ASSESSING SUBJECTIVE QUALITY OF URBAN LIFE AT NEIGHBORHOOD SCALE

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Hasibe VELİBEYOĞLU

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We approve the thesis of **Hasibe VELİBEYOĞLU**

Examining Committee Members:

_____

Prof.Dr. Cemal ARKON
Department of City and Regional Planning, İzmir Institute of Technology

_____

Assoc.Prof.Dr. Semahat ÖZDEMİR
Department of City and Regional Planning, İzmir Institute of Technology

_____

Prof.Dr. H.Murat GÜNAYDIN
Department of Architecture, İzmir Institute of Technology

_____

Assoc.Prof.Dr. Şeniz ÇIKIŞ
Department of Architecture, İzmir Institute of Technology

_____

Assist.Prof. Dr. Ahu DALGAKIRAN ERDOĞAN
Department of City and Regional Planning, Dokuz Eylül University

01 September 2014

_____

Prof.Dr. Cemal ARKON

Supervisor, Department of City and Regional Planning
İzmir Institute of Technology

_____

Assoc.Prof.Dr. Adile ARSLAN AVAR
Head of the Department of City and Regional Planning

_____

Prof.Dr. R. Tuğrul SENGER

Dean of the Graduate School of Engineering and Sciences

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ABSTRACT

ASSESSING SUBJECTIVE QUALITY OF URBAN LIFE AT NEIGHBORHOOD SCALE

The subjective nature of quality of urban life (QoUL) has not been adequately addressed in the planning literature. Major aims of this study are to elaborate the notion of subjective QoUL as meaningful and measurable quality categories in terms of urban planning policy and to give additional information to urban policy makers and planners about needs of different socio-economic groups and their satisfaction with urban living.

This study explores the concept of QoUL defined as the performance level of urban life towards the needs and expectations of residents. The study uses Maslow's theory of human needs as a starting point to investigate subjective dimensions of OoUL. It explores this concept in a neighborhood scale as subjective evaluations gain significance while the geographic scale getting smaller. To address the significance and priority of subjective dimensions and to re-define satisfactory character of urban living Kano's Model is selected as an major analysis tool.

Using Kano's Model to understand and prioritize the impacts of urban needs over life satisfaction has become possible. This analysis method creates a basis of strategic action while transforming subjective perception to the understandable categories of quality. Given the limited public resources, policy makers need to find the most effective way of distributing them in line with the needs and the priorities of people. This can be achieved by using the results of the related research as input in the decision making processes.

Keywords: Quality of urban life, Subjective quality, Kano model, Maslow human needs theory

ÖZET

ÖZNEL KENTSEL YAŞAM KALİTESİNİN MAHALLE ÖLÇEĞİNDE DEĞERLENDİRİLMESİ

‘Kalite’ kavramı barındırdığı öznel yargılar nedeniyle ölçülmesi ve değerlendirilmesi zor bir olgu olarak planlama literatüründe gerekli itibarı görmemektedir. Bu çalışmanın temel amacı kentsel yaşama dair gelişen öznel algıyı kent planlama politikalarına girdi oluşturabilecek şekilde anlamlı ve ölçülebilir kalite kategorileri olarak tanımlamak ve farklı kullanıcı gruplarının ihtiyaçlarını, kentsel yaşamdan beklentilerini ve memnuniyet yaratan kentsel nitelikleri tarifleyerek kent plancıları ve karar vericilere yol göstermektir.

Çalışmada kentsel yaşamın kalitesi, barındırdığı nüfusun ihtiyaç ve beklentilerini karşılama düzeyi olarak ele alınmaktadır. Tanımdan hareketle; kullanıcı ihtiyaçları Maslow’un ihtiyaç hiyerarşisi piramidinden yararlanılarak kentsel yaşama adapte edilmiştir. Mahalle ölçeği yaşam kalitesi araştırmalarında anlamlı sonuçlar verdiği için analitik değerlendirmede tercih edilmiştir. Kentsel ihtiyaçlara dair kullanıcıların öncelikleri ve bu ihtiyaçların karşılanması durumunda oluşacak memnuniyet düzeyi ise toplam kalite yönetimi araçlarından olan Kano model ile değerlendirilmiştir.

Kano Model ile kentsel ihtiyaçların yaşam memnuniyeti üzerindeki etkisini anlamak ve önceliklendirmek mümkün olmuştur. Analiz yöntemi, çeşitlenen öznel algıyı anlaşılabilir kalite boyutuna taşıyarak bunları uygulanacak stratejik adımlar olarak tarifleyecek zemini oluşturmaktadır. Kenti yönetenlerin kısıtlı kamu kaynaklarını ihtiyaca uygun şekilde rasyonel dağıtabilmesi için kullanıcı beklentilerini ve önceliklerini bilmesi gerekmektedir. Bunu anlamaya yönelik yaklaşımların ve çabaların karar verme sürecinin parçası haline getirilmesi gerekmektedir.

Anahtar Kelimeler: Kentsel yaşam kalitesi, Öznel kalite, Kano model, Maslow ihtiyaçlar hiyerarşisi teorisi

To my beloved sons **Ozan** and **Deniz**:

without their love, the completion of this work would not have been possible.

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CHAPTER 1

INTRODUCTION

1.1. The Context

Concept of quality of life (QoL) has become more popular since urban societies have been increased throughout the world. The importance of QoL rises due to its close interaction with other key concepts like sustainability and livability. As indicated in Istanbul Declaration of UN's Habitat II Summit in 1996 "to improve the quality of life…particularly in developing countries…we must combat the deterioration of conditions…giving priority consideration to the tendency towards excessive population concentration; homelessness; increasing poverty; unemployment; social exclusion; family instability; inadequate resources; lack of basic infrastructure and services; lack of adequate planning; growing insecurity and violence; environmental degradation; and increased vulnerability to disasters" (UNCHS, 2001). Therefore, researches concerning QoL have been increased and the concept has been developed from standard of living to quality of urban life (QoUL) embracing the natural, social and economic spheres.

Cities with any kind of buildings, infrastructures, services and the population constitute complex and a dynamic whole. City administrators, city planners and other interest groups regarding managing and operating cities need to understand this complex structure and to cope with the present and future challenges. In this sense, measuring and analyzing QoL can be regarded as an operational tool for urban planning operations. Outputs from QoL studies are being used for purposes such as policy evaluation, monitoring the effects of policies on the ground, rating of places and formulation of urban planning and management strategies (Seik, 2001). Studies about QoUL also give important information to planners about needs of different socio-economic groups (demand side) and their perception and satisfaction with urban living.

In today's world, research within the interface of social sciences and urban studies have been focused on two different topics in QoUL. First one is subjective studies related to perceptional understanding of the world by people. In these studies, there is no agreed research formula exist but searching for new method and techniques. It is suggested that

environmental perception may vary according to people's socio-economic status and own cultural experiences. The second field of research is objective evaluation of quality living environments. In this line of thought, criteria and indicators come to a fore to detect changes in QoL. Therefore, QoL is regarded as a system of whole (such as physical, social and economic environments) which are measurable and understandable.

Recent researches on QoL are generally addressed to the determination of objective indicators in various geographical scales such as housing environment, neighborhood and the city. Some of these researches aimed at ranking urban settlements according to those objective indicators such as climatic conditions (i.e. air quality), demographic features (i.e. population density, household size and income, home ownership, unemployment rate, number of schools, crime), access to urban services and transportation (i.e. mix of uses, proximity to green areas, market places, hospital, distance to public transportation line and spot), ecological features (i.e. natural assets like forest, lake, river and the sea, flora) and so on. By weighting each of these criteria, a total score can be calculated for given geographical scale of the study. These scores are supposed to represent the QoUL of this settlement. There are two main critics regarding these studies: Firstly, an evaluation criterion of the selected settlement has been determined according to subjective judgments of the researchers. Secondly and the most importantly, resultant ranking does not measure how local residents think about QoUL in their settlements. Moreover, possibility of 'quality of urban life may vary among different segment of the society' was totally neglected (one size fits all approach) (see Marans, 2007).

In sum, QoUL does not only depend on objectively measured condition of physical urban environment but also depends people's perception of living environment symbolizes with their needs and expectations. Therefore, this study focuses on what does significant features of QoUL mean to people. Such an approach can be considered as useful for a couple of reasons: Firstly, real quality perception can be depicted based on the experiences of people live there. Secondly, it will create a unique opportunity for urban managers and planners to know wider about relative importance of users' perception on QoUL.

1.2. Aim of the Study

QoL refers to the wellbeing of people and the environment in which they live. From the standpoint of people, QoL consists in degree of fulfillment or satisfaction of their basic needs. In this study, QoUL is defined as 'the performance level of urban life towards the needs and expectations of residents' (Baycan Levent and Nijkamp, 2006). The aim of this study is to:

a) ***give additional information to urban policy makers and planners*** about needs of different socio-economic groups and their satisfaction with urban living (Research Questions 1, 2 and 3)
b) ***elaborate the notion of quality of urban life*** as meaningful and measurable categories informing planning policy and practice (Research Question 4).

To this end, objectives of the study are (1) emphasize importance of the need to the different user groups in terms of its relative contribution to their QoUL, (2) provide the additional information crucial to evaluating user's perception for long-term improvement in QoUL (3) find out subjective quality dimensions of users regarding to urban environment attributes at neighborhood level (4) and neighborhood level use of 'Kano model', a quality management method effective in measuring voice of customer, in order to evaluate residents' QoUL that is subject to heterogeneity and various perceptions.

