

Case Report

Evaluating Age-friendly City's Indexes in Shiraz City (A Case Study: Public Spaces of Region 1 of Shiraz Municipality)

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Older people have received little attention in policy and planning in relation to health and related in urban space in world and specially in Iran. While the demographic index of Iran shows ageing of the population, policies and plans not supporting health space in urban area for older people. Elderly individuals and their presence in urban public spaces have a mutual effect on each other and are two components that are mainly considered by urban public space planners and designers. Predictions indicate that Iran would face population aging problem in the society and cities during approximately next 40 years. However, urban public spaces are important places for life continuation and social interaction formations. Due to their special physical, psychological and social conditions, elderly individuals need appropriate facilities in line with their needs so that they can be present in urban public spaces and be capable of taking the responsibility of active roles. The main purpose of the current research was recognizing age-friendly city's indices and investigating these indices' status in region 1 of Shiraz municipality. Due to having the highest age mean among 11 regions of Shiraz municipality, region 1 of Shiraz municipality was selected as the scope of the study. The methodology of this research was quantitative and survey regarding which, the data have been collected using questionnaire. The reliability of the research's questionnaire was obtained 87.0 through Cronbach Alpha, which was an acceptable amount. The statistical population of this research included elderly individuals of region 1 of Shiraz municipality, among which, 375 individuals were selected as random convenient samples. Data was analyzed using SPSS software. The summary of the findings of the current research indicated that overall, urban public spaces of region 1 of Shiraz municipality couldn't respond to elderlies' needs and the status of 8 indices of the age-friendly city in public spaces of this region was less than medium and was at the least standard status.

Keywords: Age-friendly city; Elderly; Urban public spaces; Shiraz**Introduction**

World is getting old rapidly. The issue of Iran population's aging is being displayed due to various reasons such as the reduction in the amount of child birth, developments in medical science, health, education and increasing life expectancy, thus, it is considered as a novel phenomenon. Elderly is a temporal process that people are exposed to when being 64 years old or more. Sometimes differences are observed in age criterion; however, it seems that according to tripartite classification, the beginning of 64 years old is more appropriate for recognizing elderly. Elderly and its related problems, is one of the most important components of formation of welfare state in the current era [1]. Supplying, maintaining and promoting tranquility and peace of this vulnerable streak, which faces changes, problems as well as physical and psychological disabilities due to the age increase, is one of the main challenges of countries that should be dealt with in social development programming. Since based on opinions of some of the social pundits, society is the result of mutual actions of individuals, whose every member is considered as a capital for all society. Urban spaces, as well, are places belonging

to public citizens and are not limited to physical aspects, rather they get meaning through human being's presence and his actions. Urban spaces have an old antiquity in urbanization history and they existed in cities in various eras through various forms and they have formed urban texture around others or itself. Since spaces are made by human beings, they affect human and their actions. During history, we witnessed the mutual relationship between human being and space and the impressionability of these two from each other, thus, the image that created urban public spaces affect citizens' life quality especially those with special conditions such as elderliness, is a rather logical image. It has to be mentioned that according to most of the urban planners, agitation and inappropriate physical circumstances of today's urban spaces is considered as one of the main problems in social life of elderly. Lack of appropriate spaces for elderly would cause them feel afraid and terrified, socially isolated, chronic depressions, premature disability and as a result life shortage would be faced. Therefore, providing appropriate urban spaces that are needed for elderly's presence and is now faced with difficulties, is considered among the major priorities of making the city appropriate for elderly

in Shiraz city as well as region 1 of Shiraz municipality which has the highest age mean among 11 regions of Shiraz municipality.

Theoretical Foundations

Various researches have been conducted worldwide regarding age-friendly cities and elderly's status in urban public spaces which is related to the subject of the current research, some of which have been pointed out in this study. Ne'mati and Aghabakhshi [2] in Tehran carried out a research entitled "Tehran as an age-friendly city: first steps toward meeting the first elderly capital of the world". The findings of this study briefly indicated that according to expert juries, the basic needs of an age-friendly city include factors such as sitting places, appropriate public W.Cs as well as security and health of passages and gardens emphasizing on physical and sometimes psychological limitations of elderly. Juries of this research believe that Tehran city needs amendment to join other elderly age-friendly cities since constructing bridges and subways appropriate to elderly have been neglected in this city. He had a complete consensus regarding the fact that Tehran as the current era's world pattern would face elderly population and citizenship challenge. Insecurity of gardens in terms of bicycle driving, skating and playing football and the danger of its contact with elderly has made it a necessity to divide the space of these activities with that of elderly's presence, which were among the later agreement priorities of jurists. Medium-term planning of joining Tehran to age-friendly cities' circle was accepted by all jurists. Salar et al. [3] in Zahedan city, investigated the elderly's status through a research entitled "examining physical, psychological and social problems and their relationships with demographic factors in Zahedan city's elderly during 2011". Findings of this study indicated that 9.54% of responders were men and 9.42% were illiterate and 3.61% of responders had physical problems and 9.36% were not satisfied with their life. In sum, it can be stated that elderly of Zahedan, especially their women had various physical, psychological and social problems to the extent that these problems affected their life quality. To solve and reduce these problems, we need elderly, family and society to cooperate with each other. Foroughmand E'rabi and Karimi fard [4] in a research entitled "age-friendly city and designing criteria of elderly social interaction centers with psychological health approach", theoretically investigated the place and role of elderly in urban planning system and presented solutions for having an elderly age-friendly city, which was among the priorities of urban planning. Alavizadeh and Ebrahimi in Iran explored a research entitled "elderly and urban spaces". The findings of this research showed that our urban spaces are currently not only unable to respond to elderly's needs, but also they cannot even respond healthy individuals' needs. It has to be mentioned that in addition to urban designing problems, insufficient urban management and inappropriate administrations also cause the creation of improper spaces. Isalou, Jome'pour and Khaksari Rafsanjani [5] in Qom city investigated a research entitled "needs and problems of elderly in urban spaces, case of study: central part of Qom's streets". The findings of this research indicated that while getting out of their home, elderly walk to respond their livelihood needs, however, threatening factors such as stairs and uneven surfaces, not understanding street signs, lack of a space for resting and sitting during their way, being afraid of falling down or contacting with transportation vehicles having high speed and feeling insecure, prevents their easy, secure and equal presence in urban

