



## Subjective Assessment of Urban Quality of Life Indices, Case Study: Yazd , 2011-2012

Saeedeh Shoja<sup>1</sup>, Seyed Komeyl Salehi<sup>2\*</sup> and Ramin Ansari<sup>3</sup>

<sup>1</sup>Ph.D. Candidate, Department of Urban Planning, Qazvin Branch, Islamic Azad University, Qazvin, Iran.

<sup>2</sup>Ph.D. Candidate, Department of Urban Planning, School of Architecture & Environmental Design, Iran University of Science & Technology (IUST), Tehran, Iran and Lecturer Islamic Azad University- Eslamshahr Branch

<sup>3</sup>Ph.D. Candidate, Department of Civil Engineering, Iran University of Science & Technology (IUST), Tehran, Iran.

Received 23 July 2013;

Revised 21 March 2014;

Accepted 25 October 2014

**ABSTRACT:** Urban quality of life represents more than the private “living standards” and refers to all the elements of the conditions in which people live, that is, all their needs and requirements. In economic literature, urban quality of life is usually assessed through the standard revealed-preference approach, which defines a QOL index as the monetary value of urban amenities. This paper proposes an innovative methodology to measure urban QOL with special highlight on subjective criteria. According to this methodology, urban QOL is usually measured through subjective criteria resulted from monitoring and assessing citizens’ perceptions from and satisfaction with urban life or using objective criteria derived from secondary data and it is rarely assessed using both of these two criteria. This methodology is applied to derive QOL indices for the city of Yazd. In this study, 400 families were selected from among the chosen neighborhoods using two-step clustering method. Statistical methods such as factor analysis, Friedman test and Kruskal–Wallis were used for measuring and comparing residents’ satisfaction with life quality indices. The results of the studies showed that satisfaction level with quality of life in Yazd was at a relatively low level. On the other hand, the highest dissatisfaction rate of the residents of Yazd was with utility, facilities, services and transportation. It can be concluded that appropriate strategies should be considered separately in each of the mentioned fields in order to promote the QOL in city of Yazd.

**Keywords:** Quality of Life (QOL), Subjective Indices, Satisfaction, City of Yazd.

### INTRODUCTION

Urbanization process in developing countries is characterized by a high concentration of population and economic activities and also an urban development pattern which has had a negative effect on environmental conditions. Although cities are the main centers for promoting economic development, the failure to manage the impacts of rapid urbanization threatens, on other factors such as environment, human health, equity, urban productivity and etc. can decrease the urban quality of life. This paper develops a theoretical framework regarding to the concept of quality of life and seeks to delimit its

scope with the aim of deriving a subjective assessment for researches which can help to improve the quality of life in urban settlements. In this case, the instrument is applied to the Yazd city context, recognizing that people relations are context specific as is the quality of life. In city of Yazd, there have been some interventions in the form of urban projects which include renovation and improvement, organizing, studying old contexts and so on to improve residential pattern in urban neighborhoods. However, surprisingly, these kinds of interventions have not caused increased residential and social values and better life quality in the city’s residential environments! Considering lack of empirical studies in the field of life quality in Iranian cities, this article attempts to find an

\* Corresponding author email: seyedkomeyl@gmail.com



answer to this question by assessing life quality indices in city of Yazd, as a sample case. To this end, it is necessary to reach an understanding different from formal understanding of the present projects to achieve indices based on the satisfaction of residents.