1.3. Relevance of Research and Contributions to Field

Concept of QoL has been attracted many researchers since the beginning of 1980s. QoL is a vague concept. Today, there is no single agreed definition of QoL due to the ever changing context of the term parallel to global economic, technological and social changes. More than half of the world population live in cities. The United Nations projected that, by 2050, it is predicted that 64.1% and 85.9% of the developing and developed world respectively will be urbanized. Therefore, measuring and improving QoL has become one of the major issues in urban studies and policy making. Economists and geographers measure QoL using objective indicators like income, housing expenditure, public school quality and urban amenities (Boyer and Savageau, 1981; Liu, 1976) Social psychologists, on the other hand, use QoL interchangeably with subjective

concepts like happiness (Van Kamp, Leidelmeijer, Marsman and De Hollander, 2003) Scholars have long questioned the validity of using objective indicators such as income, housing quality and access to amenities to measure QoL (Dissart and Deller, 2000; Landis and Sawicki, 1988; Wish, 1986) Largely due to the difficulty in measuring subjective qualities (Liu, 1976) and the belief that such measures are not very useful in policy formulation (Myers, 1988), the subjective nature of QoL has not been adequately addressed in the planning literature.

From a policy perspective, a reasonably good and useful conception of QoL is an individual's perception, evaluation and satisfaction with various aspects or domains of their life (Campbell et al., 1981). As Marans (2003) suggested, such conceptualization leads to measurable parameters that can also capture subjective feelings. Five major life domains are generally considered important in assessing QoL: employment and career, family life, personal health, social relationships, and residential environment. Of these, only residential environment is within planners' realm of influence (Yang, 2008)

Myers (1988) suggested that, for planning purposes, QoL may well be defined as residents' satisfaction with their environment. Residential satisfaction can be defined as the degree to which people perceive their residential environment as able to meet their needs and further the attainment of their goals. Perceived environments depend both on the environment's objective attributes and how residents see these (Yang, 2008).

Studies conducted in recent years in Turkey are directly intended to measure the QoUL (Süher et al., 1999; Türksever and Atalık, 2001), to compare places and to assess the preferences of respondents in selection of place and residential satisfaction (Türkoğlu, 1997; Dökmeci and Berköz, 2000). In studies, socio-economic characteristics of users (age, income, gender, education, birthplace, occupation, family size, length of time in city and district), relations with the housing environment and the QoUL are questioned. Türkoğlu (1997) has assessed the change in residential satisfaction of the respondent in residential settlement areas which have been evaluated in four groups in Istanbul (central neighborhoods, newly planned neighborhoods, traditional squatter neighborhoods, new squatter neighborhoods). Study by Berköz and Kellekçi (2007) shows that the overall satisfaction obtained from the housing environment increased together with the level of income. Erdoğan et al. (2007) have investigated people's housing satisfaction in modern and historical neighborhoods in Edirne. The other research developed by Berköz et al. (2009) examines whether there are any differences among the factors influencing housing and environmental quality satisfaction for mass housing users on location choice (central

districts and peripheral districts) at the metropolitan level. Berköz (2009) presents comparative results of a study which is done for gated and non-gated communities in Istanbul. The purpose of the study was to assess the factors that improve housing and environmental satisfaction in gated (single-family) and non-gated housing developments in Istanbul. The only exception of Istanbul-based studies on QoUL is Famagusta, Northern Cyprus that Oktay and Rüstemli (2010) have studied measuring the perceived QoUL.

QoUL literature in Turkey has gained impetus after 2000s. Nearly all of them are related to QoL of Istanbul including different geographical scales (housing, neighborhood and city level) and indicators. Significance of this study can be explained under three headings:

- Firstly, this study is the first among the QoUL studies outside Istanbul. The focus here is Izmir (in a neighborhood level), the third biggest metropolitan city in the Aegean coast of Turkey.
- Secondly, description of user expectations and perceptions are translated to QoUL studies by using a need-based approach (other than the social indicators approach). To this end, a preeminent model of Maslow's 'Hierarchy of Needs' is applied to describe the components of QoL in urban environment. Based on Maslow's theory, these needs are grouped as 'basic level needs' (i.e. shelter, urban environment, security and social) and higher level needs (i.e. self-esteem and self-actualization).
- Lastly and the most importantly, a new approach is used in QoUL research to analyze people's needs and expectations from their living environment. To understand the assumed needs on the level of residents' satisfaction, Kano's Model, well-known in quality management studies, is applied. This model is a quality measurement tool used to prioritize user requirements based on their impact to user satisfaction. It is used to determine which requirements are important. It also provides two-dimensional quality perception that gives us clues whether certain user needs are completely, partially or barely fulfilled. Although Kano's Model is an operational tool in business economics, engineering, computer science and strategic management, there is not known example in urban studies and research concerning QoUL. Therefore, for the first time, Kano Model is used in QoUL research in this study (see Chapter 3 for more details).

1.4. Methodological Approach

QoL is a multidimensional concept that many theoretical approach and analytical techniques have been developed. In order to understand the pros and cons of these measurement methods, a comprehensive literature review has been conducted. Studies have been reviewed concerning QoUL and housing satisfaction and related variables and indicators were determined. In this study, a mix method approach is adopted to analyze criteria of QoUL via need-based theory. To this end, research questions are asserted and associated method and techniques are given below:

RQ1: How do we analyze needs and priorities of people in a heterogeneous neighborhood?

Subjective dimensions of QoUL are composed of users' characteristics, experiences and the attributes of their living environments. In the study, concerning subjective dimensions of QoUL, a neighborhood environment is chosen as a unit of analysis. Because, neighborhood can be regarded as the important component of shaping the perception of QoUL. Studies in the literature generally apply multiple case studies that have different neighborhood characteristics (modern-traditional, old-new, high density-low density etc.) and compare with each other referring to changes in the perception of satisfaction (Topçu and Dökmeci, 2005; Erdogan et al., 2007; Türkoğlu et al., 2007; Oktay et al., 2009). In this study, four heterogeneous housing environments located in the same neighborhood are explored. Quality perception of residents in the neighborhood is analyzed through Kano's Model. By applying this model, it is claimed that urban needs belonging to their residents can easily be explained via quality categories that helps to understand priorities and requirements of the people.

RQ2: Which specific attributes of urban environment are users most satisfied or dissatisfied with?

The social and physical environment of an area can influence the wellbeing of people residing in that area. The external environment does not influence everybody's life the same way. The term 'quality' is subjective, and that the most appropriate method of exploring QoUL is to directly ask people their feelings and satisfaction regarding urban life to gain a better understanding of factors which effect their quality of urban living. Therefore, components creating satisfaction/dissatisfaction of users will be determined with a resident survey in the housing, neighborhood and the city scales.

RQ3: What is the effect of socio-demographic characteristics on people's perception of quality of urban living?

The objective qualities of the same place can be perceived in different ways by its inhabitants according to their personal characteristics, such as age, gender, education, profession, previous spatial experiences and expectations and so on. A place can be alive and attractive; secure and controlled; and also easy to access. However, all attributes at the end will be perceived by individuals according to their personal characteristics. A multivariate analysis will be applied to understand the impacts of socio-demographic characteristics (i.e. age, marital status, child number, education, gender, homeownership, homesize, income, occupation, duration of stay) upon the satisfaction level of housing, neighborhood and the city environment.

RQ4: How does Kano Model inform the urban decision making process?

Notion of QoUL can be effective whether it could inform the urban decision making process. Existing information on QoUL is largely non-exist in Turkish context, at best, based on readily available objective QoL indicators (i.e. mortality rate, air quality). However, additional information is needed to elaborate urban strategy process that can be met via measuring subjective QoL. As previously mentioned, transforming these subjective qualities as meaningful and measurable categories requires new tools and techniques that help beyond defining and understanding the concept. In this respect, Kano Model is applied and its possible role in urban decision making process explained.

Methodological approach of the study is given in Figure 1.1. A neighborhood scale analysis are concerned in this study to scrutinize subjective dimensions of QoUL. Urban needs of the residents are defined based on Maslow's Hierarchy of Needs Theory; impacts of priorities and needs over satisfaction is analyzed by mixing qualitative and quantitative methods (triangulation).