spaces. Designing obstacles to prevent bicycle and motorcycle riders' passage from sidewalks, using palisade along steep surfaces and supplying security while passing through the width of the center of street are among major wants of elderly in this region. World Health Organization (WHO) [6] in the international guidance for elderly age-friendly cities has investigated cities' growth as well as elderly population growth in 21 century. There have been secure methods provided in this guidance in line with elderly's needs to have an active, healthy and secure elderly period. Having conducted researches in 33 cities, this guidance investigated world elderliness issue in 13 parts and have presented methods accordingly. Smith [7] in a book entitled "elderliness in urban regions" investigated the elderliness issue in urban regions of Great Britain and Canada. He believed that research toward elderliness should be continued because the population of elderly are growing in cities and governors as well as planner are in need of having access to resources, data and new and update theoretical frameworks to settle urban regions and create appropriate conditions for elderly. In this book, Smith sought to present new methods for understanding the relationship between elderly and their environments. Hu, Wang and Wang [8] in China, explored a research entitled "investigating elderly's travelling behavior in developing countries, case of study: Changchun city of China". They concluded that in China, more than half of elderly individuals walk in their daily travelling, while in developed countries, more than 30% of elderly use private transportation vehicles and motorcycles which guarantees their convenience and easy access to various kinds of facilities. It seems that this difference is due to cars' less price and side costs especially for elderly in these countries in relation to China. Organization for Economic Co-operation and Development (OECD) [9] has published a book entitled "elderliness in cities". In this book, after investigating 10 cities in various countries such as Canada, Japan, Germany and Finland, the elderly individuals' status have been explored whose population are growing more and more in most countries and cities. It was sought to investigate the status of indices such as housing, public transportation, social care and access to services. Aguiar and Macario [10], in a study entitled "Elderly's need to a dynamic central policy and dynamism" investigated the growth of elderly population all over the world due to development in health level, growth of novel medical science and reduction of birth. They considered dynamism and social cooperation as the main needs of life of all individuals in society especially elderly ones. The also considered factors such as individual independency, street designing and urban planning in distributing services to be effective in having high quality elderly period. Srichuae and Nitivattananon and Perera [11], in Thailand, investigated a research entitled "factors affecting the dynamism and transportation in public urban spaces, case of study: Bangkok city's aged society". They concluded that three factors affected the travelling behavior of elderly such as individual independence, public spaces' distribution and urban system. Social programs and street spaces' designing are of utmost importance to help elderly. Elderly individuals prefer to have access to simple transportation vehicles and refer to near places of their livelihood to meet their needs. Andrews and Philips [12] in a book entitled "elderliness and place", investigated population's aging in recent decades in Canada and New Zealand. Their findings depicted that in recent decades, the aging of population has been combined with wide forms of health cares and housing, so that life of elderly

individuals have faced variations and changes. In the investigation parts of this research, special perspectives have been used to explore the relationship between elderly and space. Bibliography part of this study was mainly geographical and it has also drawn psychological approaches. Therefore, aging and space included and investigated competitive traditions and international records. Chao [13] in a book entitled "planning for aging cities" has investigated the issue that how modern cities should be designed and constructed so that growing aged population be recognized as active users. This study has also explored the indices such as urban planning, transportation, housing and etc.