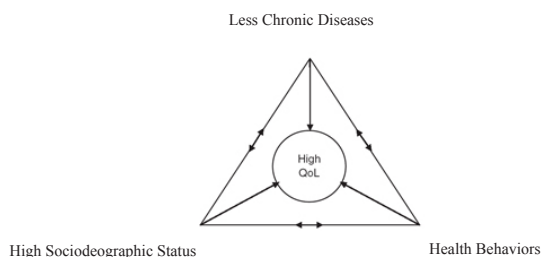
## THEORETICAL FRAMEWORK

### *Explanation of Quality of Life*

The concept of “quality of life” represents more than the private “living standards” and refers to all the elements of the conditions in which people live, that is, all their needs and requirements. This concept has been developed by social scientists to measure and evaluate people’s wellbeing, satisfaction and happiness. It demands, amongst other things, available and accessible social and public infrastructure to satisfy the needs of those involved and affected by it as well as an environment without serious deterioration or pollution. Such conditions are not generally met in our cities, since a large part of the inhabitants live in dwellings and neighborhoods lacking basic facilities and services. Milbrath states that “...if quality of life is defined as happiness or wellbeing or satisfaction, it is necessarily subjective”, thus, the objects which we value positively provide that value to our life quality (Milbrath, 2000, p. 4). Solomon and et al (2000) points out that the evaluation we make of the environment involves more than a detailed interpretation of it; it is a global and affective reaction which is strongly influenced by ideal images that are of a subjective nature. Although the concepts of quality of life and environmental quality show considerable overlap, they are not identical: there are some elements of happiness that have their causes on the individual. There are people who are able to feel happy even in the worst environmental conditions while others cannot be happy even in the best environmental conditions. In recent years, life quality studies have fundamentally concentrated on urban nature and quality of urban life. Concept of quality of life is a complicated and multidimensional issue. Therefore, there is no need to say that this concept can be applied in planning only when appropriate and reliable frameworks exist for its measurement. Indeed, urban planners, politicians, statesmen, non-governmental organizations and the public try to influence planning processes and outputs in order to change conditions, improve life quality and provide an environment in which the quality of life is enhanced. ‘Quality’ implies degree of excellence of a characteristic; but, the concept of the QOL means differently for different groups of people. To some, it means how happy

they are and, to others, it means the level of economic status, education, health or security. Many researchers agree that the concept of QOL is too wide to describe. It is impossible to develop one integrated acceptable definition of the concept (Solomon et al., 2000).

Exploring the factors associated with QOL will provide valuable clues for health intervention and health planning, especially for the older urban and rural populations. A theoretical model of response shift and QOL proposed by Schwartz and Sprangers (1999) suggests that socio-demographic status (e.g., age, gender, marital status, education, living arrangement, etc.) is an antecedent factor that can affect the perceived QOL. This model has been adopted in almost all studies regarding the related factors of QOL (Lim, Park, Kang, & Ryu, 2007; Liu & Guo, 2007; Spurrier, Sawyer, Clark, & Baghurst, 2003).



**Fig. 1. A Hypothesis for the Potential Factors of the Quality of Life (Zhou et al., 2010, p. 202)**

Lack of a standard definition for this concept has led to use the terms such as welfare, level of life, life satisfaction, and etc. instead of quality of life in the propounded literature in this field. Some experts put the term ‘quality of life’ in a continuous string of concepts and others argue that quality of life is a multi-dimensional concept. Despite the diversity of concepts for measuring quality of life, many authors have commented that there is high mutual correlation between them. This reason has led to perform less effort for formulating a codified theory for defining the term quality of life (Jalayer, 2009, p. 31).

Romney et al. (1994) attempted to explain why there is no integrated accepted definition for quality of life:

- Inner and subjective processes related to life quality experiences can be explained and interpreted through different filters, views and statements;
- Life quality concept is considerably complex and vague;

Life quality concept contains understanding human growth and developmental processes, average life expectancy of people in their communities and a range



in which these psychological processes are affected by environmental factors and individual valuation systems (Romney et al., 1994).

Despite differences about definition of life quality, there is a perceptual consensus among experts. Most experts agree that the quality of life includes positive aspects of life and it is a multi-dimensional concept.

**Subjective Viewpoint in Quality of Life**

**Emerging of Subjective Dimension in Quality of Life**

Human beings perceive problems and possible solutions from different viewpoints or according to their social roles (including reproductive, productive, community based and political roles) and define their basic needs with different criteria. The same physical object or specific experience may be perceived differently by different persons. Thus, a house may be perceived by some people as being of high quality whilst, for others, it may be of lower or no quality at all. For some social groups, one environment may seem ideal yet, for others, it may hardly be acceptable or even definitively unacceptable. This means that a certain environmental quality may imply contents, images, perceptions which vary for different people depending on other factors such as their gender, age, culture, ethnicity and religion. This is where the subjective perspective becomes useful, in evaluating how the subjective relations can occur in a particular context affect quality of life (Moser, 1994).

In most of the literature relating to quality of life, “human beings”, “people”, “communities” and “households” are treated as homogeneous groups when, indeed, they contain a diversity of relations that cannot necessarily be classified as having the same needs. Subjectivity cuts across all other social factors such as class, ethnicity, age and religion and all types and/or spheres of activities: productive, distributive, organizational, political, technical and research. It also relates to the all institutional structures, organizational procedures and practices in all social sectors such as health, employment, education, transport, environment and housing.

