The Impact of Livable City's Principles on Improving Satisfaction Level of Citizens; Case Study: District 4 of Region 4 of Tehran Municipality

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ABSTRACT

Nowadays, large cities face many economic, social and environmental challenges, among which problems such as pollution, traffic, and so on have reduced environmental quality, and thereby livability in large cities. The present study aims to measure citizens' satisfaction in the 4th municipal district of Tehran city with regard to the principles and indicators defined for livability, and with emphasis on environmental and social aspects. The Municipal District 4 of Tehran City is selected as a case study since it is a part of the green zone of East Tehran, where there are Iran University of Science and Technology, as a higher education environment, with green landscape, neighborhood living and a great number of students. This article identifies and analyzes the indicators that have been identified as those contributing to the understanding of people's satisfaction with their lives by national and international experts and institutions. Given the fact that the indicators are general, using the factor analysis, the indicators are localized considering the case study by national and international experts and institutions, so that they are finally ranked, according to their importance, to be used to achieve the optimal situation in the studied area in the shortest possible time. Data are analyzed using one-sample T-test, factor analysis, and linear regression in SPSS software environment as follows: first, the one-sample T-test is used to examine the significance of indicators, then, the factor analysis is used to summarize, homogenize and localize the indicators, finally, using linear regression, the indicators are prioritized. The results show that the "attendance in space" indicator and related sub-indicators are ranked first priority, followed by "identity" and "sense of belonging to place" indicators and related sub-indicators.

Keywords: Life Satisfaction, Livability, District 4 of Municipal Region 4 of Tehran City, Factor Analysis.

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1. INTRODUCTION

Today, the issues associated with cities and citizenship are of the most important issues affecting the qualitative and quantitative dimensions of human life. Prior to this period, too, cities had been important in general, but in the present era, their importance has been recognized by a wider range of people and professionals. On the other hand, today, most cities face many problems, and the human environment is challenged. Many urban professionals are always looking for effective solutions to prevent harm to the environment. Therefore, it is more important than ever to address the new urban theories, each aimed at solving urban problems, improving the quality and quantity of citizens' lives in cities, improving the quality of the urban environment, managing the city, advancing the city to become more desirable, etc. (Mahmoudi, Ahmad, & Abbasi, 2015, p. 105). Accordingly, livability has been raised as one of the recent urban theories in urban planning, which, like other modern theories such as capable city, creative city, sustainable city, resilient city, leads us towards having a more desirable city to live and sustainable

urban development. Meanwhile, today, large cities face many economic, social and environmental challenges, and population growth, along with the increasing urbanization, have had resulted in detrimental consequences for such cities (Timmer & Seymour, 2005, p. 10). The continuation of such urbanization, along with critical social, economic, physical, and environmental problems implies a warning of the unsustainability of large cities. Also, other problems such as pollution, traffic, psychological problems, etc., drastically reduce the quality of life and thereby, the livability of large cities (Wheeler, 2013. p. 50). Since the District 4 of Region 4 of Tehran municipality is one of the most populous, widespread areas with the highest density of construction, where it can be seen the characteristics such as severe socio-economic inequality, youthful population, and the presence of vulnerable groups, and these characteristics distinguish it from other regions in Tehran City as well as causing reduced quality of life and livability, it has been selected as the case study. The research process of the present study is as presented in Figure (1).
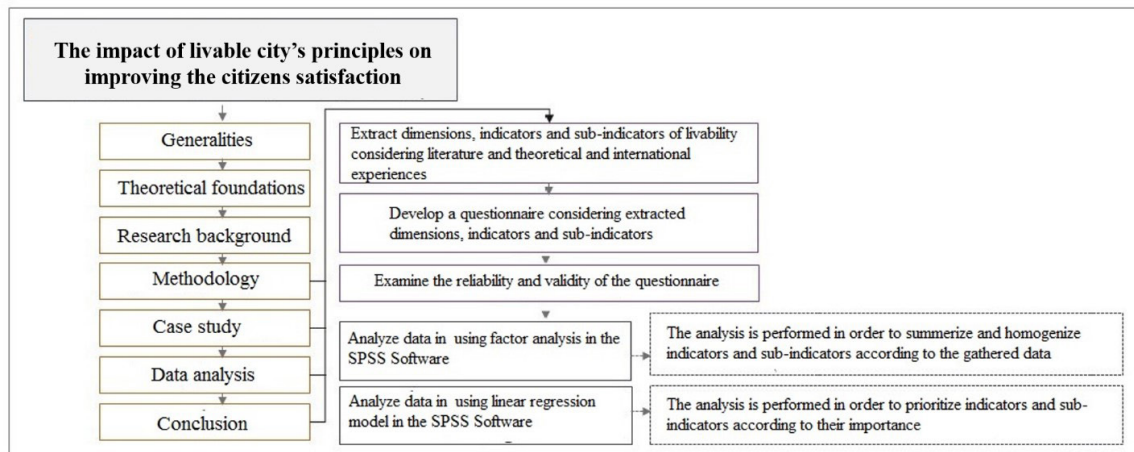