Other researchers' many studies implicitly have emphasized on the necessity of elderly's active participation in their lives, their acceptance of purposeful and identifying social roles, the necessity of having optimal social interaction along with elderly's interest with society's individuals. It seems that providing a ground for elderly's active presence and participation in society would be an appropriate response to all mentioned disturbances and it would pave the way to have access to these purposes. To meet this end, urban public spaces, as the most important places of forming social interactions, should be designed and constructed in a way that the possibility of elderly's active presence exists and the design and construction of urban public spaces shouldn't be in a way that it practically leads to the elimination of some individuals specially elderly ones whose number are really high in societies. Moreover, the investigation of many local researches of Iran indicated the significant distance between regions and cities of this country with that of age-friendly city's indices which can prepare urban public spaces for the presence of elderly. Thus, the following purposes were investigated in this research:

- Recognizing elderly needs in public spaces of region 1 on Shiraz municipality
- Recognizing problems and difficulties of elderly's presence in public spaces of region 1 of Shiraz municipality
- Investigating age-friendly city's indices and the amount of public spaces' conformity of region 1 of Shiraz municipality with these indexes

Healthy city

Healthy city is a subject of public health established based on Prof. McQueen's thought. He noticed that unlike public belief, the most important promoting factor for health level in England kingship and other developed countries in 19 and 20 centuries, was not only the development in medical health (and technology) services related to that, but also it was due to social, environmental and economic changes as the following:

- The limited number of family members
- Increasing quantity and quality facilities of nutrition
- Having a more healthier physical environment from every perspective
- Making principal methods of preventing disease and their therapy more clearer

In fact, a healthy city is a bridge between the current cities and future utopian cities. Meeting utopian cities of future demands social

individuals' cooperation and potential as well as actual supports, using the experiences and designs of experienced cities of the world and the activity of experienced and efficient managers and planners. Pundits and experts have presented indices and criteria for describing and explaining a healthy city. Some of the most important choice criteria in recognizing an urban healthy society are:

The complete nourishing of citizens, everlasting job and lack of seasonal unemployment, the existence of house and its facilities, access to health and cure centers in all streets and its usability for everyone, the possibility of education and gaining skills and expert knowledge, conditions for daily working, social security, having sufficient cloths in various seasons of the year, convenient transportation in cities, spreading social justice, the amount of savings and quality of the house, the possibility of spending leisure times and the reduction of crime and criminal acts [1].

Age-friendly City

According to WHO approach, age-friendly cities include those urban spaces whose public service distribution is in a way that has the maximum amount of congruence with elderly's needs and limitations. Based on this definition, transportation services, official works, communication networks and media relations, construction of places and designing urban architecture, cultural and health services are presented in a way that elderly can benefit from them without being dependent or through receiving the least possible help from others; in addition, in such cities, paying attention to defined needs of elderly is considered as a necessity among cultural indices and interpersonal interactions. Overall, WHO has considered eight indices and principle criteria as the world criteria of an age-friendly city that some of the developed countries have gone beyond them. These indices are: urban open space indices, public buildings and places, transportation indices, security and convenient traffic indices, social respect indices, cooperation and social relationship indices, health and cure indices, cultural and entertainment indices [6].

The current research emphasized on some indices of age-friendly city that are related with urban public spaces and specifically include environment's cleanness, the existence of sufficient green spaces, the existence of a space for resting, security of spaces, familiarity of spaces, the quality of access to facilities, easiness of using facilities, the status of public and official buildings in relation to elderly because these indices are of utmost importance in promoting public spaces' status and life quality, cooperation and elderly's reciprocal actions in their urban life.

Urban public spaces

Urban public spaces can be defined as a space allowing people to have access to the environment and its inter activities. It is also a space that a general executor controls; it is a space that is controlled and managed in line with public profits. Urban public space is a space that we share it with foreigners, those who are not our relatives, friends or coworkers. It is a space for politics, religion, trading and exercising. It is also a space for peaceful coexistence and impersonal contacts. Public space is a common ground for doing functional and ceremonial activities which connect society's members such as common daily issues or periodical ceremonies; it is a page in which, all people's cumulative life is displayed. Public space is a place for the contemporaneity of activities, a place for presenting and showing,

testing the reality, brainstorming differences and identities, a platform for recognition, a place in which an individual can recognize through representing his own and others' differences and finds the possibility of investigating the relationship between specific and general and personal and impersonal issue. Doing so, multidimensional realities coexist with each other and the amount of tolerating various beliefs and perspectives are tested. In fact, public space should provide conditions for various social groups so that they can connect to each other not only through indirect relations, but also through direct ones [14]. Trying to preserve elderly's vitality through providing the ground for their presence and citizen cooperation in urban public spaces can be one of the factors for having access to utmost purposes of a successful elderliness. A successful elderliness is not an imitation of adolescence, rather it is the active dealing and interaction of an elderly with people, groups, activities and life in total.

The status of an age-friendly city's indices in other countries

Aging is a common stage in human life that every individual faces, regarding which, he feels some changes in emotional and physical capabilities of himself. When people meet their aging stage, they feel more sensitive regarding various features of urban spaces. Features that may make their security sensation be reduced in urban spaces, cause elderly prevent going out and be present in urban spaces. For example lack of facilities in urban spaces such as elevator, chair or public W.C make them be secluded and not be present in urban spaces. Therefore, planners and policy makers should pay attention to all needs of elderly in urban spaces to promote their life quality and intervene them in decision making process. According to the existing statistics, the procedure of aging is increasing in Europe. In most of the European countries, to meet elderly's needs in urban spaces, some actions have been taken, some of which include the security of urban spaces, entrance ramps and stairs of a building, constructing the path of sidewalks, creating appropriate green space, constructing housing units equipped with domestic automation and good transportation to have access to health facilities. Table 1 has briefly investigated some of the used practical approaches in various countries.