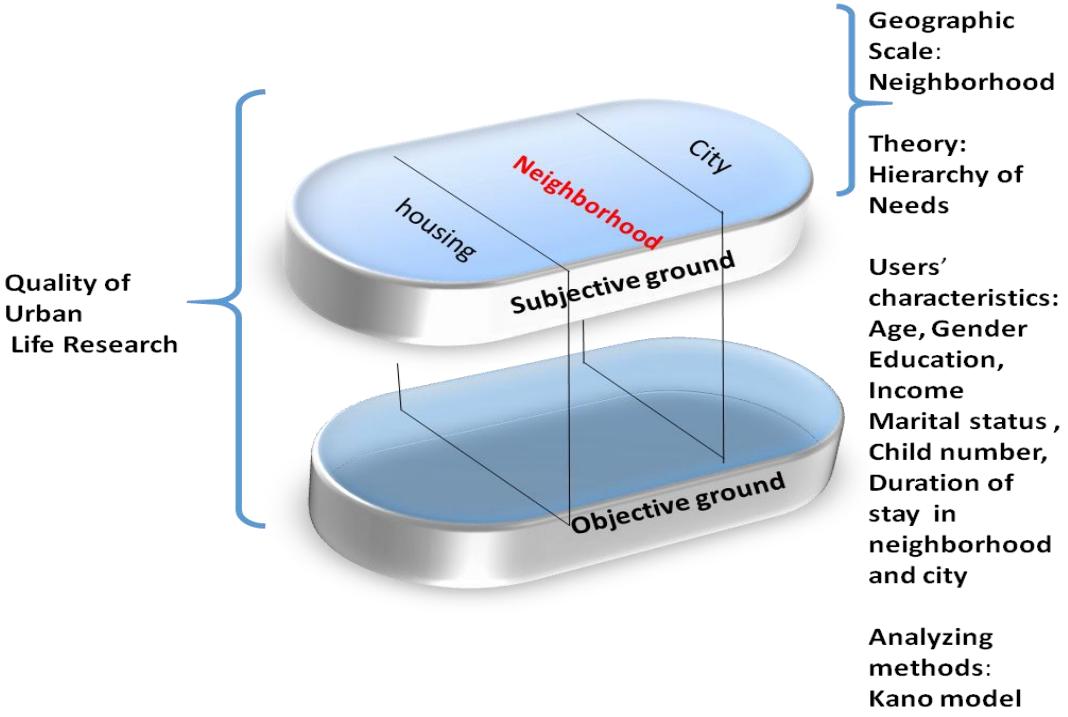


Figure 1.1. Conceptual scheme of the study methodology

1.5. Structure of the Thesis

General flow of the study is given in Figure 1.2. Following the introduction, chapter two investigates the QoUL literature in detail. Theoretical approaches to the notion of QoL, quality and need dimensions and extent of QoUL in urban planning and design are elaborated.

In chapter three, as an effective quality management analysis tool, Kano's model is scrutinized. The model's application areas, its place in the quality literature, benefits/critics and challenges of the model are discussed.

Preliminary survey and testing of case study is explained in chapter four. Research design, definition and selection of need dimensions, building of Kano questionnaire are clarified in this chapter.

Chapter five is based on discussion of the main study results in Evka3 Neighborhood. Effects of urban needs upon satisfaction and priorities are discussed regarding the geographical scale of housing environment, neighborhood and the city. Besides, socio-demographic characteristics of the residents are discussed.

Finally, under the light of survey findings, initial research questions of the study are discussed and some implications were made regarding urban strategies and policy making process. The chapter concludes with recommendations and further areas of research.

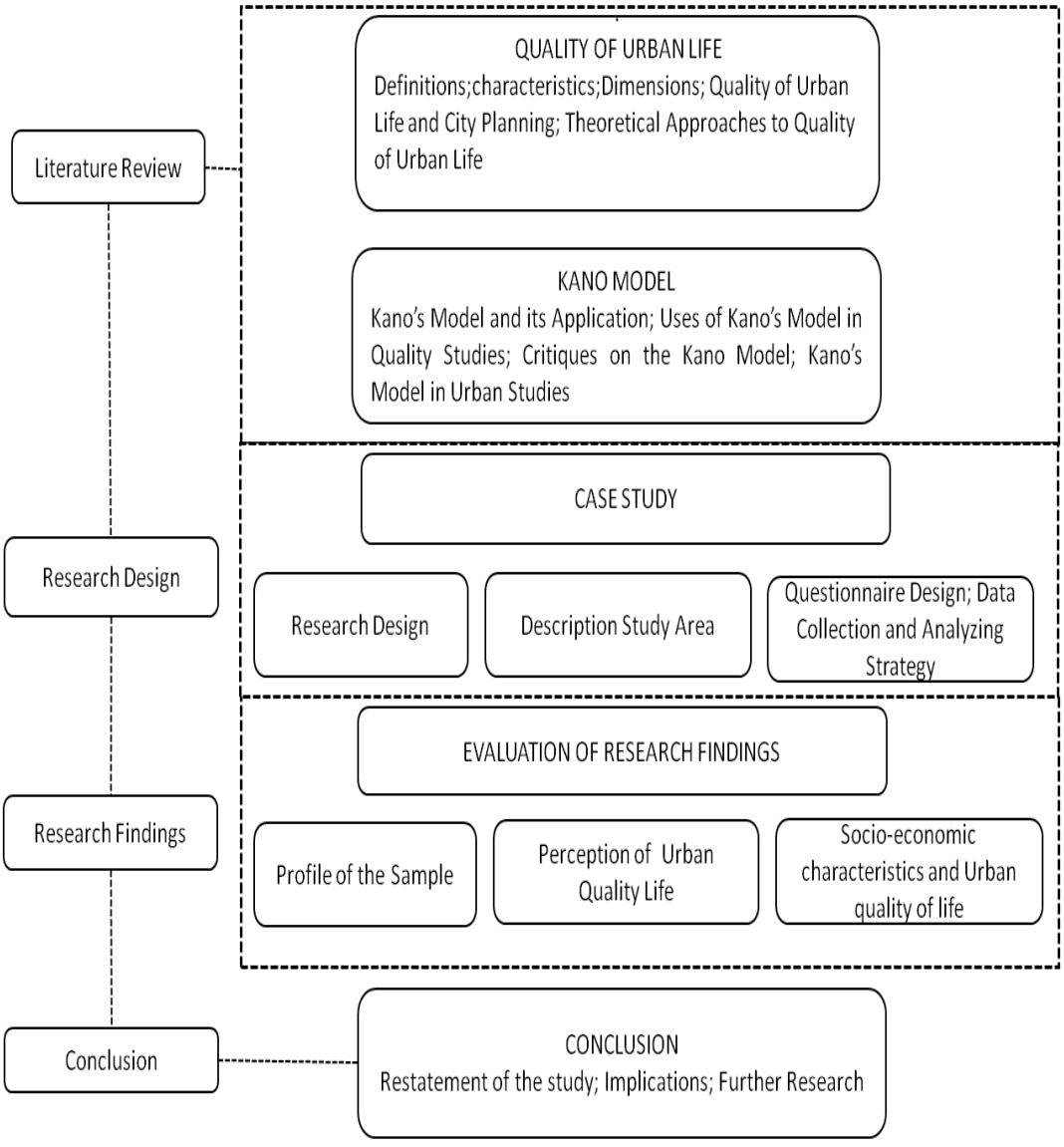


Figure 1.2. Structure of the study

CHAPTER 2

LITERATURE REVIEW

2.1. Quality of Urban Life: Definitions and Characteristics

For the term 'quality' The Concise Oxford Dictionary provides the following definition: "The standard of something as measured against other things of a similar kind; the degree of excellence of something". In customer-oriented quality perspective, Peter Drucker (1985) defines quality as "Quality in a product or service is not what the supplier puts in. It is what the customer gets out and is willing to pay for. Customers pay only for what is of use to them and gives them value. Nothing else constitutes quality". This user-driven definition of quality refers to perception that the customer has of the product or service based upon that person's evaluation of his/her entire experience. Although quality of product or service can easily be quantified regarding to their physical or functional attributes there needs to be sensory evaluation of what people perceive about this experience. This tension of 'objective' and 'subjective' measurement of quality is highly implicit to QoUL research.

Quality of life refers "to the more or less good or satisfactory character of people's life" (Szalai 1980). QoL can mean different things to different people, encompassing such notions as "well-being" centered on the individual to "good place" centered on the location (Dissart and Deller, 2000). It can also be classified under many different terms, ranging from "life satisfaction", "life quality," "healthy cities indicators" or "sustainability indicators". QoL literature indicates that there is no universally accepted definition of QoL. Yuan et al. (1999), for example, found more than hundred definitions regarding QoL have been noted in the literature. Major definitions of QoL as follows:

> "Life quality refers to the degree of excellence or satisfactory character of life. A person's existential state, well-being, satisfaction with life is determined on the one hand by exogenous (objective) facts and factors of his life and on the other hand by the endogenous (subjective) perception and assessment he has of these facts and factors, of life and of himself" Szalai (1980).
>
> "QoL as an individuals' perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards, and concerns" (World Health Organization Group, 1994).
>
> "The shared characteristics residents experience in places and the subjective evaluations residents make of those conditions" (Myers, 1988).

QoL is multi-layered concept because it is representation at the level of individual, family and community, and it is multi-dimensional in its reflection of various aspects of life like economic, social and physical dimension and, it has different geographical scale ranging from local to global (street, neighborhood, city, state, country etc.) (McCrea et al., 2006; Pacione, 2003). These all can complicate the understanding and application of QoL.

Although no consensus has been reached on the definition of the QoL, most researchers would agree that objective as well as subjective indicators are necessary in defining the concept. Subjective indicators allow us to gain insight into the well-being/satisfaction of a person, and insight into what people consider important. They contribute to the commitment of people to their environment, and to the creation of public support. Objective indicators are necessary for aspects of the urban environment that are hard to evaluate, they form the point of departure for environmental policy and enable the validation of subjective measures (van Kamp et al., 2003).

The studies in the literature of QoL have generally focused on three main subjects: individual well-being, health-related quality of life and urban quality of life (Table 2.1). While individual well-being and health-related QoL focus on the person, urban quality of life is primarily related to the environment. The study on the urban quality of life in the cities of both developing and developed countries is gaining interest from a variety of disciplines such as urban planning, geography, sociology, economics, political science, marketing and management (Andrews 1999; Foo et al. 1999).