**Dimensions of Quality of Life**

There are different aspects for life quality from the viewpoint of different fields such as political sciences, geography, planning, economics, psychology and sociology; the definition of each of them indicates their attitudes toward this issue and the manner it is used in different sciences.

For example, in one study on quality of urban life’

in Guwahati in northeast of India, Das divided urban environment to three subsets of physical environment, social environment and economic environment (shown in Figure 1) and assessed life quality in each of these dimensions (Das, 2008, p. 301).

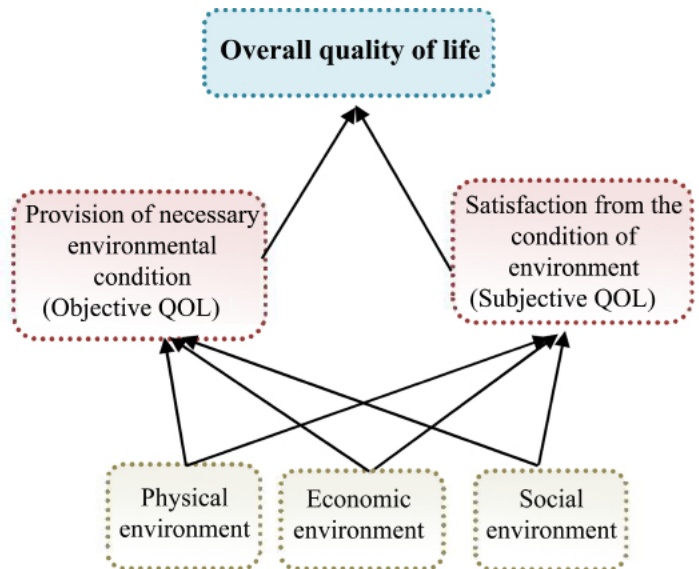


Fig. 2. Dimensions of Life Quality (Das, 2008, p. 301)

Dividing the living environment to its different constituting components can be also identified in older studies which were seeking for the measurement of quality of life such as the research conducted by Economic Co-operation and Development Organization on the development of social indices of welfare measurement in which environment was divided to two physical-environmental and social-economical dimensions (Jalayer, 2009, p. 34).

In addition to these studies, researchers (psychologists) like Schneider (1975), Schalock (2004) and Diener (2000) also considered personal attitude toward life as the first determining factor of quality of life and thus made an emphasis on mental aspect of life quality.

According to the present research, quality of life includes physical-environmental, social, economical and psychological dimensions. Therefore, these dimensions can be used in detecting concept of stability and vitality and also determining meaning of life quality.

**METHODOLOGY**

In this research, there was an attempt to assess quality of life in physical-environmental dimension considering more obvious and clear relationship of physical-environmental dimension with urban issues.



The first step in assessing the quality of urban life is to select its dimensions or components and then to choose indices for measuring different dimensions of urban life quality. Numerous diversity of indices have been applied in life quality studies. This is an obvious issue considering multi-dimensionality of life quality. Diener (1995) reviewed current practices in selecting indicators for a QOL index and found that there are no standard methods for selecting the indicators which compose a QOL index, and that indicators are usually selected intuitively. Booyesen (2002) asserted that indicators could be classified and evaluated according to a number of general dimensions of measurement. The selection of indicators is “generally based on theory, empirical analysis, pragmatism or intuitive appeal or some combination thereof”. Another central consideration in the selection of indicators is the purpose of the measurement.

To select appropriate indicators of QOL for the present study, the related literature, theories as well as empirical studies were reviewed and local conditions and characteristics were taken into consideration. As a result, 44 indicators, as presented in table 1, were selected for the purposes of this study.

These 44 indicators were used to measure subjective QOL in the selected neighborhoods in Yazd. The data for these indicators were obtained using a questionnaire, which will be discussed in detail in the latter parts of this paper.

Regarding to the content of the conducted studies, it can be said that there have been no universally acceptable conceptual framework for assessing quality of life and a united methodology for determining its domains and indicators. Thus, selecting domains and the related indicators in each domain and also measurement method of life quality have been done based on research objectives, personal judgment of researchers, characteristics of the studied area and available data. Major differences in life quality models are due to differences in scale, indices and domains of life which have been considered in various studies on life quality.