Introduction of an age-friendly city's indices

In this research, it was sought to explain the collected data from urban public spaces of region 1 of Shiraz municipality using social approach derived from the theories of Rapoport and Ludro through considering standard indices of an age-friendly city regarding urban public spaces which include the existence of green space, clearance of the environment, accessibility to facilities, easiness of using the facilities, security of the environment, familiarity of the environment, the existence of a space for resting and the quality of official and public buildings; it also investigated the status of urban age-friendly indices of this region and the amount of response of the environment to elderly's needs. Rapoport who is one of the pioneers in the field of space and architecture anthropology, and he is the one who knows the body as well as the culture, sought to analyze the two components together. So he didn't give originality to them and believed that a reciprocal relationship exists between these two components. In other words, although it is true that human beings form the environment, the time the environment is constructed; it can organize and control human behavior. According to his opinions, it can be expected that urban public spaces affect social behaviors of citizen especially those

with special conditions such as elderly individuals. Thus, he rejected human's passive status toward the environment, and instead, suggested a kind of mutual reaction between human and environment. Ludro as well, considered urban space as a context, ground and way in which urban planning happens which is formed through social, cultural, political, economic and artistic relationships, therefore, a mutual relationship is formed between them that leads to a dynamic consistency. It helps to the development of human capabilities such as health, skill and use of these capabilities for increasing income, leisure time, social, cultural and political activities. Table 2 has pointed out to the age-friendly indices of a city that are in relation with urban public spaces as defined by WHO.

Methodology

The current research was applied and developmental in terms of its purpose and it was of survey type in terms of methodology. Survey method is one of the most common methods in sociology. It has been chosen in this study due to the intended population's extent and plurality of indices that had to be measured. Data of this research were collected using library and field methods using questionnaire as the instrument. In the designed questionnaire, five point Likert scale was used (from completely disagree with the score of 1 to completely agree with the score of 5) and the status of 8 indices in an age-friendly city as well as the amount of environment's response to elderly's needs were investigated according to their own (elderly) points of view. Since the questionnaire had been designed using WHO's standard criteria, its validity was confirmed. To investigate its reliability, Cronbach Alpha coefficient was used, whose value was 87.0, which was acceptable. Statistical population of the current research included all people aged over 64 years old in region 1 of Shiraz municipality, which were 15914 individuals [15]. Using Cochran sampling method, a sample of 375 individuals were selected and questionnaires were distributed in a random convenient way. Finally, having finished data collection phase, to investigate the questions, Kolmogorov-Smirnov test was used to check the normality of data. Finally, t-test and SPSS software were used to analyze the data.

The area of the study

Region 1 of Shiraz municipality is one of the 11th regions of Shiraz. According to descriptive statistics of public housing and population statistics in 2016, this region had 159513 individuals in which 15914 individuals were elderly. Region 1 of Shiraz municipality includes important features such as having the greatest trading center, the greatest marginal park (Chamran) and main gardens of city, the existence of historical and cultural places like Eram garden, Afif abad garden and the existence of many official centers. The area of this region equals 2556 hectares and it is the third widest region among 11 regions of Shiraz municipality [16]. It should be mentioned that we witness the highest age mean of population in this region. As it is observed in Figure 1, the elderly population of this region is more than other regions of Shiraz municipality. This region includes lots of health and cure centers as well as general and official buildings that are among uses that elderly use them constantly. Overall, mentioned features were the reason for the choice of this area as the study's examined scope.