Table 2.1. Research domains in QoL

Individual / personal well-being	**Health-Related QoL**	**Environmental or Urban QoL**
Related Discipline: Psychologist or sociologist	**Related Discipline**: health care field (including nursing, medicine and health promotion, learning disabilities and other types of disability, including mental health)	**Related Discipline**: Economy, Geography, Urban Planning, Political science
Research area: What makes a man happy	**Research area**: importance of environmental and social forces for health status	**Research area**: relationships between people and environment

Quality of Urban Life

QoUL is influenced by all aspects of urban environments which encompass the natural, built, social and economic environments. Because of the complex nature of QoL researchers in different disciplines develop conceptual frameworks to scrutinize and measure the concept. The value of working with a conceptual framework comes from its support in providing unique insights into complex issues. In the following section the emphasis is given to the literature aimed to understand QoUL via different conceptual frameworks targeting urban or geographical settings.

The term 'QoUL' is generally taken to mean the general well-being of people and the quality of the environment in which they live. In general, it refers both subjective and objective assessments of urban living (Dissart and Deller, 2000). Various terms and concepts concerning QoUL can be found in the literature such as 'urban environmental quality', 'livability', 'quality of place', 'residential perception/satisfaction' and 'sustainability'.

Shafer et al. (2000) describes a conceptual framework which gives a picture of how the concepts of livability, QoL and sustainability related to each other. In this approach, livability is considered to be the resultant of the interaction between the physical and social domain, sustainability as the resultant of the interaction between the physical and economic domain. The interaction among these three domains is defined as quality of life (Figure 2.1). In spite of its broadness, the major advantage of this integrated approach is that it offers points of departure for both policy tools and assessment purposes. One of the fundamental implications of this approach is that social, spatial, economic, environmental and land-use planning cannot be thought in isolation. For example, in order to ensure social cohesion, the benefits of economy must-be distributed in socially equitable way. In addition to this, economic activity must-be sustainable, should not deplete natural resources or pollute the environment in such a way that it impairs the ecosystem.

Van Kamp et al. (2003), on the other hand, suggests that the concepts as livability, living quality, living environment, quality of place, residential perception and satisfaction, the evaluation of the residential and living environment, quality of life and sustainability do overlap, and are often used as synonyms but every so often are contrasted. For instance, the object of sustainability is the future (the person-environment fit in the future), while livability and quality of life are focused on the 'here and now' (van Kamp et al., 2003).

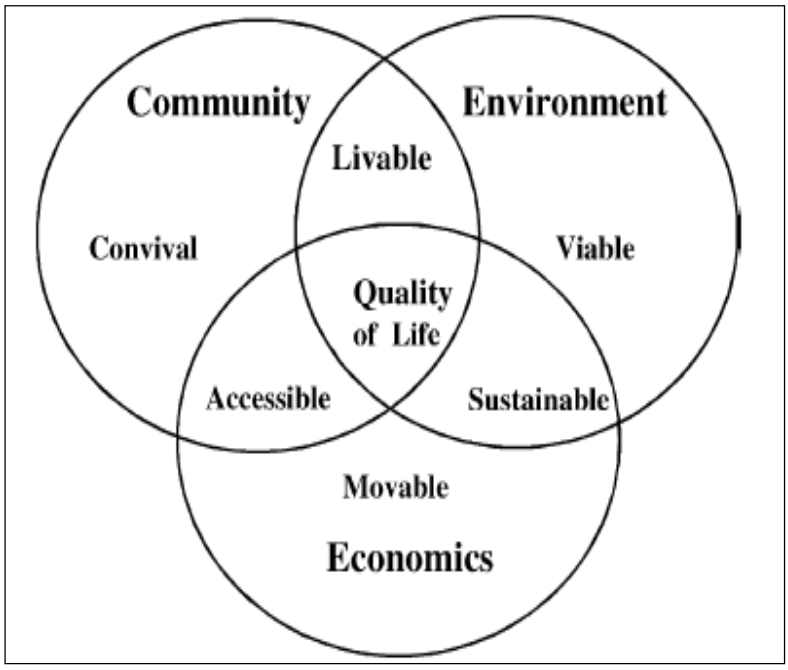


Figure 2.1. QoL in a human ecological perspective
(Source: Shafer et al., 2000)

Baycan Levent and Nijkamp (2006) define QoUL as the performance level of urban life towards the needs of communities or societies. In other words, QoUL refers to the degree of excellence or satisfactory character of urban life. They evaluate the term from a taxonomic perspective addresses several dimensions of QoUL ranging from environmental to social and economic components (Figure 2.2). The authors indicate the concept of quality, environmental quality, QoL, measurement of QoL, livability, and sustainability, as well as the associated concepts such as well-being, satisfaction, and performance. They evaluate multidimensional aspects of QoUL, while addressing the implications of spatial and urban planning policies with respect to these dimensions.

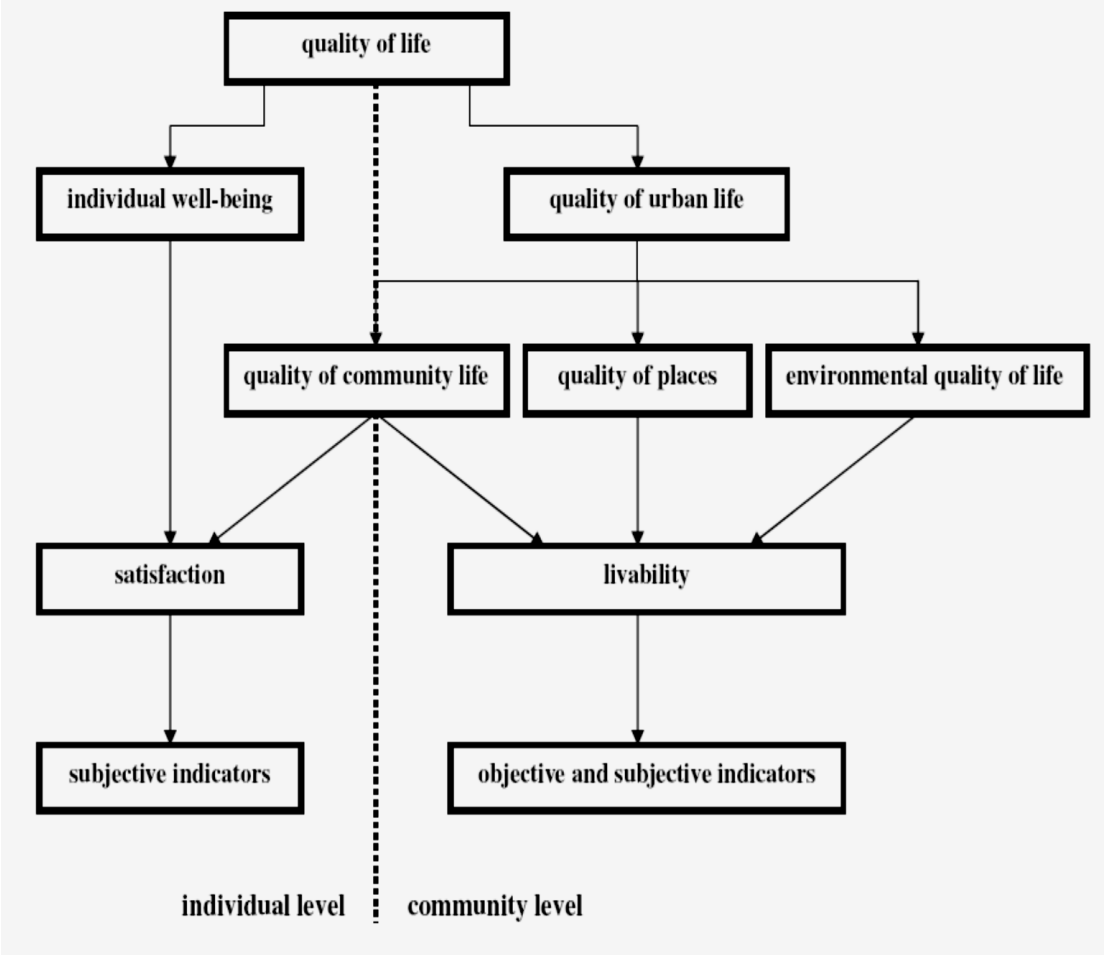


Figure 2.2. Components of QoL
(Source: Baycan Levent and Nijkamp, 2006)

Campbell et al.'s (1976) research illustrating relationship for different domain satisfactions is one of the earliest and highly referenced conceptual frameworks in QoL literature. The authors believed that context and evaluator or person characteristics are important to understanding QoL. Context is considered to be the actual conditions of life or what they referred to as objective attributes. They measured and compared people's assessments of several domains of their lives as well as "life as a whole", and determine the degree to which each domain explained the QoL experience. They suggested that domain satisfactions were a reflection of people's assessments and perceptions of domain attributes which in turn, were influenced by the objective attributes (characteristics) themselves. It was asserted that quality of a place or geographic setting (dwelling, neighborhood or city) was a subjective phenomenon, and that each person occupying that setting may differ in his/her views about it. Furthermore, those views would reflect their perceptions and assessments of a number of setting attributes that could be influenced by

certain characteristics of the occupant, and his/her needs and past experiences. The model in Figure 2.3 shows these relationships for different residential domains and how these domains together with other domain satisfactions contribute to QoL. In this model, various domain satisfactions including place satisfaction are considered important outcomes worthy of study from both a theoretical and policy perspective. For instance, policy makers are concerned with the well-being of constituent satisfaction with conditions that their policies may alter. Often, policy makers want to know the most effective means of enhancing satisfaction. There is general agreement that satisfaction as an indicator of individual well-being is an important outcome in QoL research (Figure 2.3 and Figure 2.4).