Fig. 1. The Research Process

2. RESEARCH THEORETICAL FOUNDATION

Today, the environment of most cities has faced many problems that require considerable attention to prevent this undesirable trend. In this regard, livability refers to the improvement and enhancement of the citizens' quality of life.

2.1. Livability

Livability, in its general sense, means to achieve the capability of living, and in fact, it refers to the achievement of high-quality urban planning or sustainable place. On the concept of livability, there are widespread discussions on sustainability, transportation, lively environments, different dimensions of society, etc., indicating that urban livability, which is known

as successful city, is obtained through environmental vitality, ecological sustainability, solution of social (poverty, class distinction, etc.), economic (unemployment, addiction, etc.), environmental (pollution reduction, etc.) and cultural (illiteracy, etc.) problems. Generally, the definition of livability and livable community comprises a diverse set of topics expressed by a number of guiding principles: accessibility, equality, and participation, on which the concepts related to livability are defined. The citizens' quality of life depends on their access to infrastructure (transportation, communications, water and health care services), food, clean air, decent housing, satisfactory jobs and green space and parks. The livability of a settlement also depends on the extent to which its residents can participate in the decision-making process to meet their needs (Seymour & Timmer, 2005, p. 10).

Table 1. Some Definitions on the Livability and Livable City

Reference	Specialty	Location	Year	Definition
Online Merriam-Webster, Oxford and Princeton University dictionaries	General	US.	2010	Livability means proper for human living.
Singapore Center for Livable Cities	-	Singapore	2011	A livable city is a city with good planning, attractive and safe environment for living, work and leisure, and includes good governance, competitive economy, high quality of life and environmental sustainability.
Economist Intelligence Unit (EIU)	Different specialties	Europe	2012	A livable city can help enhance the quality of life, influence citizens' lifestyle and health and it represent the stability of the built environment.
Mccrea et al.	Social sciences	Australia	2012	Livability is a part of the overall quality of life of residents who live in urban environments.
Faiz et al.	Geography	Malaysia	2012	Livability is a subset of sustainability and directly influence people's lives in access to jobs and economic opportunities, lasting housing (resistant against natural disasters), supply of drinking water, electricity, information and communication technology, high quality schools, reliable health services, etc.
Mahmoudi et al.	Geography	Malaysia	20125	Livability refers to improve the quality of urban spaces in modern cities while humanizing them as much as possible.

According to the above definitions, it can be said that livability is a subset of sustainability that directly affects physical, social, economic, and psychological dimensions of people's lives and includes a set of acquired characteristics of the environment that make it a desirable, suitable and attractive place to live, work and visit for all people. These features are classified in two objective (access to urban infrastructure, security, various transportation modes, housing, health care facilities, recreation, attractive public spaces, and economic opportunities) and mental-subjective (sense of belonging to place, local identity, social capital, solidarity, justice, intimacy, and convenience) categories.

2.2. Perspectives Affecting Livability

Considering many problems confronting cities, different approaches have been proposed to improve living conditions in them, one of which is urban livability. In the following, some of the influential perspectives on livability are presented.