Findings of the Study

Overall characteristics of elderly: Overall, among 375 sample

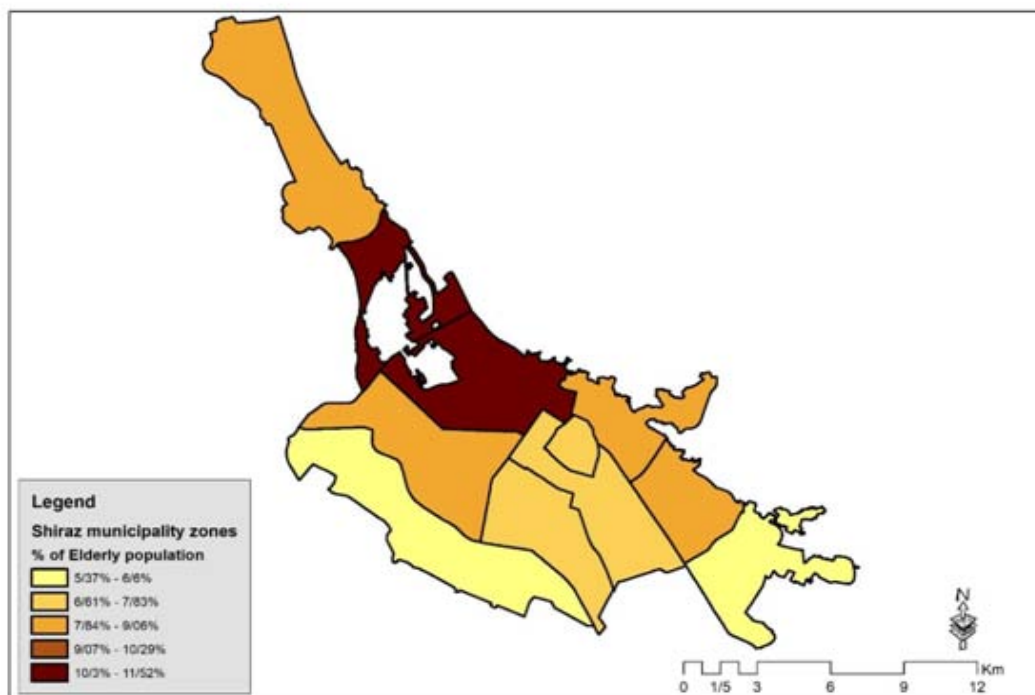


Figure 1: Elderly population and status of 11 regions of Shiraz.

Table 1: Practical approaches in other countries.

Country	Purposes	Approaches
Italy	<ul style="list-style-type: none"> Providing security and peace Reducing injustice for elderly Increasing life quality of elderly Increasing social activity 	<ul style="list-style-type: none"> Regulating buildings and eliminating architectural prohibitions Creating the accessibility to transportation vehicles Feeling familiarity with the environment Creating cultural uses such as theatre for elderly Using infrared orientation system for elderly Creating housing units equipped with domestic automation
England	<ul style="list-style-type: none"> Creating activity and its effect on psychological health 	<ul style="list-style-type: none"> Creation of a green space
Switzerland	<ul style="list-style-type: none"> Providing security Appropriate access to essential places 	<ul style="list-style-type: none"> Secure accessibility to apartment houses Good transportation for having access to health facilities
Germany	<ul style="list-style-type: none"> Creating appropriate social relations for elderly 	<ul style="list-style-type: none"> Providing places for being familiar and having contact with new members and citizens
Ireland	<ul style="list-style-type: none"> Providing security and peace for elderly 	<ul style="list-style-type: none"> Initiation of cable car for the convenience of elderly Using closed circuit cameras in elderly's houses

elderly of the current research, 219 were men and 156 were women who completed the questionnaire. The investigated sample elderly's job was categorized into three groups of housekeeper, retired and others. Among responders, approximately 48% were housekeepers or unemployed, 43% were retired and the rest 9 % had jobs such as shopkeepers, taxi drivers and etc. Regarding education, also, most of the responders had B.A. degree and less and a few number had M.A. and higher degrees. Regarding income, most of the responders had a monthly income between 1 to 2 million tomans. Among 156 female responders, 102 individuals participated in urban public spaces with their families and only 18 women participated in public spaces alone including 12 % of female responders' population. While this status was different for men and among 219 male responders, 54 individuals participated in public spaces alone including 25% of male responders' population.

Descriptive findings: In this research, central tendency measures such as mean were used in descriptive statistics' part to report existing

features in the data. The questionnaire of this study included 40 items. For testing each index, various and separate items were designed. Moreover, 5 point Likert Scale were used in the questionnaire that responders reported their responses using numbers from 1 to 5, thus, mean was rigidly determined to be 3, which showed the approximate desirability of variables. Therefore, the extent the obtained means of a variable was less than 3 or equalled 3, it showed less desirability and the distance from standards, and the extent this mean was more, more desirability and accordance of responders and standardness of variables was indicated. Therefore, in the analysis related to descriptive statistics' part as well as the existing assumptions in inferential statistics' part, number 3 was considered as the medium and desired limit. Table 2 shows the mean and standard deviation of 9 investigated indices in the study. As it is observed in Table 2, the obtained mean in indices such as environment cleanness, the existence of sufficient green space, the existence of a space for resting, the quality of access to facilities, environment security, easiness of

Table 2: Introducing indices of age-friendly city.

Index	Defining the index
Clearance of the environment	Healthy and clear environment includes the clearance of streets` surfaces, lack of garbage, weather cleanliness, lack of noise pollution, clearance of public W.Cs that are effective.
Sufficient green space	The existence of urban green spaces that have social efficiency and cause the feeling of peace and joyfulness, create visual beauties in urban public spaces so that people can use these places when spending their leisure time, for entertainment, having interaction with friends and cultural as well as social meetings.
A space for resting	Sufficient, appropriate and secure space for resting are among affective criteria on the presence in urban public spaces which can lead to pausing and formation of social interactions.
Security of spaces	Many researches have shown that environmental factors such as streets` slope, sidewalks` wideness and security, not allowing motorcycle or bicycle to pass through sidewalks, cars` speed while stopping, streets` not being slippery, and specifically the status of environment`s light affect the presence in urban public spaces specifically those individuals like elderly that have special conditions.
Familiarity of spaces	The existence of some criteria in the environment such as signs and guides, readability and comprehensibility of guidance signs as well as interaction with familiar and trustful individuals and groups creates peaceful emotions in individuals, which can pave the way for the active and constant presence of individuals in urban public spaces.
Quality of access	Quick and appropriate access, without wasting time to services such as the existence of lines and separate cabins special for elderly in offices and metro affects the way elderly get present in urban public spaces.
Easiness of use	The possibility of easy and proper use for elderly like the existence of appropriate buses for elderly, simplicity and non-complexness of vehicles for them makes them feel more convenient and peaceful and affects their presence in urban public spaces.
General and official buildings	The existence of special facilities for elderly such as separate lines, separate W.Cs, readable, clear and comprehensible guides in general and official buildings that elderly had to refer to, such as insurance institutes` buildings and etc. affect elderly`s convenience and peace in these spaces.
Being able to meet elderly`s needs	Overall, the status of all aforementioned eight indices can show the amount that elderly`s needs have been met in urban public spaces.