### EMPIRICAL APPLICATION OF URBAN QUALITY OF LIFE

In studies on urban life quality, there are two groups of subjective and objective indices (Lee, 2008, p. 1207). These indices are often used separately and are rarely combined while assessing urban life quality.

Quality of life in subjective aspects reflects perception and evaluation of people from the status of their lives and

can be measured using subjective indices. Subjective life quality can be measured using different methods. In one of the most important methods, subjective quality of life can be the accumulation of satisfaction level in different domains of life. According to this method, life is divided to different domains and combination of satisfaction rate obtained from each domain shows the overall quality of life. This method is seen in Fig 2. This model shows that quality of life in general is a sum of weights which are given according to satisfaction rate in different domains and aspects of life.

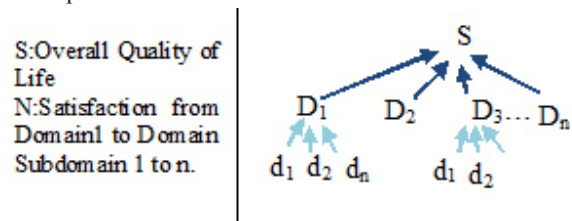


Fig. 3. Quality of Life As a Combination of Satisfaction Components in Different Domains of Life (Pacione, 2003, p. 24)

Lee states that quality must be subjective and the most appropriate way for discovering life quality is to ask about people’s perception from their lives (Lee, 2008, p. 1208). He also believes that subjective indicators are preferable to objective indicators while planning and policy-making because these indicators provide valuable feedback for planners and policy-makers. Nevertheless, subjective indices have less validity and more reliability. The reason of lower validity is the inability of these indices in showing status of people’s living environment (Das, 2008, p. 298).

Objective quality of life depicts external life conditions (Das, 2008, p. 298). Objective quality of life is measured using objective indices related to visible and tangible realities of life. These indices are obtained from secondary data such as population density, crime rate, education level, household characteristics etc. It’s important to know the fact that quality cannot be determined only through objective circumstances and but also subjective welfare is important. Seik states that objective indices alone cannot present actual quality of life because they have high validity but low reliability in evaluating human welfare (Seik, 2000).

There are controversial discussion about intensity of relationship between objective and subjective quality of life. For example, Brereton et al. (2008) showed a strong relationship between these two types of indices while McCrea et al. (McCrea et al., 2006) and Das (2008) found a weak relationship between objective and subjective quality of life. However, these indices are used separately



and are rarely used in combination with each other for measuring quality of urban life.

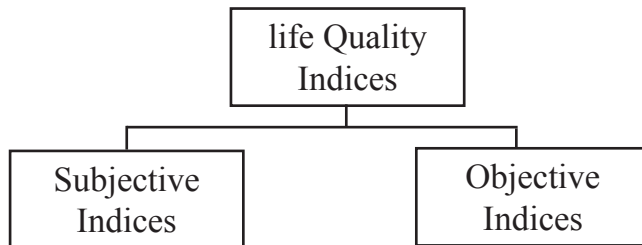


Fig. 4. Quality of Life Indices Category

Since the concept of life quality is complex and multifaceted, it is often said that mixing and combining both subjective and objective dimensions are essential for providing a complete image of life quality for a person or a location although no high correlation has been found between subjective and objective quality of life. As a result, these analytical differences prevent from the join of these two sets of criteria. Quality indicators of objective life have higher reliability and lower efficiency in measuring personal welfare while subjective criteria are more efficient but less reliable.

In summary, investigation of quality of life depends on public opinion because only people themselves can have direct judgment about their lives and personal life experiences are the most direct measurement criterion for quality of life. In fact, it can be said that findings of studies on subjective quality of life are more useful for the planners and politicians involved in administering public policies. The usefulness of these studies is derived from general ability of planners for comparing quality of life, identifying issues and assessing their votes over time.

#### **The Research Area**

The study area included neighborhoods from old context and new part of city of Yazd. The results of population and housing census in 2006 showed that 484167 out of total population were living in urban areas, i.e. in city of Yazd. City of Yazd includes about 80% of population of the city and thus has a significant centrality (Statistical Yearbook, 2009, p. 109). Old context of Yazd has a considerable level of about 700 hectare out of Yazd area. The new parts have also occupied a broad level due to horizontal growth of city of Yazd during recent years. All new parts that have been mainly built since 1980s and contain preparation projects. Thus, after so many years since running preparation projects in new parts of Yazd and preparing and implementing renovation, development

and other projects in old parts, current quality of life and satisfaction rate can be assessed as a key axis for urban planning in future.