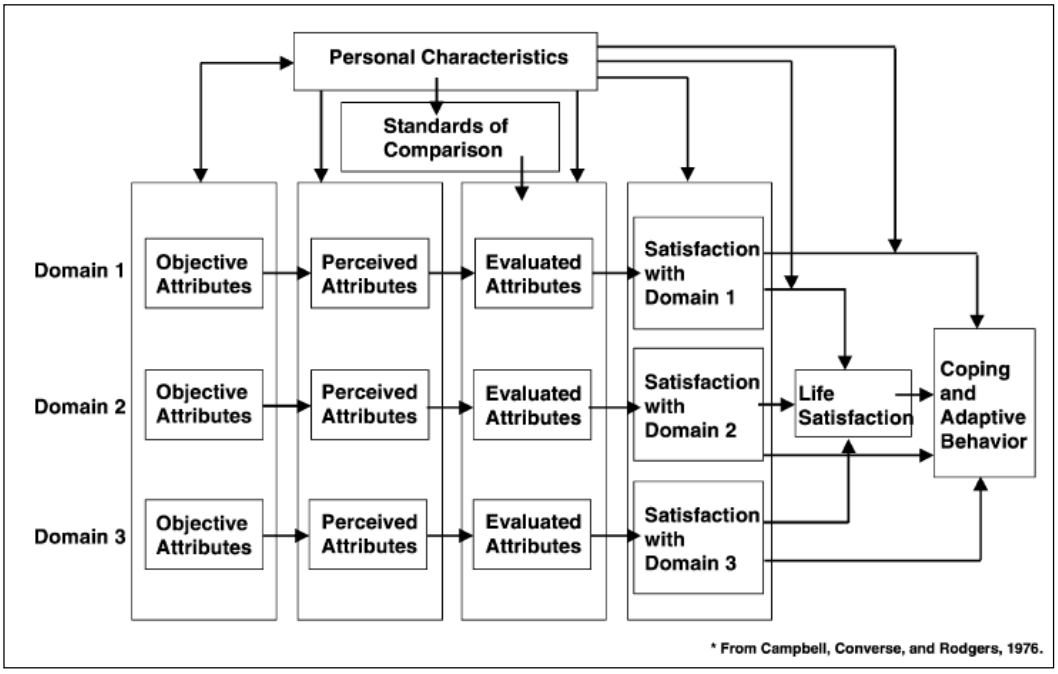


Figure 2.3. Model showing relationship between domain satisfactions
(Source: Campbell et al., 1976)

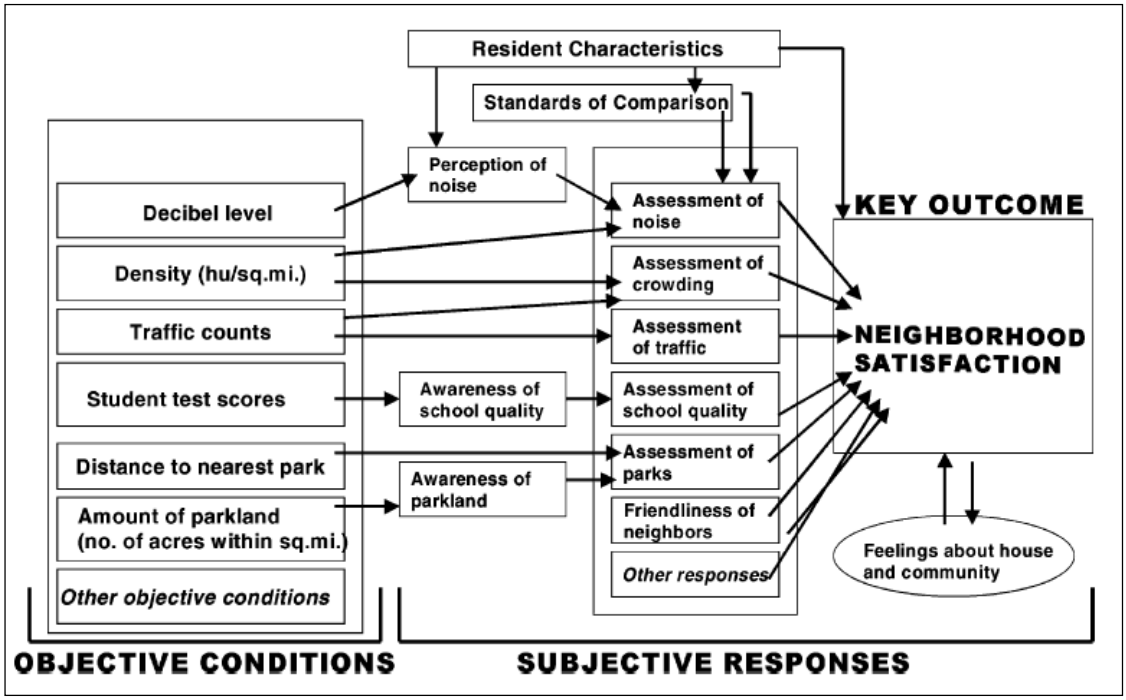


Figure 2.4. Objective conditions, subjective responses, and neighborhood satisfaction (Source: Campbell et al., 1976)

Milbrath (1978) makes a distinction between "environmental conditions" which can be measured objectively and the "environmental quality" which is measured based on subjective perceptions. Some examples of environmental conditions include the levels of air and water quality, the number of hospital beds per resident, mean temperature or rainfall for an area, gross national product per capita, average level of education for a region and average area of indoor housing space per person. Environmental quality deals with such aspects as the quality of housing, waste management and urban infrastructure measured through the user's perception. Such perception may be different for gender, age, education, income. Milbrath conceives the environment as a collection of elements or stimuli that impact on the individual. He proposes a framework with approximately 130 specific elements to be included in the definition of environment. For each of these, it is possible to make a diagnosis of the conditions as well as an evaluation of the quality.

Similarly, Mccrea et al. (2005) indicate that QoUL has been defined in two broad ways according to two measurement traditions. In the 'objective measurement' tradition, QoUL has been conceptualized as a weighted average of various objective measures of the urban environment like actual crime rates, pollution levels, and housing costs. In the subjective measurement tradition, QoUL has been conceptualized as satisfaction in a

number of urban domains (e.g. housing and neighborhood satisfaction), which in turn contribute to overall life satisfaction along with satisfaction in other life domains.

Rogerson (1999) conceptualizes QoL by determining the concept of 'environmental quality of life' which refers to a combination of material and personal life arena (Figure 2.5). The material life arena consists of a series of goods, services and other attributes related to the social, physical and economic environment in geographical space within which people live. The personal life arena has shown by characteristics of people and assessment of their own well-being and satisfaction. This conceptual model has been applied to an urban project in Istanbul by Türksever and Atalık, in 2001.

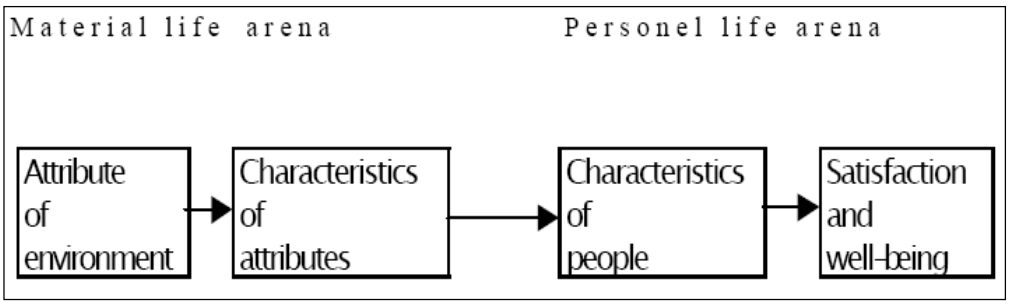


Figure 2.5. Conceptualization of environmental QoL
(Source: Rogerson, 1999)

Murdie et al. (1992) attempted to develop a conceptual framework for QoL in an urban setting that incorporated a substantial number of elements taken from traditional writings on the concept (Figure 2.6). This framework has four main components:

- The first outlines the social, political and economic context in which the municipal government makes its decisions. It measures the influence of local conditions on QoL.
- The second includes quantitative measurements of objective inputs that typify the municipal environment and local facilities.
- The third covers measurements of intermediate outputs, which constitute the results of input measurements. For example, per capita spending on secondary education (an input measurement) can be tied to the drop-out rate in secondary schools (an output measurement).
- The fourth and most complex component is based largely on qualitative data. It is assumed that overall satisfaction with QoL is indirectly affected by a household's characteristics, which are themselves affected by personal characteristics. These

two kinds of characteristics can alter perceptions of objective reality and interpretations of the difference between what is possible or desirable and what is actually going on.