Resources: Age-friendly city`s guidance in WHO.

Table 3: Indices` mean.

Index	Mean
Cleanness of the environment	89.2
Sufficient green space	89.2
Space for resting	79.2
Access quality	11.2
Environment familiarity	27.3
Security	75.2
The possibility of easy use	75.2
Public buildings	73.2
Meeting elderly`s needs	75.2

Resources: Authors calculations.

using facilities, status of public and official buildings and meeting the needs of elderly, all were less than 3, showing the overall disagreement of elderly with the standardness of these indices; they believed that these 8 indices were not in the standard limit. The mean index of familiarity with the environment was more than 3, indicating the desirability and overall satisfaction of responders regarding the status of this index and standardizing the intended index in urban public spaces of region 1 of Shiraz municipality (Table 3).

Inferential findings: In this part, 8 independent variables have been mentioned including: environment cleanness, sufficient green space, space for resting, access quality, possibility of easy use, security and public buildings` quality and the dependent variable was meeting elderly`s needs, which was calculated through other indices` mean. All questions were investigated in a significance level of 0.05. To conduct the test in 0.05 significance level, if the value of test`s probability was less than 0.05, null hypothesis would be rejected, and if it was equal or more than 0.05, there would be no reason to reject the null hypothesis. The research`s assumption was as the following in 9 questions of the test:

H0: The mean amount of the index was equal to the mean limitation of 3.

H1: The mean amount of the opposite index equaled to the mean

Table 4: First question: Are urban public spaces of region 1 of Shiraz municipality clean?

Index name	Index mean	T-test statistics	P- value	Test result
Cleanness of the environment	2.89	-2.644	0.009	H0 rejected

limitation of 3.

In this study, three main purposes of the study were investigated:

- Recognizing elderly`s needs in public spaces of region 1 of Shiraz municipality
- Recognizing problems and difficulties of elderly`s presence in public spaces of region 1 of Shiraz municipality
- Investigating age-friendly city`s indices and the amount of their conformity with public spaces of region 1 of Shiraz municipality

To investigate the main purposes of this research, overall, 8 general and standard indices of public spaces of age-friendly cities were recognized and extracted using library studies and referring to valid standard resources, which included all needs of elderly and were standard and worldly criteria. Then, it was sought to investigate the status of these 8 indices of region 1 of Shiraz municipality according to elderly`s view. The results of these examinations can be observed in 8 questions stated below. Finally, question number 9 of the results obtained from the status of these 8 indices, examined the amount of spaces` response to elderly`s needs and the problems and difficulties of elderly`s presence in these spaces were recognized.

First question: Are urban public spaces of region 1 of Shiraz municipality clean?

Regarding the significance value of 0.009, which was less than 0.05, it was concluded that the hypothesis was rejected and H0 was not accepted. This means that urban public spaces of region 1 of Shiraz municipality were not clean according to responders. Moreover, the obtained mean of this index equaled 2.89, which was less than medium limit, showing that the index was not in a standard limit (Table 4).

Second question: Do urban public spaces of region 1 of Shiraz municipality have sufficient green spaces?

Considering the significance value of 0.05 which was equal to 0.05 in this study, it was concluded that the intended hypothesis was accepted and H0 was confirmed. This means that there was sufficient green space in urban public spaces of region 1 of Shiraz municipality according to responders. This index was approximately in a standard and desired limit (Table 5).

Third question: Are there sufficient spaces for resting in urban public spaces of region 1 of Shiraz municipality?

Considering the significance value of 0.000 which was less than 0.05, it was concluded that the intended hypothesis was rejected. This means that there was not sufficient space for resting in urban public spaces of region 1 of Shiraz municipality according to responders. The mean of this index was equal to 2.79, which showed that the value was less than the standard limit (Table 6).

Fourth question: Are the access quality in urban public spaces of region 1 of Shiraz municipality proportional with elderly's needs and disabilities?

Considering the significance value of 0.000 which was less than 0.05, it was concluded that the intended hypothesis was rejected. This means that the access quality in urban public spaces of region 1 of Shiraz municipality was not proportional with elderly's needs and problems. Considering the obtained mean, which was equal to 2.11, we witness to a great distance between this index and the standard limit (Table 7).

Fifth question: Can elderly individuals easily use urban public spaces of region 1 of Shiraz municipality?

Considering the significance value of 0.000 which was less than 0.05, it was concluded that the intended hypothesis was rejected. This means that there was no possibility of easy use of urban public spaces of region 1 of Shiraz municipality. The mean of this index was equal to 2.79, which showed that the value was less than the standard limit (Table 8).

