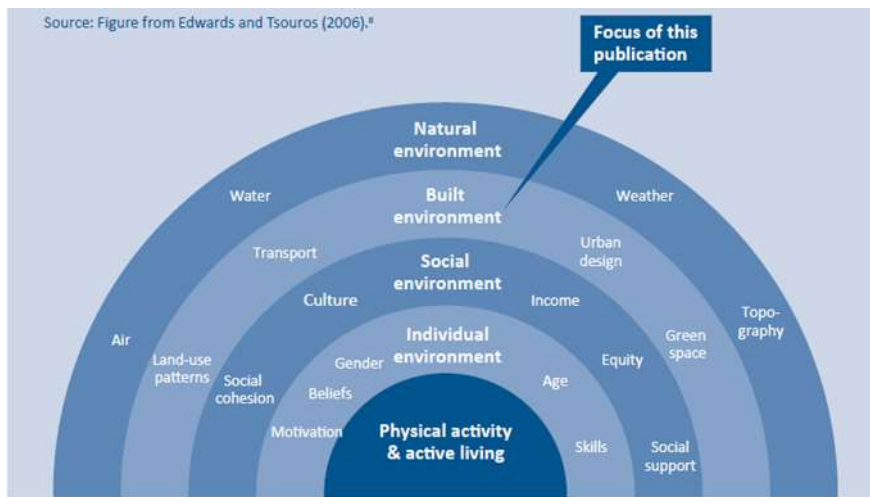


Figure 1 Factors influencing physical activity in communities (Breda 2018)

1.1 Objectives

Two concepts are central to this research: physical activity as a part of everyday life and the built environment; outdoor public spaces. Accordingly, this paper provides insights on the importance of the social-urban dimensions of sustainable public spaces based on visits to one of Riyadh's neighborhoods and a survey of the residents of the Al-Falah district in 2021.

The following underlying questions guided the research:

- How did the city of Riyadh establish social dimensions of neighborhood development into the redesign process of the Al-Falah to achieve sustainable communities and QoL goals?
- How do the residents perceive the level of QoL, throughout the physical settings and social engagement, in the selected neighborhood, and are they satisfied with their well-being?

1.2 Structure

The paper discusses first important literature in the area of QoL in neighborhoods. The second part is a description of the development project of Al-Falah into a more sustainable-walkable neighborhood and one of the two selected neighborhoods of Riyadh for the humanization pilot project under the QoL project in Riyadh's neighborhoods.

The third part introduces the methodology of this study, particularly the survey instrument, data collection process, and applied statistical analysis. The analysis of the survey data is presented and discussed in section four with a focus on the motivational factors that prompted today's residents of the Al-Falah to walk more, be active more, and engage in more outdoor social activities, their evaluation for the elements of public spaces and their level of satisfaction of the development project taking place in their neighborhood, and their perceived social interactions and level of community engagement.

2.0 Literature Review

2.1 Quality of Life, QoL

QoL is a broad and complex concept that measures satisfaction in the "most valued" aspects of a citizen's life. One of the oldest yet comprehensive definitions is by WHOQOL Group, 1995, that QoL "An individuals' perceptions of their position in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards, and concerns. It is a broad-ranging concept that is affected in a complex way by the persons' physical health, psychological state, level of independence, social relationships, and their relationship to salient features of their environment". While (Hashem 2017) concluded that the comprehensive

concept of QoL focuses on creating the principle of integration between the development of the place and the building of human who enjoys the material and moral components of life. However, this definition can be highly subjective. Thus, there was a need for tangible values for qualitative perceptions to establish an objective assessment of the quality of living for transfers to over 460 cities worldwide. Carefully selected factors representing the criteria considered most relevant to international executives (mercer.2014).