#### **Data and Variables**

This empirical study was mainly based on primary data. To collect primary data, sample survey was done at household level in Yazd. The statistical population included all households in city of Yazd and 400 families were selected as the sample. A questionnaire was formulated according to questions about subjective aspects of quality of life and perceived satisfaction level from life conditions. To obtain subjective quality of life, the questions were in 5-point Likert scale from completely dissatisfied=0 to completely satisfied=5.

In order to assess internal validity, first, content validity method was used to increase validity of the questionnaire. In this regard, the first step was to use the tested scales in studies of quality of life and ask for the ideas of professors and experts in this field. Then, the formulated questionnaire was completed in two primary and final stages. The final version was developed after reviewing the responses obtained from 30 preliminary questionnaires and performing required statistical calculations. Finally, as previously mentioned, factor analysis and other statistical methods such as Friedman and Kruskal-Wallis tests were used to discover subjective indices of life quality and to conduct the analyses, respectively.

#### **Data Transformation**

The data obtained through the household interviews were entered into a microcomputer and then analyzed using SPSS (version 11.5). The selected indicators for the purposes of this study (Table 1) were transformed into a 1-5 score based on their merit and contribution towards QOL.

#### **Factor Analysis**

Factor analysis is a multivariate analytical technique used for uncovering the latent structure of a set of variables. It is used to derive a subset of uncorrelated variables called factors that explain the variance observed in the original dataset. Factor analysis is usually performed to establish a pattern of variation among variables or reduce large data sets into factors for easy handling and interpretation (Everitt and Dun, 1991). The total number of generated factors indicates the total number of possible sources of variation in the original dataset.



**Sample Selection**

Research methodology of this study was a combination of deductive and inductive methods so that theoretical framework was extracted using library method and review of the related texts and the criteria used in assessing quality of life (deductive research method). In this way, factor analysis methods and statistical methods such as Kruskal-Wallis and Friedman Tests were used.

**RESULTS AND DISCUSSION**

In this study, 44 subjective variables (indicators) were studied to assess life satisfaction level with living in residential neighborhoods of old and new context of city of Yazd. The above indicators were assessed by factor analysis.

In performing the factor analysis, first, it should be determined whether the data are suitable for the analysis or not. For this purpose, the two Kaiser-Mayer-Olkin (KMO) and Bartlett tests were used. In the first stage, it should be determined whether the number of samples is sufficient for the analysis or not. To answer this question, the KMO test was used. Statistical value of this test is always between zero and one (0 and 1). In order to use sampling data in performing factor analysis, the statistical

value must be at least 0.6.

The second test, Barlett, is usually done to determining commonalities. Commonalities are squared multiple correlation for the related variable which explains a proportion of the considered variance by common factors extracted from factor analysis (Askarizade, 2008). It determined whether the correlation between the used data is at an appropriate level or not. Information about these two tests is showed in Table 1. According to the provisions of this table, the model's sufficiency was moderately confirmed, which was also confirmed by Barlett test. It should be noted that, in this analysis, Principal Component Analysis (PCA) was used for extracting components.

**Table 1. Information about Appropriateness Level of Factor Analysis in Assessing Life**

Quality in City of Yazd		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.842
Bartlett's Test of Sphericity	Approx. Chi-Square	765.977
	df	15
	Sig.	0.000

**Table 2. Matrix of Factors in Factor Analysis of Assessing Life Quality in Yazd**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.371	56.181	56.181	3.371	56.181	56.181
2	0.861	14.349	70.529			
3	0.520	8.671	79.200			
4	0.482	8.026	87.227			
5	0.447	7.448	94.674			
6	0.320	5.326	100.000			

According to the literature related to quality of life and the conducted factor analysis, the theoretical model of assessing life quality in city of Yazd can be described as shown in table3. At the first level of this model, there is quality of life. Since this concept cannot be measured

or valued at this level, therefore the main constitutive criteria of quality of life (housing units, neighborhood unit, neighborhood, region, etc.) are placed at the second level. In this study, due to the considered objective, neighborhood