2.2.1. Sustainability

According to Peter Hall, Sustainable Urban Development is a form of present development that guarantees present cities and future urban communities' ability to the development continuously. Physically, sustainable urban development means changes in land use and density to meet the needs of city dwellers in the areas of housing, transportation, leisure and food, so that the city would be made bearable environmentally (clean air, healthy drinking water, uncontaminated ground and surface waters and land) viable economically (urban economy is in line with technical and industrial changes to maintain basic jobs and provide affordable housing with fair tax burden to residents), and coherent socially (social solidarity and citizens' sense of belonging to the city's heritages) (Hall, 1993, pp. 22-28).

2.2.2. Urban Village Perspective

This movement began in England in the late 1980s and paralleled in many ways by the American new urbanism movement; in other words, the movement focuses on the characteristics of traditional urban life in villages and congested neighborhoods and reduced quality of the central part of the city. The urban-village viewpoint also reflects a wide range of historical urban theories, such as those proposed by Reymond Anvin, Louis Mumford, Clarence Perry, Jane Jacobs and many other new theorists such as Peter Calthorpe, and Leon Krier. The principles of this movement have been elucidated by a number of its fans, including walkable and friendly environments, mixed land use, diverse architecture, the possibility of living and working in one place, shopping venues,

educational and health facilities and a degree of local self-sufficiency. As seen, the features of this movement share many features with traditional urban design, and it can be said that the principles of urban village are parallel to the principles of livability, and with focusing on local planning and improving the quality of urban life, it is the closest movement to livability in urban planning (Larice, 2005, p. 72).

2.2.3. Quality of Life

Quality of life is a multifaceted concept, which is influenced by time, place, and individual and social values, and takes into account objective and subjective dimensions (Rezvani, Shakiba, & Mansourian, 2008, pp. 35-60). Accordingly, it is differently defined by different individuals and groups. Some see it as synonymous with livability and some know it as a measure of attractiveness, public welfare, social well-being, happiness, and so on. Some also consider livability to be part of the overall quality of life (Mccrea & Walters, 2012 p. 21).

2.3. Criteria for a Good and Livable Neighborhood

A residential neighborhood of a livable city must meet the following conditions:
- The neighborhood should be a representative of the developed society of its time, as well as the cultural manifestations of its inhabitants.
- The neighborhood shall not be separated from the city.
- In such neighborhoods, there must be a connection between the workplace and the residence.
- The daily needs of the population shall be met appropriately.

- There shall be complete security and social and cultural communication between the people in the neighborhood.
- It shall be separated from the transport network and passing vehicles while having suitable roads.
- In neighborhood design, ecological issues shall be considered and it shall be designed in a way to be free from environmental pollution.
- Neighborhood planning and design shall be done in a way that is flexible with regard to future events.
- People of the neighborhood should be involved in their own affairs, from planning and design to daily living affairs (Shieh, 2011, pp. 177-178).

2.4. Indicators and Sub-indicators of Livability

A livable urban environment is a desirable place to live, work and recreate, and a place where the needs and expectations of those who live there are met. To measure the livability of cities around the world, which ultimately leads to the selection of cities for investment by international companies, some organizations have been established that evaluate livability. There are currently two major international organizations that publish the world report on livable cities every year: Economist Intelligence Unit and Mercer Institute. The well-known Institute of Economist Intelligence Unit has developed a specific methodology, named "Liveability Ranking", based on which the "difficulty of living" index is calculated for each city. (Rezvani & Mansorian, 2008, pp. 1-26).

In the following, to reach a consensus on the indicators of livability, the indicators presented in some of the most important studies on livability are discussed below.