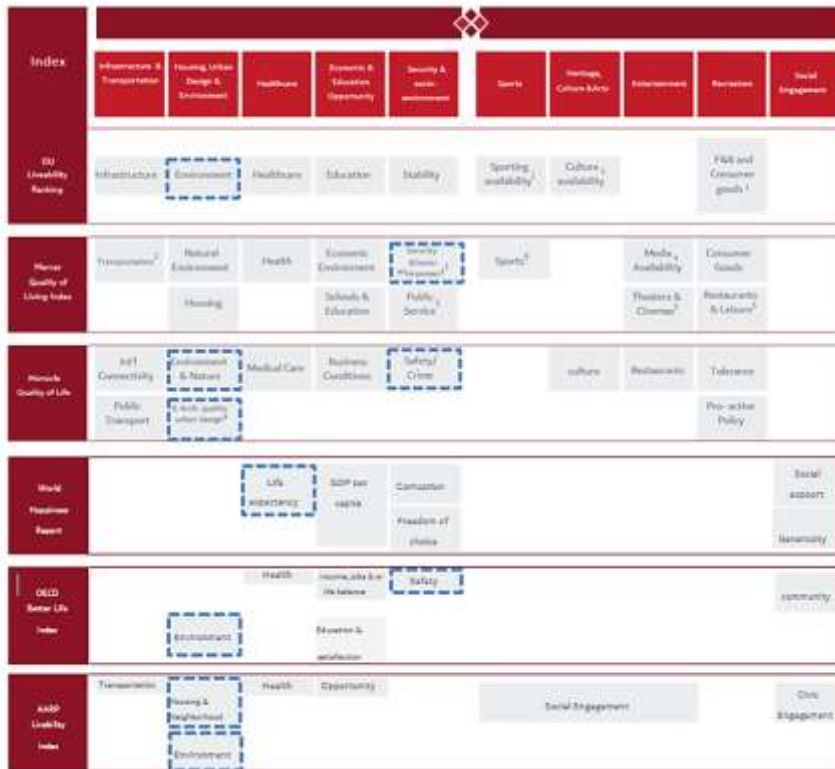
According to systematic review and meta-analysis of studies walking and cycling reduce all-cause mortality. Public health approaches would have the most significant impact if they increased walking and cycling levels in groups that currently show the lowest levels of these activities (Kelly P, 2014). A central concern for many cities today is to plan to improve people's QoL and create urban environments that are responsive to the everyday lives of their citizens (WHO, 2016) For decades, urban planning was dominated and driven by a strong focus on cars, but this is now changing to a focus on creating cities for people that have balanced mobility systems and in which active mobility is encouraged (Arup, 2016).

2.2 International QoL Indicators

Many international QoL ranking indexes conduct city-to-city comparisons that summarise the difference in the quality of living between any two cities. Each Quality of Living index has its parameters to measure the QoL of the city and assess a detailed breakdown of the category scores that form the resulting index, after which a score report summarizes the differences for each of the measured factors. Although total Quality of Living indexes varied in many ways, however, we could identify standard parameters based on the following categories: Consumer goods, Economic environment, Housing, Medical and health considerations, Natural environment, Political and social environment, public services, and transport, Recreation, Schools and education, and Socio-cultural environment.

Following are six of the most comprehensive and internationally recognized global indices defining and measuring QoL from different angles. The indices are: (based on VRP,2018)

1. The Global Livability Ranking produced by Economist Intelligence Unit (EIU) ranks 140 cities for their urban quality of life based on stability, healthcare, culture and environment, education, sports, and infrastructure assessments.
2. The Mercer Quality of Living Survey ranks 231 cities based on the following dimensions: transportation, political and socio-cultural environment, public service, health, economic environment, schools and education, natural environment, housing, media availability, theatres and cinemas, sports, consumer goods, and restaurants and leisure.
3. The Annual Lifestyle List, which conducted by Monocle Magazine's lists the top 25 most liveable cities based on the following criteria: international connectivity, environmental issues, access to nature, architectural quality, urban design, medical care, business conditions, safety crime, culture, restaurants, tolerance, and proactive policy developments.
4. The World Happiness Index 2017 ranks 155 countries based on happiness levels explained with the following dimensions: corruption, freedom of choice, life expectancy, GDP per capita, freedom of choice, social support, and generosity.
5. The OECD Better Life Index, which compares well-being across countries, is based on 11 topics the OECD has identified as essential: safety, health, income, jobs and work-life balance, education and life satisfaction, housing, environment, community, and civic engagement.
6. The ARRP Livability Index is a signature initiative of the Public Policy Institute to measure the quality of life in American communities across multiple dimensions: transportation, health, economy and education, housing neighborhood, environment, engagement, and equal opportunities.