**Table 3. Matrix of Factor Loadings of Quality of Life Indices in City of Yazd**

Indices	Component	Rank
Transportation (S)	0.823	1
Facilities and Services of the Neighborhood (T)	0.697	5
Safety of the Neighborhood (U)	0.787	2
Identity and Sense of Belonging (V)	0.666	6
Environmental Quality and Health (W)	0.749	4
Beauty, Diversity and Readability (X)	0.765	3

Unit was selected from the second level. Then, at the third level, the related indicators were evaluated. Theoretical model of evaluating life quality in Yazd have third levels:

First level: Quality of life in city of Yazd

Second level: Quality of life in the neighborhoods of new context/ Quality of life in the neighborhoods of old contexts

Third level: Transportation, facilities and services, safety,

sense of belonging, environmental health and utility.

**Comparing Mean of Indices in City of Yazd**

In order to compare scores of each factor in different neighborhoods of Yazd, first, the scores were standardized (scale differences were removed) using the following formula and then the scores converted in (0 and 10) and the numbers were compared with each other:

$$TX_{ij} = \frac{X_{ij} - X_{min}}{X_{max} - X_{min}}$$

**Table 4. Comparing Scores of Indices in City of Yazd**

Row	Indices	Converted Scores of Indices	
		Old Neighborhoods	New Neighborhoods
1	Transportation	4.26	5.35
2	Facilities and Services of the Neighborhood	4.50	4.99
3	Safety of the Neighborhood	4.19	5.85
4	Sense of Belonging	4.18	5.95
5	Environment and Health	4.25	5.68
6	Utility	2.61	3.84

According to the above table and mean score of indices for old and new neighborhoods, it can be concluded that

the residents in different neighborhoods of both old and new context had the least satisfaction with utility.



**Table 5. Comparing Mean of Scores of Indices in City of Yazd Based on Satisfaction Rate**

	Satisfaction	Old neighborhoods	New
1 2	Completely Dissatisfied		
3 4	Dissatisfied	3.99	
5 6	Moderately Satisfied		5.27
7 8	Satisfied		
9 10	Completely Satisfied		

As shown in Table 5, mean scores of indices in old neighborhoods were lower than those in new neighborhoods; it means that satisfaction rate of residents in old neighborhood was less than that of new neighborhood. Meanwhile, the mean satisfaction with the indices in new context was not evaluated very high (maximum 5.95).

It should be noted that these scores are only indicate mean satisfaction rate of the residents and cannot be an appropriate criterion for further evaluation and correct

judgment because, in means, all the variables are considered the same. Thus, in the rest of the research, the coefficients obtained from factor analysis were used to provide indices with the weights of their importance.

***The Most Effective Indices in Overall Satisfaction of Residents with Quality of Life in City of Yazd.***

By putting effective indices of quality of life and their correlation coefficients beside each other in Table 6, the most important and effective indices of quality of life in overall satisfaction of residents of Yazd can be perceived.

**Table 6. Matrix of Factor Loadings of Quality of Life Indices in Yazd**

Rank	Component	Indices
	1	
1	0.823	Transportation
5	0.697	Facilities and Services of the Neighborhood
2	0.787	Safety of the Neighborhood
6	0.666	Sense of Belonging
4	0.749	Environmental Health
3	0.765	Utility (Beauty, Diversity and Readability)

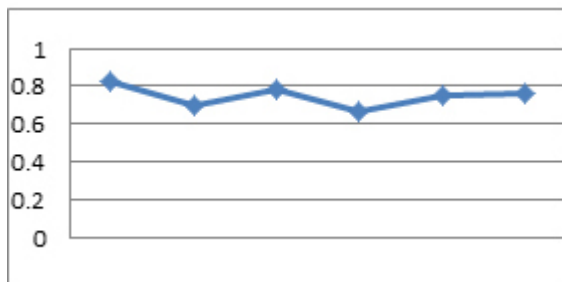




**Table 7. The Most Important Effective Indices for the Residents' Satisfaction with Quality of Life in City of Yazd Based on Rank**

The Most Effective Indices in Satisfaction with Quality of Life (In the Order of Priority)	The City of Yazd
	1-Transportation 2-Safety of the Neighborhood 3- Utility 4- Enviornmental Health 5- Facilities and Services of the Neighborhood 6- Sense of Belonging

According to the above table and the obtained scores for each of the studied indices, the most important indices for the satisfaction with quality of life can be prioritized as follows:



**Fig. 5. The Most Effective Indices for Residents' Satisfaction with Quality of Life in City of Yazd**

According to Fig. 5, it can be said that all the mentioned indices were generally important for residents' satisfaction with quality of life (all the coefficients were above 0.6) and also three indices of transportation, safety

and utility were the most effective factors of residents satisfaction with quality of life.