Table 2. Indicators of Livability Extracted Based on the Opinions of National and International Experts and Institutions

Reference	Project for Public Spaces (1975)	International Making Cities Livable Conference (1985)	Henry Lennard (1997)	Amouta (1998)	Charles Landry (2000)	Creating Livable Communities Project, US. (2000)	Holt-Jensen(2001)	Wheeler (2001)	Southworth (2003)	Balsas (2004)	Victoria Transport Policy Institute(2008)	Ling and Yen (2009)	Howley et al. (2009)	United States Department of Transportation(2010)	Loulbi et al. (2010)	Song (2011)	Frequency of Each Indicator
Education and its Quality	*							*						*	*		4
Sanitary and Health						*	*				*			*	*		5
Desirable and Diverse Housing				*				*	*			*	*		*		6

Economy and Employment				*		*			*			*	*				5
Security			*		*	*		*	*	*	*		*	*	*		10
Urban Infrastructure										*	*				*	*	4
Accessibility to Daily Needs		*		*	*			*	*					*			8
Diverse and Desirable Transportation		*				*		*	*	*				*	*	*	11
Mixed Land Use		*							*			*					5
Cultural and Historical Factors								*	*	*				*			6
Population and Building Density				*					*			*					5
Diversity and Creativity				*						*				*			4
Green Space and Park						*		*	*	*				*	*	*	9
Pedestrian-Centeredness		*						*	*			*		*			6
Cleanness								*		*	*		*	*	*		8
Air Quality and Pollution										*				*			5
Recreation and Leisure										*		*					6
Accessibility to Police															*		3
Human Scale Design	*		*									*		*			5
Public Spaces		*	*					*	*			*					6
Beautiful Landscapes			*				*	*	*	*				*			10
Social Interaction And Dignity			*	*	*			*			*			*	*		14
Local Communities and Participation	*		*			*	*		*	*				*			11
Identity and Sense of Belonging to Place				*					*					*			6
Frequency of Indicators	3	5	7	4	6	6	4	12	11	10	10	6	5	16	11	3	

The above table shows that "social interactions and dignity of people" indicator has the highest frequency, followed by "security" indicator, which has been considered as an indicator of livability in more than 13 studies. Local communities and involvement, as well as various transport modes, the utility and efficiency of the transportation system and its quality, are ranked third in terms of frequency. The lowest frequencies were related to the indicators of urban management, quality of life, vitality and protection of the city center, each of which was only discussed in one study and not listed in the above table. The review of the above table shows that different aspects of livability such as functional, physical and social environments, that reflect people's common understanding of the quality of their living environment, have been taken into consideration in all studies. So, in selecting the indicators, the three main groups used by most researchers are including objective, subjective, and behavioral indicators. According to the indicators extracted from the theoretical foundations and research background, the conceptual model of the present study includes the aspects, indicators, and sub-indicators of urban livability, as shown in Figure 2:
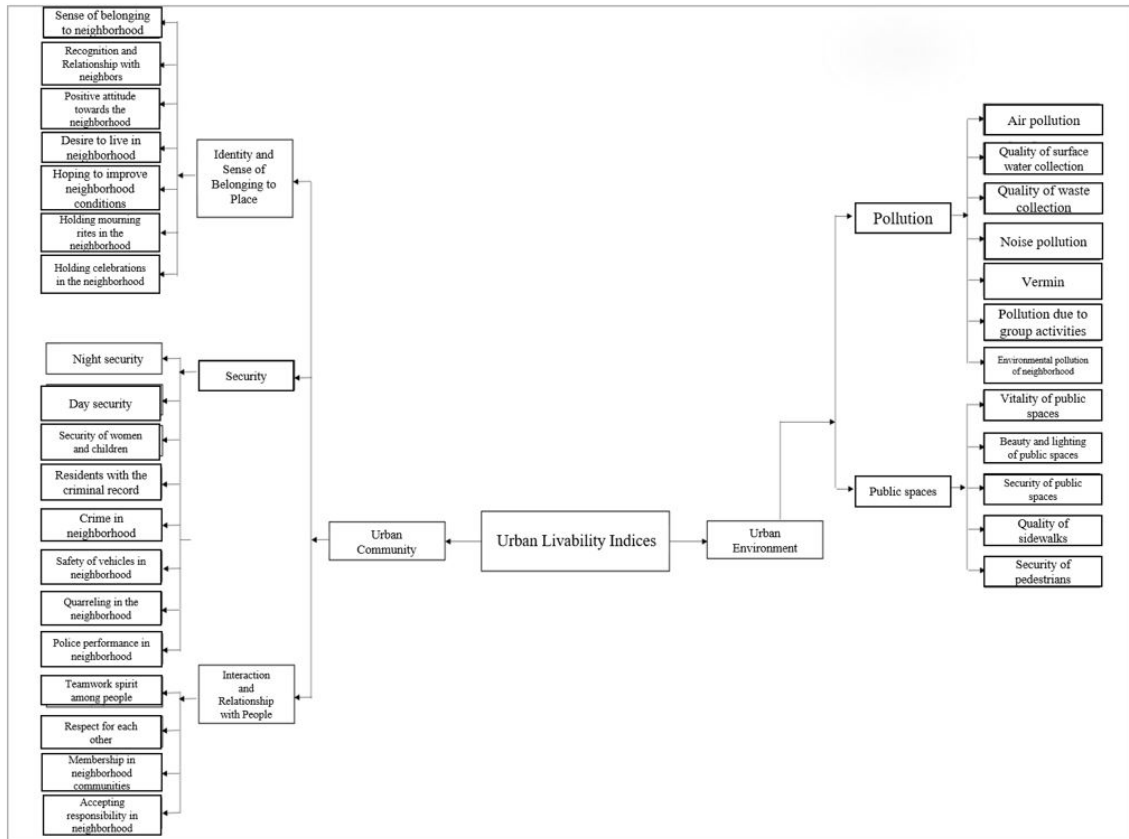