Note: Framed factors are the ones related to QoL in neighborhoods as defined by this research

Fig. (2): Overview of quality-of-life global indices
(source): Based on the Vision 2030 VRP QoL Program, 2018

2.3. Quality of Life Program in Saudi Arabia

In 2016 The Saudi Council of Economic Affairs and Development defined 12 Vision Realization Programs (VRP) of strategic importance for the government of Saudi Arabia to achieve the objectives established in Vision 2030. Among which is the QoL Program, launched in 2018. This program mainly focuses on making Saudi Arabia a top living destination for both citizens and residents. This program focuses on two aspects:

- Improving individuals' lifestyle: Developing an ecosystem to support and create new options that boost participation in cultural, entertainment, and sports activities.

- Enhancing QoL: Developing suitable activities that contribute to enhancing the QoL of individuals and families, creating jobs, diversifying economic activity, and boosting the status of SA cities so that they rank among the best cities in the world.

Consequently, the VRP identified "Quality of Life" as the central underlying concept of the program. (QoL,2018).

One of the most critical approaches under the QoL program is the Housing, Urban Design and Environment, which focuses on providing housing for people of all ages, incomes, and abilities and allowing everyone to live in a quality neighborhood regardless of their circumstances. Additionally, it focuses on upgrading the urban design and environmental context to allow citizens to have higher access to daily services and job opportunities and fosters healthy habits like a more active physical life (such as walking). The KSA underperforms on access to nature, affordable housing, urban design, and quality of the environment, all of which are important for the everyday lived experience of residents. For example, on an independent measure of walkability ("Walk score"), Riyadh is half as walkable as New York, Singapore, and London.

The KSA lags benchmarks in multiple dimensions. One significant lag is the average steps per person per day, where KSA lags best practices by more than 1000 steps per day (3,800). In terms of available green space per capita, Riyadh is the tenth of WHO standards (VRP, 2018)

3- Reviving PS in Al Falah district

The selected neighborhood for the survey and analysis part of this research is Al Falah district:

3-1 Project information:

The Riyadh Municipality Program for the Development of Residential Neighborhoods is a part of a significant initiative in the city to achieve the goals of the QoL program of the Saudi Vision 2030 to raise the quality of public life and improve the individual's lifestyle. This program is one of the fundamental pillars in humanizing the city and making it more suitable for humans by applying the standards of sustainability and comprehensive accessibility and raising the levels of safety and security in an urban context that achieve both functions and beauty. It also promotes traffic safety and hygiene systems and organizes PS by linking the pedestrian network to public utilities and public stations and allocating parking spaces for vehicles, bicycle paths, and walking movement streets.



Fig. (3): Location and urban features of Al-Falah District
Source: MOMRAH, *Humanizing Neighbourhoods Initiative*, 2020

In order to investigate the community evaluation of PS' contribution to their QoL, the research limitation was localized in the Al Falah district. Development of the public spaces in Al-Falah is a part of the "Humanizing Neighbourhoods Initiative" launched by the Saudi Ministry of Housing as part of the Enhancing QoL in neighbourhoods' program on 2020 is feeding back in the National Urban Strategy. The main goals of this initiative are: Raising the QoL in the city of Riyadh till reaching the boundaries of the land plots in the residential neighborhoods, contributing to the humanization of cities in the KSA and the city of Riyadh in particular, Maximizing the economic benefit from Riyadh Megaprojects, Improving the urban visual image and urban design and enhancing the level of safety in the neighborhood streets (MOH, 2020).

The initiative methodology is based on the essential requirements for placemaking, environment, and urban characteristics of residential neighborhoods in general and the Al-Falah neighborhood. Al-Falah district was selected as one of two residential neighborhoods to apply the pilot project of this initiative (Fig. 4).