***Comparing and Identifying Highest Dissatisfaction Rate of Residents with Quality of Life Indices***

In order to compare residents' dissatisfaction rate with quality of life indices in Yazd, first, the existing of differences between satisfaction in different neighborhoods was studied and then it was thoroughly studied.

***Comparing Satisfaction Rate in Different Neighborhoods in Yazd***

In this part, different neighborhoods of old and new contexts of Yazd (10 selected neighborhoods) were compared using Kruskal-Wallis Test. In these two tests, two hypotheses of  $H_0$  and  $H_1$  were defined as below:

$$H_0 : \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6 = \mu_7 = \mu_8 = \mu_9 = \mu_{10} \quad (10 \text{ studied neighborhoods})$$

$$H_1 : \mu_i \neq \mu_j \quad i \neq j$$

**Table 8. The Results Obtained From Kruskal–Wallis Test in Different Neighborhoods in Yazd**

Indices	Chi-square	df	Asymp.sig
Transportation (st)	41.837	9	0.000
Facilities and Services in the Neighborhood (st)	25.775	9	0.002
Safety of the Neighborhoods (st)	56.156	9	0.000
Belonging(st)	35.926	9	0.000
Environmental Health(st)	64.132	9	0.000
Utility(st)	45.132	9	0.000
Satisfaction with the Neighborhood (st)	56.111	9	0.000
Overall Satisfaction (pc st)	61.908	9	0.000



If Sig<0.05 in this test, H0 hypothesis was rejected; otherwise, the H0 hypothesis was proven.

Table 8 shows that sig < 0.05 was the statistical value for all the desired indices; so the H0 hypothesis was rejected. It means that there is 95% confidence that satisfaction rate with quality of life indices is different

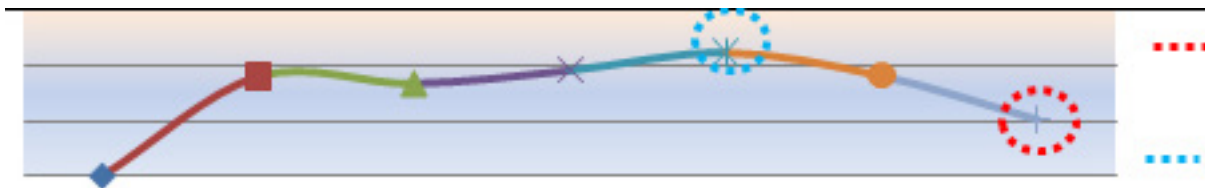
among various neighborhoods.

**Comparing Satisfaction with Indices in Yazd**

In order to compare residents' satisfaction rate with quality of life indices, Friedman test was used which was as shown in the following table.

**Table 9 and Fig 6. Comparing Satisfaction Rate With Quality of Life Indices in Yazd (Friedman test)**

Mean Rank	Indices
3.62	Transportation
3.36	Facilities and Services in the Neighborhood
3.84	Safety
4.49	Sense of Belonging
3.64	Environmental Health
2.05	TOTAL



**Fig 6 . Most Dissatisfaction**

According to Table 9 and Fig 6, the highest dissatisfaction rates belong to utility, facilities, services and transportation.

with transportation, safety and utility in the order of importance. On the other hand, the highest dissatisfaction was with indices of utility, facilities and services and transportation.