Fig. 2. Conceptual Model

3. CASE STUDY

Region 4 of Tehran Municipality is located in the east of Tehran city. It is bounded by the limits of Region 1 on the north, Langari Street in Region 1 and Pasdaran Street in Region 3 on the west, Resalat Street in Regions 7 and 8 and Damavand Street in Region 13 on the south and the limits of District 4 on the east side. Since the District 4 of Region 4 of Tehran municipality is one of the most populous, widespread areas with the highest density of construction, where it can be seen the characteristics such as severe socio-economic inequality, youthful population, and the presence of vulnerable groups, and these characteristics distinguish it from other regions in Tehran City as well as causing reduced quality of life and livability, it has been selected as the case study. District 4 is located in the south of the area, which is bounded by the Resalat Highway on the south, Hengam Street on the west, Delavaran Street on the north, Shahid Bagheri Highway on the east. Figure 3 shows the location of District 4 of Region 4 of the Tehran Municipality. The Municipality District 4 shares boundary with Municipality Regions 1, 3, 7, 8 and 13. The demographic characteristics of Region 4 are presented in Table 4.

Table 3. Demographic Characteristics of District 4 of Region 4 of Tehran Municipality According to the Tehran Strategic Plan (2006)

District	Population	Number of Households	Average Household Size	Number of Residential Units	Number of People Per Housing	Number of Household Per Housing
District 4	66963	16635	4.03	16271	4.12	1.02
Region	648437	154672	4.19	147301	4.40	1.05

The District is divided into two neighborhoods, the Science and Technology Neighborhood on the north between Dalavaran Street and Farjam Street and the North Narmak Neighborhood on the distance between Farajam Street and Resalat Highway.

Table 4. The Population, Area, Population Density of the Neighborhoods in District 4 According to the Tehran Strategic Plan (2006)

Neighborhood	Population	Area	Population Density (Persons Per Hectare)
Science and Technology Neighborhood	38925	2201941	178
North Narmak Neighborhood	29437	1104316	266

According to Figure 3, most of the area is devoted to trans-regional land uses with 38.21% of the total area of District 4, followed by residential land use with 29%. The area is located among some of the main and crowded axes of Region 4 and Tehran City.

Fig. 3. Land Use Map of District 4 of Region 4 of Tehran Municipality According to the Tehran Strategic Plan (2006)

This zone with 9 traffic nodes has the highest number of traffic nodes in the area and also has the highest traffic congestion with a length of 11738 m2. Moreover, most of the axes in District 4 have heavy traffic. Due to the crowded intersections and axes, such as Resalat Square, Al-Ghadir Square, Ayat-Resalat Intersection, Ayat-Farjam Intersection, 45-m Tehran Pars Street, 196 Street, Hengam Street, and Delavaran Street, this District is ranked first in traffic.