3-2 Al Falah background:

Al-Falah is one of the residential neighborhoods of Riyadh, the capital and largest city of the KSA. A square with a length of (2.0) km and a width of (2.0) km. Approximately with a total area of 353.000m², it's inhabited by (38,308) people.

Al-Falah is located in the northern part of Riyadh's main road network system and is bordered by Prince Muhammad Bin Salman Road to the north, Airport Road to the east, the Northern Ring Road to the south, and Othman Bin Affan Road to the west. It is also close to many mega projects such as the Sports Track Project and Riyadh train stations.

The population of Al-Falah is 38,308P comprising (0.81%) of the Capital population. The proportion of young ages in the age structure of the population of Riyadh is high, as it is a young society. The demographic structure of Al-Falah consists of 56% male and 46% female. While almost 69.5% are above 15 years, 26.5% under 15, and 4% above 60.

Existence young community needs encouraging to interact with its immediate surroundings, enhance communication with various events and activities, communication with Al-Falah neighborhood community, who meet in the mosque, school, garden, shops and small groceries frequented by residents. Accordingly emphasizes the need to provide the appropriate urban public spaces to enhance these capabilities and activities.



Fig. (4): Open Spaces and Pedestrian network
(source): *Al-Falah humanizing project*

4-0 Methodology

The data presented and discussed in the following section was collected through a structured survey conducted in Al-Falah over three weeks in November 2021. This period was selected as one of the mildest weather in Riyadh throughout the year. The temperature is

an average of 30-26 which is 12 degrees lower than summertime. People usually go out more frequently than in the rest of the year. Participants were asked to fill out a survey instrument containing 27 mandatory questions and one open question. Seventy completed surveys were collected as a representative sample for obtaining insights and observations about the targeted population group. All respondents were at random, and responses were voluntary with complete anonymity. The surveys were either filled out with the collector present or distributed directly with the residents or people working in Al-Falah. While the researcher conducted the personal collecting of the questionnaire, it was ensured that participants were not influenced and that privacy rights were protected. Table 1 shows the characteristics of the surveyed samples with respect to gender, age group, period of residency, and living situation. The research used randomization techniques in the collection of the survey data. Interviewed participants were approached on the street, around the mosque or the garden, the mosque surroundings, and asked to participate in the 10-minutes survey.

Table 1. Characteristics of the surveyed population.

Gender	Female	Male					
	60%	40%					
Age Groups	Under 15	15-20	21-30	31-40	41-50	51-60	+60
	4%	10%	31.4%	24.3%	21.4%	6%	2.9%
Nationality	Saudi	Non-Saudi					
	48.6%	51.4%					
Residents of Al-Falah	Yes	No					
	67%	33%					
Time living in Al-Falah	Less a year	1-3	3-5	5-10	10-15	More 15	
	23%	14.3%	27%	18.6%	11.4%	5.7%	

The survey structure consists of four main parts: the first part consists of 5 multiple choice Qs for investigating the demographic characteristics of the participants. The second part of exploring community preferences in PS in Al Falah consists of 7 multiple-choice Qs. The third part Evaluates PS elements through 8 scales Qs. The fourth part is the Evaluation of PS development impact on People's QoL through 7 scales Qs and one optional text question. The questions type mainly consisted of "multiple choice" and "Likert-type scaling," and answers were balanced equally. This means that the number of favorable and unfavorable answer categories are equal to prevent statistical biases. The Likert scales used in the survey instrument were 5-point scales. The answers ranged, for example, from strongly disagree to agree strongly or from not satisfied to very satisfied with a neutral answer possibility. The survey instrument was tested and reviewed by national researchers experienced in survey research and public engagement to ensure the validity of the Likert scales and other multiple-choice questions. The total sample size of 70 participants is considered large enough to generalize results with a 95% confidence level at ±4% margin of error for the neighborhood. This study applied basic statistical methods such as frequency distributions and descriptive statistics.