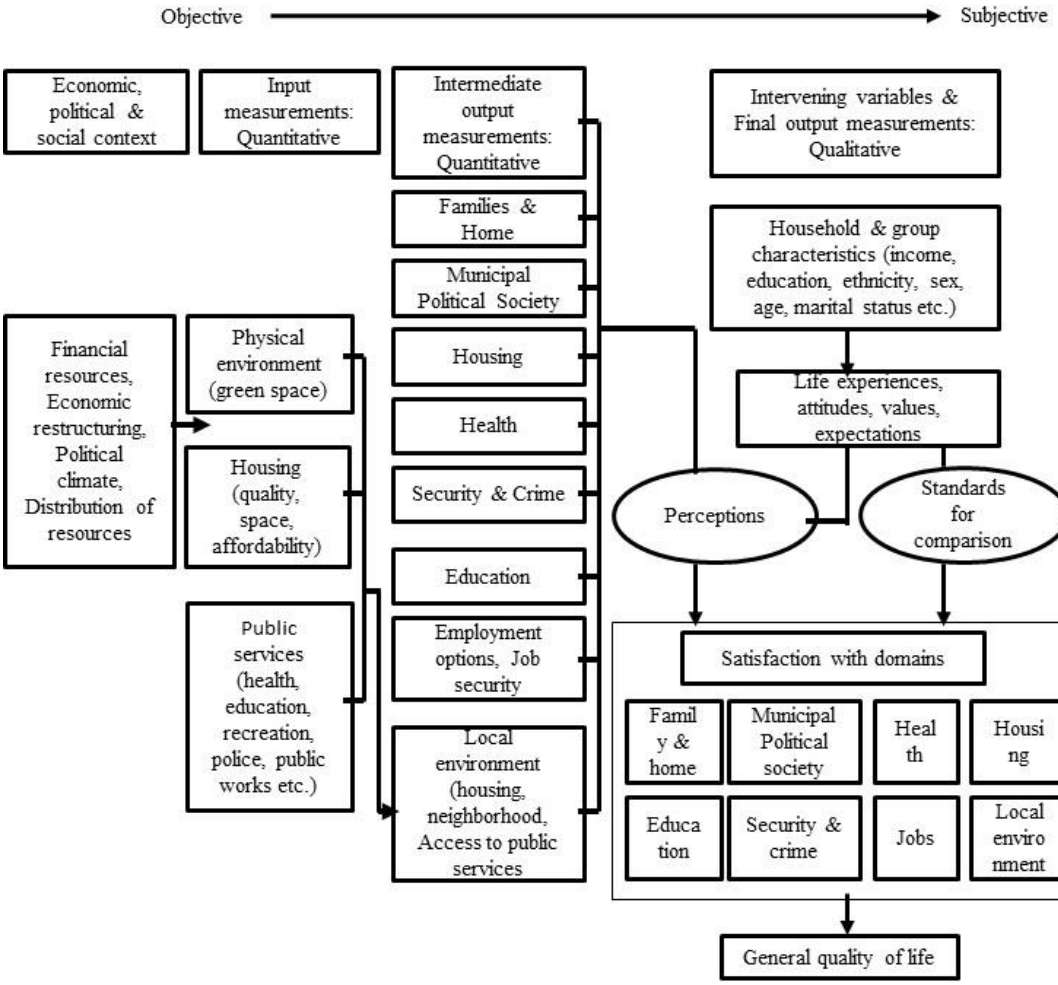


Figure 2.6. Conceptual Framework of Urban QoL
(Source: Murdie et al., 1992)

As an urban planner's point of view, Myers (1988) developed a conceptual model of how QoL interacts with broad process of urban development. His model identifies planning's pivotal position in a system of relationships and leads to greater understanding about QoL and its measurement strategy (Figure 2.7). In this model, the relationship is an outer loop running from QoL to business attraction, to urban growth and back to QoL again. QoL encourages economic development; however the resulting urban growth alters QoL. The other relationship shows that planning helps mitigate the damaging effects of growth, an important complement to its other role of promoting economic development.

He says that QoL changes in time. Urban amenities (i.e. arts, restaurants and entertainment) and job opportunities improve with development; other aspects of QoL generally decline. If the community's distinctive attractions originally were urban, residents probably will perceive the net QoL change as positive. However, if the community's distinctive attractions were rural or small town, residents' perceptions probably will be negative. Development of urban amenities is a strategy to improve the overall QoL by offsetting the deterioration of other components.

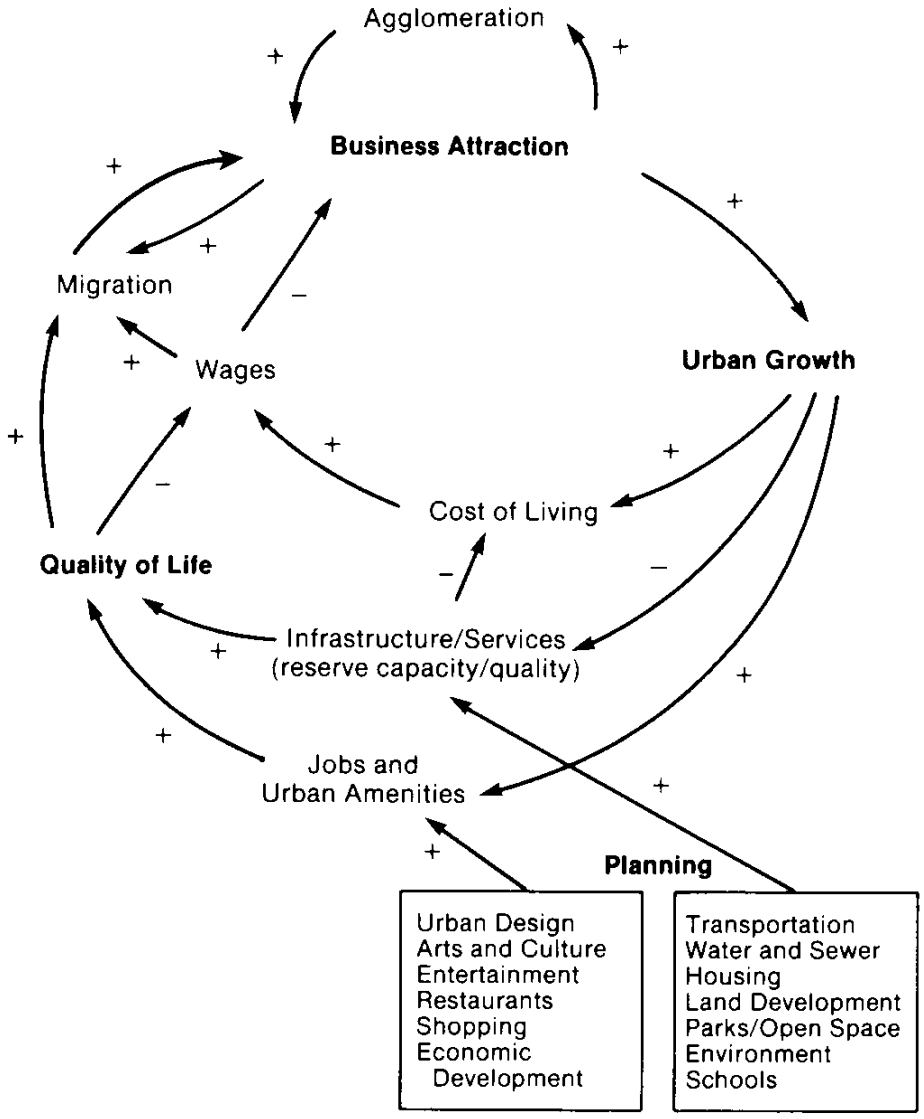


Figure 2.7. QoL in Urban Development Process
(Source: Myers, 1988)

Myers (1988) has also developed community trends approach which major assumption is to measure and uniquely define QoL for the specific community (see

Section 2.2 for further discussion). The community-trend approach stresses the role of QoL within a system of ongoing development process. The author emphasizes that although comparisons with other places can be informative, the crucial information need is for locally specific, longitudinal measurement of QoL.

Like Myers (1988), Pacione (2003) stresses the importance of time frame in QoL studies applied to specific urban settings. He addresses urban environmental quality and human wellbeing from a various socio-spatial contexts, and presents a five-dimensional model for study of the QoL, and scrutinizes the major theoretical and methodological issues confronting QoL research (Figure 2.8). This model addresses the following core issues:

- domains (level of generality/specificity),
- scale-level (geographical scale from international to local),
- time frame,
- indicator type (objective/subjective) and
- social groups (by class, age, etc.).

Five-dimensional model of Paccione (2003) has great value for the structuring of QoL indicators while taking into account specific contexts. This model has been applied in Spatial Deconcentration of Economic Land Use and Quality of Life in European Metropolitan Areas (SELMA) Project (2006) which was a three-year project analyzing the effects of economic deconcentration on QoL in 14 European metropolitan cities.

Another prominent researcher in the field, Robert Marans (2003) emphasizes that the quality of any geographic setting cannot be captured with a single measure, measures of the multiple attributes of the setting are needed. His approach is also based on a longitudinal measurement of QoL in terms of experiences. The main argument of the approach is the changes over time. Both the changing dynamics of cities and also the changing behaviors of citizens have structured the skeleton of these approaches. Therefore, instead of a static concept, QoL has become dynamic concept focuses on the urban development process from a longitudinal perspective. This perspective requires the new measurement indicators which consider the changes over time, these new measures must not only be able to be descriptive of a current situation, but must also able to be predictive of unbuilt situations.

