A Model to Compare QoL in Turkish Cities

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Abstract

Quality of life (QOL) is an abstract concept. Like other subjective concepts, it is hard to develop objective measures to understand QOL in specific urban settings. Since there has been a voluminous literature on QOL, researchers focused on parameters to measure QOL. This study aims to review the literature on QOL to extract the indicators of QOL in urban settings. It would put forward a model to collect data to measure and compare QOL in neighborhood units and regional areas. The model could be applied in Turkish cities. The potential and limitations of this model will be discussed.

Keywords: Quality of life; micro / macro scale; neighborhood unit; environment and behavior studies.

1.0 Introduction

Quality of life (QOL) which is defined as overall well-being of societies and individuals in general, is an extensive discourse which is subjected to various research in diverse disciplines (El Din et al., 2013, Keles, 2012, Mohit, 2013a). QOL is also explained as "a concept linked to that of social well-being, which is based on the argument that the human condition should be evaluated on a wider range of indicators than just income – whether at the individual level or through national aggregates" (Gregory, 2011). Mohit (2013a) argued that QOL has more than a dozen definitions and listed seven main disciplines (economics/political science, sociology/psychology, health studies, housing, marketing, cities level analysis, urban analysis; three of which are focusing on physical environmental and spatial issues) studying QOL. This study aims to review the literature from an environmental psychology perspective and discuss the parameters related to QOL for different geographies.

2.0 Literature Review

QOL is a buzzword for decades and has been studied seriously in developed countries since 1970s and in developing countries since 1990s. Governments are seeking to improve QOL in their cities as it is considered as the main domain of development and user satisfaction. Moreover, QOL has become a fundamental concept in city marketing and place promotion. Thus, it is subjected to numerous research. In spite of voluminous literature on QOL in environmental studies, two points are still challenging researchers (1) the meaning of QOL (Dülger Türkoğlu et al., 2009, Mohit, 2013a) and, (2) defining the parameters and standards in measuring the QOL (Dülger Türkoğlu et al., 2009, Keles, 2012, Khalil, 2012). This challenge occurs because the phenomenon of QOL is an extensive issue with wide range of indicators and its parameters of measure changes from research to research, city to city, culture to culture and scale to scale. World Health Organization (WHO), as well as Organisation for Economic Co-operation and Development (OECD), developed a common international - cross cultural instrument to measure and compare QOL in countries (Mohit, 2013a). Yet, Mohit (2013b) argued that a uniform index has not been developed for the fourteen states/ regions in Malaysia. Same applies to Turkey, there is no uniform instrument to measure and compare QOL in different regions, cities and neighborhoods.

This paper aims to review the QOL studies and to develop a model to measure QOL in Turkey.

3.0 Methodology

Twenty studies related to "environment and behavior" studies from diverse geographies were reviewed. The studies were from Turkey, USA, India, Argentina, Italy, Tunisia, Egypt, Cyprus, Iran, and Malaysia covering cities of different sizes. The parameters varied from economic, social, political to physical environment. Correspondingly, indicators of physical environment vary in scale from housing to regional. Majority were empirical studies conducted in macro scale environments using subjective data and rely on research based data (rather than

national databases). The number of indices used to understand QOL vary from one (Hassine et al. 2014, Lloyd&Auld, 2003) to more than 50 parameters (Türkoğlu, 2011).

Table 1: Qualifications of selected papers on QOL

Reference	Micro/Macro Scale	Empirical / Conceptual	Objective/Subjective Data	National Database /Research Based Data	Method	Study Area
1	Mi	E	S	R.B.D.	Questionnaire	Istanbul/Turkey
2	Ma	E	O	N.D.	Analytical Model	USA Counties
3	Mi	EI	O	R.B.D.	Spatial Calculations	Istanbul/Turkey
4	Ma	E	S	R.B.D.	Questionnaire	Guwahati/India
5	Ma	E	O&S	R.B.D.	Maps, calculations and questionnaire	La Plata/Argentina
6	Ma& Mi	E	S	R.B.D.&N.D.	Interviews	Istanbul/Turkey
7	Ma	C	-	-	-	-
8	Mi	E	S	R.B.D.	Questionnaire	Agrigento, Bologna, Cesena, Florence, Grosseto, L'Aquila, Latina, Matera, Palermo, Pescara, and Salerno / Italy
10	Mi	E	S	R.B.D.	Questionnaire	Tunis, Sousse, and Sfax /Tunusia
11	Mi	C	-	-	-	-
12	Ma	C	-	-	-	-
13	Ma	C	-	-	-	AlShohada and Badr /Egypt
14	Ma	C	-	-	-	-
15	Ma& Mi	C	-	-	-	-
18	Mi	E	S	R.B.D.&N.D.	Face to face interviews	Famagusta/Cyprus
20	Ma	C	-	-	-	-
21	Mi	E	S	R.B.D.	Questionnaire	12 counties of western Virginia
22	Mi	E	S	R.B.D.	Questionnaire	Tehran/Iran
24	Ma& Mi	E	S	R.B.D.&N.D.	Face to face interviews	Istanbul/Turkey