Table 5: Second question: Do urban public spaces of region 1 of Shiraz municipality have sufficient green spaces?

Index name	Index mean	T-test statistics	P-value	Test result
Sufficient green space	2.89	-964.1	0.05	H0 accepted

Table 6: Third question: Are there sufficient spaces for resting in urban public spaces of region 1 of Shiraz municipality?

Index name	Index mean	T-test statistics	P-value	Test result
Space for resting	2.79	-474.4	0.000	H0 rejected

Table 7: Fourth question: Are the access quality in urban public spaces of region 1 of Shiraz municipality proportional with elderly's needs and disabilities?

Index name	Index mean	T-test statistics	P-value	Test result
Access quality	2.11	-29.09	0	H0 rejected

Table 8: Fifth question: Can elderly individuals easily use urban public spaces of region 1 of Shiraz municipality?

Index name	Index mean	T-test statistics	P-value	Test result
Possibility of easy use	2.75	-6.89	0	H0 rejected

Table 9: Sixth question: Are there sufficient spaces for resting in urban public spaces of region 1 of Shiraz municipality?

Index name	Index mean	T-test statistics	P-value	Test result
Space for resting	2.79	-4.474	0	H0 rejected

Table 10: Seventh question: Are urban public spaces of region 1 of Shiraz municipality familiar to elderly?

Index name	Index mean	T-test statistics	P-value	Test result
Familiarity with the environment	3.27	6.525	0	H0 rejected

Table 11: Eighth question: Are the quality of urban public spaces and general buildings of region 1 of Shiraz municipality in accordance with elderly's needs?

Index name	Index mean	T-test statistics	P-value	Test result
General buildings	2.73	-7.449	0	H0 rejected

Table 12: Ninth question: Do urban public spaces in region 1 of Shiraz municipality meet the needs of elderly?

Index name	Index mean	T-test statistics	P-value	Test result
Meeting elderly's needs	2.75	-10.33	0	H0 rejected

Sixth question: Are there sufficient spaces for resting in urban public spaces of region 1 of Shiraz municipality?

Considering the significance value of 0.000 which was less than 0.05, it was concluded that the intended hypothesis was rejected. This means that there was not sufficient space for resting in urban public spaces of region 1 of Shiraz municipality according to responders. The mean of this index was equal to 2.79, which showed less than standard limit of this value (Table 9).

Seventh question: Are urban public spaces of region 1 of Shiraz municipality familiar to elderly?

Considering the significance value of 0.000 which was less than 0.05, it was concluded that the intended hypothesis was rejected. This means that urban public spaces of region 1 of Shiraz municipality were not familiar to elderly. The mean of this index was equal to 3.27, which was more than mean limit. However, according to t-test it can be mentioned that from elderly's point, the environment familiarity to elderly was somehow more than meeting their prior needs, but this criterion was in a medium limit as compared with meaningful and higher than prior needs' limit's criteria that had shown 5% significant difference. The result was that, although this criterion met the prior needs, it had a high distance with proper status (Table 10).

Eighth question: Are the quality of urban public spaces and general buildings of region 1 of Shiraz municipality in accordance with elderly's needs?

Considering the significance value of 0.000 which was less than 0.05, it was concluded that the intended hypothesis was rejected. This means that the quality of general buildings in region 1 of Shiraz municipality were not in accordance with elderly's needs. The mean of this index was equal to 2.73, which showed less than standard limit of this value (Table 11).

Ninth question: Do urban public spaces in region 1 of Shiraz municipality meet the needs of elderly?

Considering the significance value of 0.000 which was less than 0.05, it was concluded that the intended hypothesis was rejected. This

means that public spaces in region 1 of Shiraz municipality couldn't meet elderly's needs. The mean of this index was equal to 2.75, which showed less than standard limit of this value (Table 12).

Discussion and Conclusion

Aging is a personal and social experience. This issue can be a lively matter for some and it may be a doleful and tedious issue for others, but it should be noted that each of these emotions are formed radically through culture and society in which the individual lives in. Elderly is one the sensitive and crucial stages of human growth that despite the common belief, it is not only the end of life, but also it is considered as a natural process of life. Therefore, nowadays, in most of the developed and developing countries, issues that cause elderly to be present in the society are supported by governmental organizations and social institutions. Considering the importance of elderly period, various ideas and view point of experts have been expressed in various issues. It seems that successful elderly idea is a proper approach toward reducing the problems of elderly period. In fact, successful elderly refers to obtaining individual potential ability and optimal level of physical and social ability as well as psychological health through which, the elderly enjoys his life and others. In other comprehensive words, successful elderly is a combination of long life, health, lack of inability and happiness which expands peace till the end of growth. Most of successful elderly criteria and good life of elderly, such as improving the quality of understanding life and actual world, are in a direct relationship with urban public spaces and such spaces' environmental dimensions [14]. Urban public spaces can be defined as spaces that allow people have access to them and their internal activities; they are spaces that a general correspondent designs, constructs and controls them; spaces that are ruled in line with public beneficiaries. Urban public space is a space for politics, religion, trading and exercising; it is a space for peaceful coexistence and impersonal interactions. Public space is a common field for doing functional and ceremonial activities that join society's members, whether they be common daily issue or periodical ceremonies; it is a stage in which cumulative life of all people are displayed so it is needed to accept all society's members; so in order to elderly be actively present in urban public spaces, which is a ground for social interaction, designers and planners should consider elderly individuals' needs and problems the way most of the developed countries have designed urban public spaces that are age-friendly and accept elderly.