4. DISCUSSION AND ANALYSIS

The present study aimed to investigate the level of citizens' satisfaction with urban livability indices in District 4 of Region 4 of Tehran Municipality. To this end, the factor analysis and linear regression were used to find that with which indices of livability, the residents' satisfaction with the District has a stronger relationship, and which of the livability indices has the greatest effect on the residents' satisfaction with neighborhoods. First, using factor analysis, the criteria were categorized and summarized according to the data from questionnaires and then using multivariate linear regression, the relationship between satisfaction (as a dependent variable) and the criteria obtained from the factor analysis (as independent variables) was investigated. To perform the abovementioned analysis, first, the data from the questionnaires were entered into SPSS software, then, the data matrix is first entered into factor analysis, using Principal Component Analysis (PCA), to form the correlation matrix. According to Table 6 and the components of Bartlett's test, it is found that the variables are correlated and can be investigated by factor analysis. Moreover, considering the value of KMO (which is greater than 0.5), it is clear that the matrix does not enjoy multi-collinearity or collinearity and the data are suitable for further analysis.

Table 5. KMO Test and Bartlett's Test for District 4, Region 4 Tehran City

Kaiser-Meyer-Olkin		0.654
Bartlett's Test	Chi-square	688.520
	Degree of freedom (df.)	351
	Significance (sig.)	.000

After observing the preliminary calculation matrix, it can be seen that the percentage of cumulative variance (66.965%) is acceptable for the specified factors.

Table 6. The Total Explained Variance

	Component	1	2	3	4	5
Rotation Sums of Squared Loadings	Total	4.063	2.375	2.289	2.147	1.872
	Percent of variance	15.048	8.797	8.476	7.952	6.933
	Cumulative variance	15.048	23.845	32.321	40.273	47.206

To achieve the best arrangement and to find the criteria with the most factor loadings on each factor, an orthogonal rotation (Varimax) was used, and after eight repetitions, a weight was obtained for each factor. At this stage, by examining the criteria in each category (a subset of a factor), the factors were named according to their natures. Table 7 shows the factors, the criteria representing each factor, and their factor loadings.

Table 7. Naming and Categorization of Factors Based on the Highest Factor Loadings of Livability Variables in District 4, Region 4 Tehran City

Indicator	Sub-indicator	Factor Loading
Pollution	Air pollution	0.864
	Noise pollution	0.783
	Quality of waste collection quality	0.820
	Quality of surface water collection	0.874
	Vermin	0.736
	Pollution due to workshop and warehouse activities	0.797
	Environmental pollution of neighborhood	0.862
Attendance in Place	Variety of public spaces	0.702
	Beauty and lighting of public spaces	0.605
	Attractiveness and quality of public spaces	0.652
	Security of public spaces	0.713
	Quality of sidewalks	0.692
	Security and vitality of sidewalks	0.687
Identity and Sense of Belonging to the place	Sense of belonging to the neighborhood	0.823
	Being familiar and relationship with neighbors	0.701
	Positive attitude towards the neighborhood	0.726
	Desire to live in the neighborhood	0.864
	Hoping to improve neighborhood conditions	0.872
	Holding celebrations in the neighborhood	0.719
	Holding mourning rites in the neighborhood	0.703

	Teamwork spirit among people	0.899
	Respect for each other	0.881
Sociability	Membership in neighborhood groups and associations	0.886
	Accept responsibility in the neighborhood	0.869
	Night security	0.753
	Day security	0.825
	Security for children and women	0.837
Security	Residents with a criminal record in the neighborhood	0.857
	Crime in the neighborhood	0.816
	Safety of vehicles on the street	0.874
	Quarreling in the neighborhood	0.829
	Police performance in the neighborhood	0.762

In order to obtain the most effective criteria among the five factors obtained from factor analysis, using the answers to the question on the residents' overall satisfaction with the quality of livability in District 4 of Region 4 of Tehran city, linear regression analysis was performed to examine the relationship between each factor and the overall satisfaction with quality of life. According to the value obtained from the Watson-Durbin test, it was found that there is no autocorrelation between variables. In this method, Question No.28 (overall satisfaction) was considered as a dependent variable and five factors as independent variables.