26	Mi	E	S	R.B.D.	Questionnaire	Kuala Lumpur, Petaling Jaya, Shah Alam, and Klang/Malaysia

4.0 Findings and Discussions

The literature review showed that the parameters of quality of life are diverse. Parameters related to physical environment can be categorized into 8 headings (Table 2). Most of these parameters have been measured subjectively via questionnaires and face to face interviews. Only a few have been based on objective data. For the subjective data; likert scale was used to understand the respondents' satisfaction on various issues such as aesthetics of the built environment, public transport or solid waste disposal system (Fornara et al, 2010; Karim, 2011; Türkoğlu et al., 2011). Objective data were collected via geographic information systems to calculate parameters related to building density, average building age on the street or width of street (Berköz et al., 2009; Bölen et al., 2007).

Table 2: Indicators of QOL

Reference	Residential
1	Size of the housing area, closeness of buildings, number of floors
3	Area and width of parcel
3, 8	Building density
3	Number of dwelling units in the building
3, 10, 18, 22, 26	Population density
3	Age of building
3	Average building age on the street
3	Age of the subdivision on the site
8	Building volume
21, 26	Upkeep of homes and yards
3	Slope of the parcel
3	Orientation of the parcel
3	Existence of a pleasant view
3, 10, 22, 24	Quality of the building
4, 6, 22, 26	Conditions of housing
7	Upkeep of heritage and historical remains
1, 5, 7, 8, 10, 11, 24	Aesthetics of the built environment
7, 26	Housing types
7, 24	Public places
6, 8, 24	Macro upkeep and micro upkeep
3	Development process: planned/ unplanned

21	Neighborhood improvement
22	Neighborhood attractions
	Transport
1, 3, 11,20	Accessibility to city centre
3	Distance to district centre
3	Distance to nearest main street
3	Distance to airport
3	Distance to seaside
3	Distance to nearest kindergarten
1,3, 4, 5, 6, 7, 10,15, 20, 22, 24	Quality and accessibility of public transport and public transport stops
1, 4, 7, 10, 18	Traffic density
1, 5, 7, 18	Traffic roads
1, 7	Safety against traffic accidents
1, 3	Ratio of parking area
8	External connections
7, 8	Internal functionality
24	Length of travel in time and distance
1, 22	Accessibility to work
1	Accessibility to places of entertainment
1, 15, 22	Accessibility to shopping centre
1	Accessibility to the market where daily needs are obtained
22	Accessibility to gas station
1, 3, 7, 11, 21, 22, 24	Accessibility to elementary schools
1, 7, 11, 21, 22, 24	Accessibility to high schools
1, 22, 24	Accessibility to parking areas
1	Accessibility to walking areas
1, 11, 22	Accessibility to sports centres
1, 22	Accessibility to local clinics
1, 7, 11, 21, 22	Accessibility to hospital
20	Accessibility to housing area
1, 5, 7, 10, 22, 24	Quality of pedestrian paths and walkability
3, 7, 10, 18, 24	Status of the street
3	Type of pavement
3	Width of street
3	Width of pavement
3	Slope of the street
	Safety

21	Street lighting in the neighborhood
1, 5, 8, 10, 15, 18, 20, 24, 26	Perception of general safety in the housing area and in the neighborhood
11, 20, 22, 24	Actual and perceived level of crime
	Environment
4, 20, 22	Level of environmental pollution in the city
4, 5, 11	Sanitation
1, 3, 4, 5, 7, 11, 15	Clean water
4, 10, 11	Drainage system
4	Water supply duration
4, 5	Source of water
3, 5, 10, 22	Sewerage system
4, 7, 10, 11, 22, 24	Solid waste disposal system
5, 15, 22, 24	Hazardous waste
4, 5, 7, 10, 15, 24	Air quality
4, 5, 10, 11, 15, 18, 22, 24, 26	Noise pollution
10, 11	Odors
1, 3, 5	Natural gas
1, 5, 11	Access to telephone and cable television
1, 5, 11	Access to electricity
7	Minimization of energy demand
20	Climate
24	Loss of natural spaces
1	Safety against natural disasters (earthquake, flood, etc.)
	Socio-Cultural
1, 4, 10, 20, 24	Presence of / satisfaction with shopping facilities
1, 8, 15, 20	Presence of / satisfaction with socio-cultural activities and resources
10	Presence of / satisfaction with leisure facilities (cafe´s, restaurants, cultural places)
	Recreational
3, 4	Presence of / satisfaction with open space
3	Presence of / satisfaction with livable space
1, 11, 21	Presence of / satisfaction with landscape and scenery
3, 4, 15, 18, 20	Presence of / satisfaction with recreation area
1, 3, 4, 5, 7, 10, 15, 18, 22, 24	Presence of / satisfaction with parks and green areas
1, 6, 15, 18	Presence of / satisfaction with walking areas
1	Presence of / satisfaction with relaxation areas
1, 3, 8, 10	Presence of / satisfaction with sport fields and sport centres
1, 11, 15, 21, 24	Presence of / satisfaction with children's playgrounds and outdoor play space
1, 5	Presence of / satisfaction with night lighting