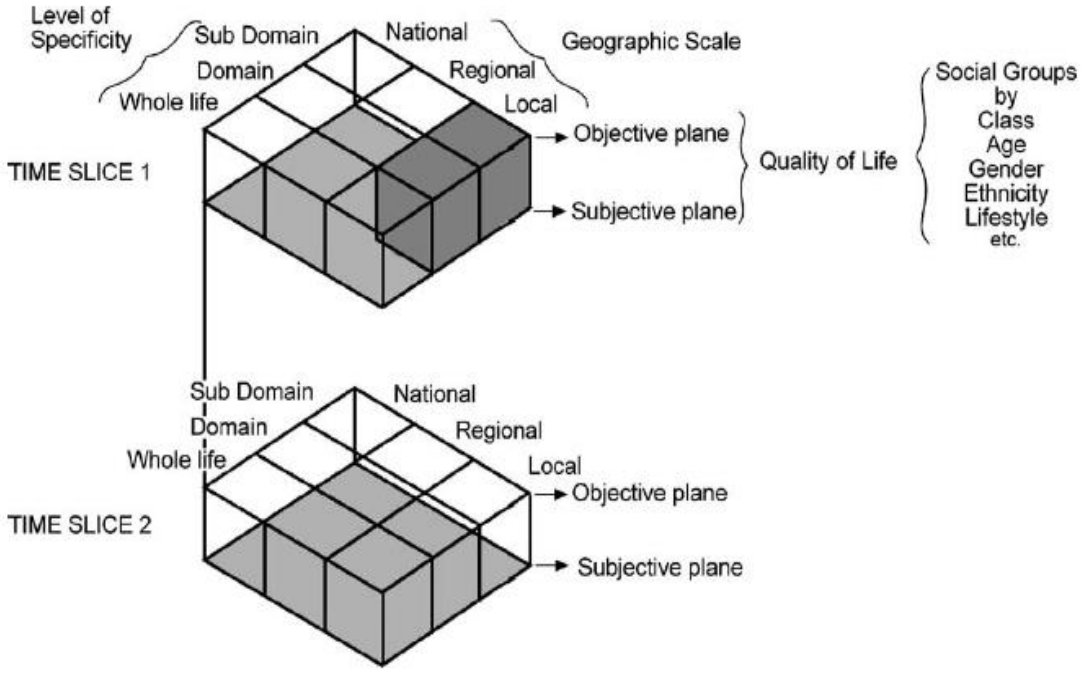


Figure 2.8. Five-dimensional model of QoL
(Source: Paccione, 2003)

In addition, to be effective, the measurements should be credible within a political, policy making context. Figure 2.9 presents a basic model indicating that policy makers and planners rely on available information in their deliberations and actions. In democratic societies, they also listen to and have input from their constituents (the public). But often, they require new or up-to-date information which in turn can drive a research agenda. The results of the research can then satisfy the informational needs of the policy makers and planners. Those results made available to the public through the media and the Internet creates a more informed citizenry. The model has guided Detroit Area Study (DAS) in 2001. Then, Baran et al. (2006) applied this model to study within Istanbul Metro Area in 2006.

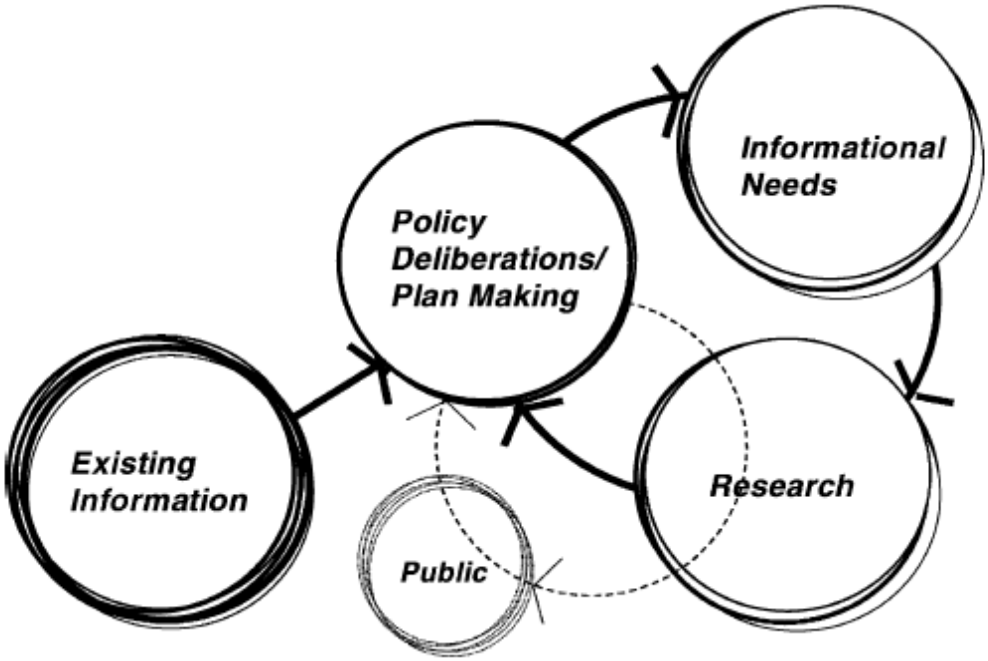


Figure 2.9. Basic model showing relationship between policy, planning & research (Source: Marans, 2003)

Fadda and Jiron (1999) analyzes of QoL from an environmental and gender perspective. They stated that perceptions may vary according to gender relations, needs and roles, and to access resources; and decision-making processes within the household. These concepts need to be evaluated, so as to know, how satisfied users and those concerned are with their habitat. This can provide necessary criteria for designing methods in order to obtain direct, subjective and objective information. Their empirical analysis of QoL from a gender and an environmental perspective illustrates that definitions like “human beings”, “people”, “communities” and “households” are treated as homogeneous groups when, indeed, they contain a diversity of relations that can not necessarily be classified as having the same needs. Gender cuts across all other social relations such as class, ethnicity, age and religion.

This brief review of conceptualization of QoUL suggests that there is no generally accepted conceptual framework has been developed. It can be said that a broad range of disciplines addressed different aspects of QoUL based on different notions and theories. The next section will specifically focus on the literature that has offered a number of different approaches for measuring QoUL.

2.2. Studies Measuring Quality of Urban Life

Myers (1988) has developed a very useful classification that summarizes the major alternate approaches to measuring QoL in literature (Table 2.2):

1. *the personal well-being approach* which measures life-satisfaction of individuals;
2. *the livability comparisons approach* which focuses on comparing different urban areas according to a number of objective indicators assumed to reflect quality of life;
3. *the market/resident approach* in which housing price and/or wage differentials are theorized to compensate for QoL differences between urban areas; and
4. *the community trends approach* which stresses the role of QoL within a system of ongoing development processes.

At the personal well-being level, QoL represents the individual's perception of his/her position in life in a social and cultural context. Two theoretical approaches, 'bottom-up theory' and 'top-down theory' have been developed to understand QoL from the perspective of a person. While 'bottom-up theory' looks upon QoL as the sum of many small pleasures received from 'outside', the other 'top-down theory' assumes that the person 'inside' has certain qualities or traits that enable him/her to experience life in a positive way more or less independently of outside events. QoL might be also related to some other factors such as the individual's feeling of having succeeded in achieving personal goals or depending on 'comparison theory' one should be happy if proximate others are worse off, and unhappy if proximate others are better off (Cramer et al., 2003).

When applied to the urban setting, the concept of QoL is usually measured and evaluated by 'objective' and 'subjective' indicators. While objective indicators describe the environments within which people live and work, subjective indicators describe the ways in which people perceive and evaluate conditions around them. Many studies have concentrated on objective measurement of QoUL to compare and rank cities or places. These livability comparison studies use standardized data for comparing certain commonalities. The best known study among the livability comparisons is the Places Rated Almanac series of Boyer and Savageau from 1981 to 1990s in different US cities. Wage differentials are used as an alternative way to conduct place comparisons by economists. Cost of living differences and QoL differences are the two main factors that determine wage differentials between cities. The key hypothesis in economic

measurement of QoL is one of disamenity compensation: places that offer a less favorable QoL must compensate to attract workers by offering higher wages (Myers, 1988).

Table 2.2. Alternative approaches to knowledge about quality of life
(Source: Myers, 1988)

	Livability comparisons	**Wage differentials**	**Personal well-being**	**Community trends**
Origins of professional approach	Journalism, geography or other	Economics	Psychology, sociology	Recommended approach for planners
Measurement focus	Shared, objective characteristics of communities using secondary data	Disamenity compensation using secondary data	Determinants of life satisfaction based on personal interviews	Local trends in components of QoL using secondary data and personal interviews
Statistical means	Additive combinations of objective indicators using weights supplied by researcher judgment	Regression models estimating weighted contribution of objective amenities to wage differentials between places	Regression models estimating weighted contribution to self-evaluations of different life domains to overall life satisfaction	Objective indicator profile of changing community character and subjective citizen assessment of each separate factor
In past has direct attention to	Which places are "better" or "worse"	Which places must pay higher wages	Personal characteristics and private life	Which factors are growing better or worse- emphasis on the future and citizen priorities
Political/ economic implications of past work	Aids competition for relocating firms and workers	Indicates lower/higher costs of doing business	Local government cannot help much	Highlights local problems and goals related to development process

The community trends approach in Myers's list focuses on QoL components and trends within the community. This method is based on two premises. First, QoL exists as a local experience, and most people experience QoL in a single community. The second premise is that people judge their community's livability by the trends over time in various aspects of the local QoL. According to his approach, QoL deserves to be studied more as a local phenomenon and less as a standardized abstraction. He also emphasized that the comprehensive nature of QoL corresponds well with the longstanding concern for comprehensive planning. Therefore, QoL concept presents an important opportunity

for planners to hold the attention of broader audiences and affords a basis for negotiating consensus in planning goals with citizens and business leaders (Myers, 1988).