Table 8. Correlation Coefficients Obtained From the Linear Regression Analysis of Livability Criteria in District 4, Region 4 Tehran City

Factor	1	2	3	4	5	Constant
Beta	0.124	0.165	0.131	0.02	0.076	
T-Test	0.945	1.275	1	-0.017	-0.576	47.157
Sig.	0.349	0.214	0.322	0.107	0.567	0.0

According to the obtained tables and the beta column, which indicates the degree of dependence of factors on the satisfaction with the environmental quality of the area, it can be generally observed that the dependence of the second, third, and fifth factors (with greater beta- and t-values), i.e. attendance in place, identity and sense of belonging to place and security, on the satisfaction is higher compared to other factors, and the fourth factor (sociability) has less dependence on satisfaction than other factors.

As a result, it can be stated that, if necessary, to provide strategies for improving the livability of the area and enhancing citizens' satisfaction, the obtained priorities of indicators and sub-indicators must be considered:

For "attendance in place" indicator, the beta-coefficient was obtained 0.222. It includes the sub-indicators of the vitality of public spaces, beauty, and lighting of public spaces, attractiveness and quality of public spaces, security of public spaces, quality of sidewalks, security and vitality of sidewalks. In order to prioritize the sub-indicators of "attendance in place", as an indicator with the highest dependence on livability in the area,

the priority factor was calculated by multiplying the factor loading of each sub-indicator by the related beta coefficient. Accordingly, to increase the livability in District 4 of Region 4 of Tehran Municipality, the "quality of sidewalk" sub-indicator with a priority factor of 0.158 was ranked first, followed by the "security of public spaces" (0.157), "vitality of public spaces" (0.156), "security of sidewalks" (0.153), "attractiveness and quality of public spaces" (0.144) and "beauty and lighting of public spaces" (0.133), respectively.

Secondly, the "identity and sense of belonging to place" indicator and related sub-indicators are emphasized (beta coefficient= 0.165). This indicator includes the sub-indicators of sense of belonging to the neighborhood, being familiar and relationship with neighbors, positive attitude towards the neighborhood, desire to live in the neighborhood, hoping to improve neighborhood conditions, holding celebrations and mourning rites in the neighborhood. In order to prioritize the sub-indicators of "identity and sense of belonging to place", as the second indicator with

the highest dependence on livability in the area, the priority factors of its sub-indicators were calculated. Accordingly, to increase the livability in District 4 of Region 4 of Tehran Municipality, the "sense of belonging to the neighborhood" sub-indicator with a priority factor of 0.134 was ranked first, followed by hoping to improve neighborhood conditions (0.128), desire to live in the neighborhood (0.122), positive attitude towards the neighborhood (0.119), being familiar and relationship with neighbors (0.116), and holding celebrations and mourning rites in the neighborhood (0.115), respectively.

Thirdly, the "security" indicator and related sub-indicators are emphasized (beta coefficient= 0.131). This indicator includes the sub-indicators of night security, day security, security for children and women, residents with a criminal history in the neighborhood, crime in the neighborhood, the safety of vehicles on the street, quarreling in the neighborhood, police performance in the neighborhood. In order to prioritize the sub-indicators of " security", as the third indicator with the highest dependence on livability in the area, the priority factors of its sub-indicators were calculated. Accordingly, to increase the livability in District 4 of Region 4 of Tehran Municipality, the " safety of vehicles on the street" sub-indicator with a priority factor of 0.114 was ranked first, followed by residents with a criminal history in the neighborhood (0.112), security for children and women (0.109), quarreling in the neighborhood (0.108), day security (0.108), crime in the neighborhood (0.106), police performance in the neighborhood (0.099) and night security (0.098), respectively.