5.0 Data Analysis

5-1 Community preferences in PS in Al-Falah

To understand the relationship between the Al-Falah community and the PS in their district, one set of survey questions (Part2) targeted exploring the community's preferences. The survey showed that 70% of the participants go out in the neighborhood daily & 14% weekly. 55.7% go out alone, 51% with families, 20% with friends, and 7% with other families (Fig.4). The destination for those was by order: 54.3% go to school or university, 41.4% go to work, 34.3% go out to streets, 33% to everyday needs, 25.7% to the garden, 17% to visit a friend (Fig.5).

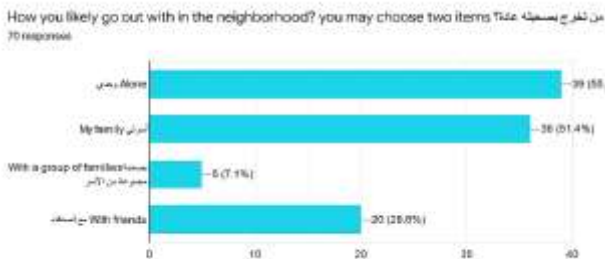


Fig. (4): usual companionship

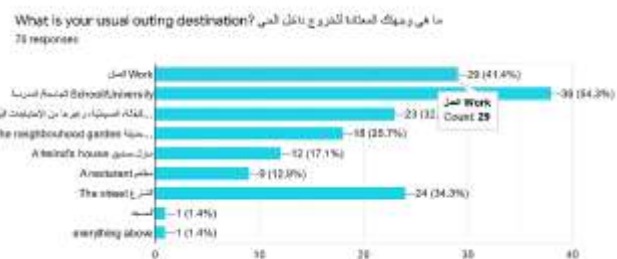


Fig. (5): regular destination in the neighborhood

The survey showed the main reason for going to PS inside Al-Falah was equally (43%) going to work and practicing walkability for fitness. They followed by taking children out to play (34.3%) and relaxation (30%). While daily needs were the reason with (23%), going to mosque for (15.7%). The most common used PS was small streets (45.7%, main streets (40%), area around the mosque (31.4%), the garden (24.3%). One of the important indicators could be driven from the participants reply to their dependency on walkability for their moves inside the neighborhood:

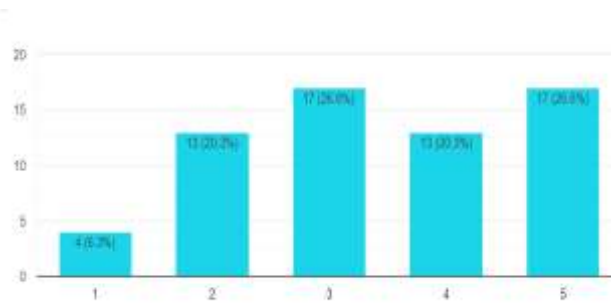


Fig. (6): Dependency on walkability for moves inside the neighborhood

5-2 Evaluation of elements of PS in Al-Falah

To explore the community's satisfaction regarding the design elements of PS, a set of questions (Part3) was designed using Likert-type scaling of 5 grades scale to evaluate the elements of PS in Al-Falah. The results are shown in table (2). The results showed that people's satisfaction is average in general. Sidewalks, pedestrian safety, stability for elders and disabled respectively gained the highest satisfaction rate, while street signage, garbage, furniture were the least and trees and plants were the lowest stratifying elements among all.

Table 3. Evaluation of PS elements in Al Falah neighborhood

	1	2	3	4	5	Mean	Rank
Side walks	10%	10%	22.9%	22.9%	34.3%	3.6	1
Pedestrian crossing	13.4%	11.9%	26.9%	23.9%	23.9%	3.3	4
Trees and plants	34.5%	15.5%	22.4%	19%	8.6%	2.5	8
Street's furniture	24.3%	18.6%	25.7%	21.4%	10%	2.7	7
Street's signage	17.6%	19.6%	17.6%	31.4%	13.7%	3.0	5
Garbage containers	23.1%	19.2%	23.1%	26.9%	7.7%	2.8	6
Pedestrian safety	12.5%	9.4%	17.2%	32.8%	28.1%	3.5	2
suitability for elders and people with special needs	12.5%	15.6%	18.8%	25%	28.1%	3.4	3

Note: Survey respondents were asked, "On a scale from 1 to 5, with 1 being 'not satisfied at all and 5 being 'very satisfied.