	Educational
1, 5, 8, 15, 20, 22	Quality of educational facilities

	Health
1, 4, 5, 24	Quality of health facilities
20, 22, 24	Health care/public health and sanitation
8	Social care services
15	Number of visits to doctors

Moreover databases used by Organisation for Economic Co-operation and Development's (OECD), World Health Organization's (WHO) and Turkish Statistical Institution's (TUIK) were analyzed as well.

OECD'S index listed eleven dimensions in which water quality and air pollution are the only indices related to physical environment (OECD, n.d.).

- Housing
- Income
- Jobs
- Community
- Education
- Environment
- Civic Engagement
- Health
- Life Satisfaction
- Safety
- Work-Life Balance

A subgroup of WHO, WHOOQOL (World Health Organization Quality of Life) has developed a measure to be applicable cross-culturally. This measure included six domains:

- Physical
- Psychological
- Level of Independence
- Social Relationships
- Environment
- Spirituality/Religion/Personal Beliefs

Dimension related to physical environment included the following questions (WHOQOL, 2012):

- How important to you is / are
  - your home environment?
  - it being able to get adequate health care?
  - it being able to get adequate social help?
  - chances for getting new information or knowledge?
  - relaxation/leisure?
  - your environment? (e.g. pollution, climate, noise, attractiveness)?

    — adequate transport in your everyday life?

TUIK, a Turkish governmental institution, have been collecting statistical data on life satisfaction in all cities of Turkey since 2003. According to the research, which is conducted in 2014, life satisfaction is measured in six dimensions:

- Life Standards of Household
- Individual Happiness and Self-satisfaction
- Satisfaction with Public Services
- Expectation, Personal Development and Hope
- Values
- Perspective to European Union

Among these dimensions, only satisfaction with public services seems to be related to physical environment. This dimension searches satisfaction with health facilities, satisfaction with educational facilities, safety in and around schools, accessibility to schools, safety of housing environment, satisfaction with transportation services, satisfaction with services of municipalities and special provincial administration (disposal of waste, water supply, street lighting, cleaning services, sewage system service, public transportation services, upkeep of streets, amount of green spaces, sport facilities and air pollution) (TUIK, 2015).

5.0 Conclusion

QOL has been studied by various disciplines. Despite a voluminous literature covering QOL issues in diverse geographies (from local to national scales), there is still little knowledge on indicators of QOL. How each indicator is measured in different scale environments (region/state, city, and neighborhood) could vary as well. This study reviews the indicators used in QOL research (empirical or conceptual) in the literature of environmental psychology and QOL parameters collected in national and local databases (OECD, WHO, and TUIK). After eliminating the parameters unrelated to local conditions in Turkey, results showed that there are various indices to measure QOL, and these measurements are made both by subjective data and objective data. Furthermore, OECD, WHO and TUIK have less spatial indicators compared to those studied in Environmental Psychology Research.

The literature review showed that the parameters discussed in empirical studies were parallel, and they mostly fall into the same categories. Yet, OECD, WHO and TUIK indices lack physical environmental content. Although, TUIK seems to have more indices related to urban data, it is limited to satisfaction with the services of municipalities.

This study highlights that, QOL indices related to urban environments at the national level (macro scale) involves information on population density, traffic safety, air quality, and leisure facilities. In contrast, at the local level (micro scale) parameters which are specific to that area should be well observed and taken into consideration. Moreover some parameters (such as race relations or the amount of rodents) can be important indices in some geographies (eg. United States and Tunisian cities) but not in others (Turkish cities). This study aims to discuss the new directions for future research. First, the sample size (the literature) could be extended and studies to be reviewed should be selected via a systematical approach. More

research are on call to develop a uniform set of parameters and their measures in different scales in Turkey to compare the QOL in different regions, cities and neighborhoods. Such comparisons would lead the development of policy guidelines in national and local levels.

Finally, this study aims to pave the way to develop a model to measure QOL in Turkish cities. In this model there are eight dimensions, which are residential, transport, safety, environment, socio-cultural, recreational, educational and health related. Residential, transport and environment dimensions have the most parameters. Public transport, accessibility to educational and health facilities, aesthetics of the built environment, safety and security, clean water, air quality, educational facilities, solid waste disposal system, noise pollution, parks and green areas are the most mentioned parameters by researchers. Global and local institutions should collaborate with researchers to identify general parameters and collect data on spatial indices of QOL.

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