Considering the conducted studies, it can be mentioned that in most of the elderly-related studies, it has been implicitly or explicitly emphasized on the necessity of elderly's active engagement in life, their acceptance of purposeful social roles, necessarily having optimal, familiar and interesting social interactions with society's individuals. It seems that providing a ground for elderly's presence and engagement in society, would be a proper response to aforementioned disturbances and would pave the way for having access to stated purposes. To this end, principal policies and planning should rely on existing resources and facilities so that urban public spaces, which are one of the most important spaces forming social interactions, are designed and constructed in a way that elderly's active present be possible. Moreover, the design the construction of urban public spaces shouldn't be in a way that it lead to the elimination of some people, specially elderly whose population is so many in Iran.

In addition, the findings of most studies researches have indicated the significant distance of many Iranian regions and cities with the standards and indices of an age-friendly city which prepare urban public spaces for the presence of elderly. Since elderly population in our country is growing, regular organization and designing the construction of proper spaces for the presence and activity of elderly in society seems necessary. In the current research, the status of age-friendly city's indices in urban public spaces of region 1 of Shiraz municipality have been investigated. According to the results of one-sample t-test, it can be mentioned that urban public spaces of region 1 of Shiraz municipality didn't respond to elderly's needs and the amount of environment's response to elderly's needs was lower than the medium limit. Moreover, other standard indices of age-friendly city such as clearness of the environment, the existence of a space for resting, access quality to facilities, the possibility of easy use of facilities, familiarity of spaces, spaces' security and the quality of general and official buildings were all lower than the medium limit and only the existence of sufficient green space index was higher than medium limit. Overall, having considered conducted investigations, it can be concluded that urban public spaces of region 1 of Shiraz municipality, like many other cities of Iran that have been examined, couldn't respond to elderly's needs and they didn't accept elderly individuals and elderly didn't have the possibility of convenient presence in such spaces. The obtained results of this research were in line with all results of investigated and mentioned studies. Regarding the theoretical framework that was of utmost importance in this research, and according to Amos Rapoport, Rimon Ludro as well as humanist urban planning approach, we face the problem that spaces designed, planned and constructed by human beings as a field for social interaction, do not provide the possibility and allowance to elderly to be conveniently and actively present in society and the cannot respond to the recognized and public needs that elderly have worldwide; therefore, mutual relationship between the elderly and space faces difficulties. In this case, elderly cannot meet their own needs and society and public spaces, as well cannot obtain their desired and needed beneficiaries from them. Considering the obtained results of the current research, we witness to the existence of disorder in this system and the process of social life of elderly in region 1 of Shiraz municipality.

Approaches for improving urban public spaces' status to meet age-friendly city

Regarding the theoretical discussions and similar studies in other countries, the most important approaches toward increasing elderly's presence in urban public spaces are presented as follows:

- Conformity or designing urban public spaces in a way that it be accessible for everyone, regardless of their age and level of ability
- Accessibility for everyone has been improved through concepts such as comprehensive designing and world designing principles. In some countries (such as countries in north of Europe), world designing principals are part of national laws. These principals are recognized in European convention on human rights as related to disable or less able individuals.
- Constructing secure crossings and sidewalks: For example special buttons have been installed in some cities' pass ways that devote more time for the passage of elderly from the street.

- Creating special solutions for elderly that have emotional disorders or are less able to see or hear: Designing vocal signals in traffic lights or specific fortifications that present more sight are among samples that have been administered in most cities.

- Accessibility to city right for those having dementia: Most of elderly people who have dementia are imprisoned in their houses. Urban spaces should be designed in a way that those having dementia can use the facilities, as well. For example urban planning should be comprehensible for elderly and should have signs and high readability option. The signs and clear drawings are very important to people having dementia.

- Supporting social interactions among the members of a society: When there exists security in urban spaces, elderly go out of their houses more and interact with others in their daily life. However, populated streets without traffic light can create dangerous status for elderly, so some of the elderly prevent going out and be depressed.

- Improving the access to buildings and local transformational networks to support personal independency of elderly: An environment which supports social interactions and access to public transportation, would increase life quality and would improve physical abilities in elderly.

- Elderly's cooperation and consultation in new urban changes: Many cities have created councils that provide some suggestions in relation to life problems of elderly. To support designing process, municipalities have created various methods for street investigations and public consulting matters.

- Increasing elderly's security: Feeling secure in social spaces is an important factor among elderly which leads them leave their houses and get present in the society and social interactions. Feeling secure depends on various factors such as negative factors like anger, anti-social behaviors and crime in urban spaces. Positive factors affecting security emotion include streets' light, access to essential telephones and public transportation vehicles.

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