5-3 Evaluation of PS development impact on People's QoL

To explore the impact of the PS development project in Al-Falah on the community's QoL, a set of questions (Part4) was designed using Likert-type scaling of 5 grades scale to evaluate the participant's opinion of the impact of each element of the project on their QoL. Based on the results are shown in table (4): the people's evaluation is high in general. Enhancing the QoL was the highest impact agreed on by the respondents. Improving safety, the visual image of the district encourages more social activities, and more walkability is the four-second top impacts, respectively. The impact of adding scooters was the least. Almost half of the sample (47%) highly agreed to participate in the development project, reflecting their overall satisfaction with their gain from the project on their lifestyle.

Table 4. Evaluation of PS development impact on People's QoL

	1	2	3	4	5	Mean	Rank
Wide Sidewalks encourages more walkability	5.7%	7.1%	15.7%	21.4%	50%	4.02	5
Scooters encourage more outings	9.8%	4%	23.5%	15.7%	47%	3.86	6
PS Development encourages more social activities	3%	4.2%	24.3%	18.5%	50%	4.08	4
PS Development enhances the visual image	0%	7.8%	19.6%	23.5%	49%	4.14	3
PS Development enhances the safety	4%	0%	17.6%	33.4%	45%	4.16	2
PS Development enhances QoL inside the district	4%	4%	9.8%	35.3%	47%	4.18	1
I'd like to participate in the PS Development project	11.8%	2%	21.6%	17.6%	47%	3.86	6

Note: Survey respondents were asked, "On a scale from 1 to 5, with 1 being 'don't agree at all' and 5 being 'highly agree.'

6.0 Conclusion & Recommendations

The research investigated the questions through the methodology. The survey results explained how PS could positively impact people's QoL with a detailed evaluation for community preferences, evaluation, and satisfaction of elements related to PS. Among the important comments received through the optional Q: preventing cars from parking above sidewalks and blocking ramps, engaging community members in design and execution, providing a continuous pedestrian network along the district, add sports courtyards and social clubs. While planting more trees and plants was the most repeated comment.

Public spaces in the cities are the drivers for sustainable change and social cohesion. However, while streets usually account for 80% of public spaces while parks and gardens are 20%, pedestrians are legitimate road users, but they are frequently overlooked in transportation systems. Considering the need for walkability through transport planning (reduced traffic speed; providing more streets furniture) can encourage more pedestrians and impact traffic safety. At the same time, more people walking also provide more eyes on the street, which enhances the sense of safety and may also contribute to crime reduction. (Goodyear, 2013). More people walking creates more activity and opportunities for social interaction, which helps prevent loneliness and stimulate social cohesion. Improved conditions for active mobility are one way of addressing inequality. Walking and cycling are both affordable mobility modes, whereas driving in a private car and even public transport can be too expensive for some low-income groups in cities. Encouraging active mobility and reducing motorized vehicles has a considerable positive impact on pollution; reducing travel times in neighbourhoods and restricting parking help improve pedestrian crossings and provide better connections to the gardens.

Since the best undertaking involvement is a partnership between the dynamism of the private sector, the stewardship of public entities, and the energetic forces of citizens (Mostafa, L. 2017), therefore It's highly recommended to investigate engaging local communities in placemaking projects on the neighborhood's level. However, according to (Al-surf, Mostafa, 2017) that needs to activate the role of civil organizations that encourage volunteering, and this will fuel the development of non-selfish involvement of the young generations who might be unemployed, and getting them volunteering can open up employment doors and also help get necessary work done.

Finally, PS's current unique opportunities for interpretation and education of natural values and the community's history and culture, including the physical and social activities and Al-Falah project, present an excellent opportunity for a best practice if the community feedback was put into concern.

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Paper Contribution to Related Field of Study

The research highlighted the critical features residents need in terms of equitable walking access to everyday life, public services, social infrastructure, green spaces. It increased social cohesion by covering daily functional needs, enabling incidental encounters between residents, improving social relations. Moreover, this also implies local empowerment in decision-making and inclusivity in community participation.

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