Fourthly, the "quality of urban environment" indicator and related sub-indicators are emphasized (beta coefficient= 0.124). This indicator includes air pollution, noise pollution, quality of waste collection quality, quality of surface water collection, vermin, pollution due to workshop and warehouse activities. In order to prioritize the sub-indicators of "quality of the urban environment", as the fourth indicator with the highest dependence on livability in the area, the priority factors of its sub-indicators were calculated. Accordingly, to increase the livability in District 4 of Region 4 of Tehran Municipality, the "noise pollution" sub-indicator with a priority factor of 0.097 was ranked first, followed by pollution due to workshop and warehouse activities (0.097), quality of waste collection (0.096), air pollution (0.095), quality of surface water collection (0.95), and vermin (0.091), respectively.

5. CONCLUSION

Today, large cities face many economic, social and environmental challenges, and population growth, along with the increasing urbanization, have had resulted in detrimental consequences for such cities. The continuation of such urbanization, along with critical social, economic, physical, and environmental problems, implies a warning of the unsustainability of large cities. Also, other problems such as pollution, traffic, psychological problems, etc., drastically reduce the quality of life and thereby, the livability of large cities. In recent decades, parallel to the sustainable development and urban sustainable development paradigms, environmental quality promotion, which in turn makes cities livable, has taken its place in the urban planning literature. Livability refers to an urban system in which the social, economic, physical, and mental health of all its inhabitants is taken into account. The results of the present study indicate that livability is defined as the environmental quality experienced by the residents of a city or a region and it can be generally said if it is necessary to provide strategies for promoting livability in District 4 of Region 4, Tehran City and enhancing citizens' satisfaction, first, "attendance in place" indicator and related sub-indicators (including vitality of public spaces, beauty and lighting of public spaces, attractiveness and quality of public spaces, security of public spaces, quality of sidewalks, security and vitality of sidewalks) must be emphasized, followed by "identity and sense of belonging to place" indicator (including sub-indicators of sense of belonging to the neighborhood, being familiar and relationship with neighbors, positive attitude towards the neighborhood, desire to live in the neighborhood, hoping to improve neighborhood conditions, holding celebrations and mourning rites in the neighborhood), "security" indicator (including sub-indicators of night security, day security, security for children and women, residents with a criminal history in the neighborhood, crime in the neighborhood, safety of vehicles on the street, quarreling in the neighborhood, police performance in the neighborhood), and "quality of urban environment" indicator (including sub-indicators of the air pollution, noise pollution, quality of waste collection quality, quality of surface water collection, vermin, pollution due to workshop and warehouse activities), respectively. Some of the strategies for promoting abovementioned indicators and sub-indicators are as follows:

Table 9. Strategies for Promoting Indicators and Sub-indicators

Strategies for the "Attendance in Place" Indicator	To consider suitable furniture for sitting, and discussing in the area's main streets
	To consider pause and sitting spaces, especially in the neighborhood centers in the area
	To use natural elements to widely provide a proper place for rest and comfort at the district level
	To balance and coordinate the current structure of the area with current activities and the needs of its residents by maintaining the personality and characteristic governing the area
	To restore physical and functional order within the area and strengthen the hierarchical system of urban functions in accordance with the conditions and current needs of residents
	To modernize and define new roles for spaces that have lost their functions
Strategies for the "Sense of Belonging to Place" Indicator	To consider plans to create memorable experiences
	To emphasis on human-scale design, especially in neighborhood centers in the area
	To create desirable spaces on busy routes in the area
	To perform planning to create multipurpose spaces at the district level
	To involve residents in cultural activities
	To create footpaths and direct pedestrians to them using symbols and signs and enhance the sense of belonging to the place, especially on the main paths of the area
Strategies for the "Security" Indicator	To create proper permeability by changing the elevation system at the entrances of the area and neighborhoods in it
	To pay more attention to sunlight, and proper lighting at night and create a vital and 24-hour area
	To increase social surveillance of the space by considering street-facing windows
	To consider attractive and interesting facades and pay attention to lighting on the walls of main roads in the area
Strategies for the "Quality of Urban Environment" Indicator	To identification and determine authorized and unauthorized development areas in terms of natural and environmental features
	To strengthen the natural opportunities for landscaping in the area and improve its environmental quality
	To increase the surface area of green space and strengthen existing green spaces
	To improve and update the health infrastructure facilities in the area qualitatively and quantitatively
	To identify polluting land uses affecting the environmental quality of the area

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