**CONCLUSIONS**

As initially mentioned, the main purpose of this study was “to assess and compare physical–environmental dimensions of quality of life in cities”. In order to fulfill this purpose, statistical analyses such as factor analysis (FA), Friedman test and Kruskal-Wallis test and also descriptive-analysis methods were used. The results of factor analysis showed that physical-environmental indices were significantly effective for residents satisfaction with the quality of life (the expressed indices explained 56.18% of total variance). These indices included six indices of satisfaction: transportation, facilities and services, safety, identity and sense of belonging, environmental health and utility. The primary results showed that mean satisfaction rate with quality of life in different neighborhoods was relatively low (3.99 in old context and 5.27 in new context neighborhoods). Finally, using Friedman and Kruskal-Wallis tests, it was noticed that the most effective indices were satisfaction



## REFERENCES

- Askarizadeh, Z. (2008). Measuring Environmental Quality Rate in Old but Reconstructed Urban Contexts (A case Study of Navab Project). MSc Thesis, Tehran Tarbiat Modares University.
- Booyesen, F. (2002). An Overview and Evaluation of Composite Indices of Development. *Social Indicators Research*, 59,115-151.
- Brereton, F., Clinch, J.P. Ferreira, S. (2008). Happiness, *Geography and the Environment. Ecological Economics*, 65(2).
- Das, D. (2008). Urban Quality of Life: A Case Study of Guwahati. *Social Indicators Research*, 88, 298-301.
- Diener, E. (1995). A Value Based Index for Measuring National Quality of Life. *Social Indicators Research*, 36, 107-127.
- Diener, E. (2000). Subjective Well-being. *American Psychologists*, 55, 34-43.
- Everitt, B.S., & Dun, G. (1991). *Applied Multivariate Data Analysis*. London: Edward Arnold.
- Jalayer, F. (2009). Investigating Quality of Life in New City of Pardis and Presenting Strategies for its Promotion in Physical-environmental Dimension. MSc thesis, University of Tehran.
- Lee, Y. J. (2008). Subjective Quality of Measurement in Taipei. *Building and Environment*, 43, 1208.
- Lim, J. Y., Park, J., Kang, M. G., & Ryu, S. Y. (2007). Quality of Life and its Associated Factors among Some Elderly Residents Using a Hall for the Aged in a Community. *Journal of Preventive Medicine and Public Health*, 40, 337-344.
- Liu, L. J., & Guo, Q. (2007). Loneliness and Health-related Quality of Life for the Empty Nest Elderly in the Rural Area of a Mountainous County in China. *Quality of Life Research*, 16, 1275-1280.
- McCrea, R., Shyy, T. & Stimson, R. (2006). What is the Strength of the Link between Objective and Subjective Indicators of Urban Quality of Life?. *Applied Research in Quality of Life*, 1.
- Milbrath, L.W. (2000). Indicators of Environmental Quality in UNESCO, Indicators of Environmental Quality and Quality of Life, *Reports and Papers in Social Sciences*, 38, 3-56.
- Moser, C. (1994). Women, Gender and Urban Development Policy. Paper presented at *OECD Conference on Women in the City: Housing, Services and Urban Environment*. Paris (France).
- Pacione, M. (2003). Urban Environmental Quality and Human Wellbeing - a Social Geographical Perspective. *Landscape and Urban Planning*, 65, 24.
- Romney, David M., Brown, Roy I., & Fry, Prem S. (1994). Improving the Quality of life: Prescription for Change. *Social Indicators Research*, 33.
- Schalock, R.L. (2004). The Concept of Quality of Life: What we know and do not know. *Journal of Intellectual Disability Research*, 48, 203-16.
- Schwartz, C. E., Sprangers, M. A. (1999). Methodological Approaches for Assessing Response Shift in Longitudinal Health-related Quality-of-life Research. *Social Science & Medicine*, 48, 1531-1548.
- Schneider, M. (1975). The Quality of Life and Social Indicators. *Public Administration Review*, 36,297-05.
- Seik, T.F. (2000). Subjective Assessment of Urban Quality of Life in Singapore (1997- 1998). *Habitat International*, 24, 31-49.
- Solomon, E., Bouchouchi, N., Denisov, V., Hankiss, E., Allmann, C. & Milbrath, L. (2000). UNESCO Policy-Relevant Quality of Life Research Programme in Szalai and Andrews (1980).
- Statistical Center of Iran—SCI. (2009). Iran Statistical Year Book. Yazd: SCI.
- Spurrier, N. J., Sawyer, M. G., Clark, J. J., & Baghurst, P. (2003). Socio-Economic Differentials in the Health-related Quality of Life of Australian Children: Results of a National Study. *Australian and New Zealand Journal of Public Health*, 27(1), 27-33.
- Zhou, Biao. (2010). Quality of Life and Related Factors in the Older Rural and Urban Chinese Populations in Zhejiang Province. *Originally published online 16 Journal of Applied Gerontology*.