Although each approach provides some useful information about QoL, they all have some weaknesses. Table 2.3 shows advantages and disadvantages of each alternative approaches.

Table 2.3. Advantages and disadvantages of alternative approaches measuring QoUL (Source: Baycan Levent and Nijkamp 2006)

	Advantages	**Disadvantages**
Livability comparisons	- Livability comparisons yield a practical set of qualitative measurements that many users are eager to accept as useful representations of other people's cities	- A lack of theory to guide measurements seems to be at the root of the criticism. - Researchers impose their own assumptions and input their own priorities when selecting and weighting indicators. - The weights attached to different components are arbitrary and thus yield erroneous ratings of overall quality of life. - Place comparisons are not designed to measure quality of life as residents see it. - By focusing on making comparisons between areas, features that define quality of life in particular areas may be ignored. - The methodology biases the quality of life scores to favour larger areas.
Wage differentials	- The citizen preferences can be measured from market behavior - The evidence to support the theory that quality of life improves business climate	- Since researchers have tested only a very limited range of variables to determine how they represent quality of life, the research is not yet broadly applicable. - The omission of housing and cost of living from the definition creates a gap between the technical and popular definitions of quality of life. - When combined with the extreme complexity of the methodology wage differential research loses its salience & potential for local use.
Personal well-being	- This approach can be valuable for some purposes. Local decision-makers might benefit from knowing the importance, for example, recreation plays in residents' personal quality of life.	- Studies focus on personal well-being often fail to meet community purposes, because defining quality of life in personal terms has important limitations. - The measurements provide a less useful guide for community level decisions.
Community trends	- This approach emphasizes trend over time while conceptualizing quality of life as a part of the ongoing development process. - It encourages interest groups to participate in negotiating what factors should be measured as part of the quality of life.	- It should be avoided to formulate community well-being on the basis of personal well-being. Community well-being stresses community factors that are beyond individual control while personal well-being stresses private, personal matters that are largely beyond governmental control.

Besides Myers (1988), Dissart and Deller (2000) makes alternative classification depends mainly on data characteristics used for measuring QoUL:

- One approach is to collect data from the residents of a particular place and evaluate their quality of life through their responses to a survey that is structured around likert-type scale responses. Then, quality-of-life measures are regressed on a number of independent variables related to the place of interest or that serve as control variables. Analysis of regression results yields information as to which factors are more important in predicting well-being.
- The other approach is to use a mix of primary (subjective) and secondary (objective) data.
- Another approach is to build scales, but using secondary data only.
- The last approach consists of determining implicit prices for specific amenities that are supposed to reflect the quality of life in a particular place. These studies are based on aggregate cross-sectional data and employ regression methods, in which wage rates are related to attributes of cities and to other factors that influence wages, such as education and age.

Lambiri et al. (2006) also makes an alternative classification which is used to measure QoL concept:

- The first one has a strong theoretical base and deduces the QoL levels from migration models or from hedonic regressions, computed from housing prices or wages equations. In these works, the dynamic spatial equilibrium assumption plays a key role; this fact limits the applicability of the technique only to territories in spatial equilibrium. Moreover, this measurement approach has other limitations linked to the identification and specification of the models used.
- The second alternative measuring method is the construction of indices through of a system of indicators, with the aim to capture as precisely as possible the multidimensionality of the concept.

As stated above, in measuring QoL, developing an indicator system is often mentioned. Indicators here are bits of information pointing to characteristics of systems or highlighting what is happening. Indicators are used to simplify information about complex phenomena, in this case, QoL, in order to make communication easier and quantification possible. Developing QoL indicators is providing a comprehensive picture of cities and measure progress towards achieving urban objectives. QoL indicators can be

used for identifying and understanding what is happening in the local area. They can also be employed a measurement tool and an early warning system. Indicators of QoL can help planners monitor their community and draft new plans or review existing ones accordingly.

QoL indicators are either in the form of objective or subjective. Objective indicators are particularly useful at neighborhood, city and country levels. On the other hand, subjective indicators have been employed more at the individual level and measure the individual's level of satisfaction. Within the literature there is considerable debate over the 'best' composition of indicators and dimensions that should be used to accurately measure QoL. Each of the studies is used a different combination of dimensions and/or indicators (See Appendix D). But, there seems to be at least consensus at the physical, economic and social domains forming the major basis of the QoL studies (see Table 2.4).

Table 2.4. Summary of dimension rankings among studies between 1996 – 2004 (Source: Lanteigne, 2005)

Dimensions	1996 to 2004 Studies	All Studies
Economy	59	76
Environment	59	49
Social	59	49
Safety	53	62
Education	53	51
Health	47	57
Housing	41	57
Amenities	35	46
Transportation	35	46
Infrastructure	24	22
Density	12	19
Climate	6	16

A distinction is often made in the literature between "top-down" and "bottom-up" methods in developing QoL indicators. In top-down approaches, experts and researchers define the framework and particular indicators which comprise the study based on their knowledge and experience. This approach is consistent with more traditional quantitative research methodology in which research participants are not involved in the study design or choice of measurements. In contrast, bottom-up approaches are characterized by greater participation of a wide variety of individuals and stakeholders, with experts involved on more of a consultative basis. But it can be said that broad-based community involvement in large scale studies is more logistically difficult and expensive than in

smaller scale projects. However, if the main purpose of a QoL study is to provide useful information at a local level, community involvement in the development, identification, selection, and interpretation of QoL measures is critical (Janzen, 2003) (Table 2.5).

Table 2.5. Summary table of QoL indicators according to different levels

Housing Level	**Neighborhood level**	**City Level**
physical features ▪ dwelling age, ▪ size, ▪ tenure, ▪ characteristics of housing in the local area, ▪ Location in urban area **social features** ▪ characteristics of neighbors, ▪ community size, **economic features** ▪ home or rent value	**physical features** ▪ neighborhood landscaping ▪ street lighting, ▪ crowding, ▪ noise levels, ▪ access to facilities, ▪ quality of the environment, ▪ public transport, ▪ parks and green areas, ▪ education (schools' quality) **social features** ▪ interactions with neighbors ▪ community ties, ▪ outdoor space, ▪ crime, ▪ a sense of privacy **economic features** ▪ home value in neighborhood, ▪ cost of living in community, ▪ socio-economic status of neighborhood, ▪ neighborhood improvements	**physical features** ▪ physical environment, ▪ climate, ▪ pollution **social features** ▪ crime and safety ▪ social facilities, ▪ education, ▪ health, ▪ recreation and leisure, ▪ social order, ▪ local amenities **economic features** ▪ standard of living, ▪ employment opportunities

Studies on *housing satisfaction* scrutinizes that features of the home are important predictors; for example, dwelling age, size, structure and tenure. However, housing satisfaction can also be influenced by surrounding features such as one's neighbors, characteristics of housing in the local area, and community size (Campbell et al., 1976) and even by regional characteristics such as geographic location within the metropolitan region (Lu, 1999).

Turning to findings on *neighborhood satisfaction*, Sirgy and Cornwell (2002) conducted a literature review of various neighborhood attributes affecting neighborhood satisfaction. Those features are grouped into physical features (e.g. upkeep of homes and yards, neighborhood landscaping and street lighting, crowding and noise levels, access to facilities, and quality of the environment); social features (e.g. interactions with neighbors

and community ties, outdoor play space, crime, and a sense of privacy at home); and economic features (e.g. home value in neighborhood, cost of living in community, socio-economic status of neighborhood, and neighborhood improvements). The authors found that satisfaction with neighborhood economic features was a good predictor of housing satisfaction.

Urban satisfaction is often predicted by attributes relating to local governance; for example, education provision, police relations, local taxes, cost of living, public transport, noise levels, parks and green areas (e.g. Campbell et al., 1976, Türksever and Atalık, 2001). A study conducted by Türksever and Atalık (2001) also indicates some attributes predicting urban satisfaction that are less related to local governance (e.g. climate, leisure opportunities, and shopping) and that the importance of different urban level attributes varies considerably between communities.

2.3. Urban Quality of Life Studies in Turkey

The content of urban studies in Turkey has been shaped by instrumental rationality that mainly aimed to control urban form as an integral part of activities in urban physical planning. Whereas emerging concern on QoL could pave way to the possible extension of the content of urban studies beyond the spatial concepts. This in turn brings out the substantial increase in the relative importance of QoL studies concerning cities. One possible scenario in front of Turkish cities is that declining urbanization rates and slowing down population increase. This probably directed urban planning efforts from planning and design of greenfield lands to steering urban change in brownfield sites: gentrification, urban regeneration of squatter housing zones, revitalization of CBDs, projects on improvement of urban QoL will reach heavy volume in the future urban research programs (TÜBA, 2006).

Studies taking different geographical units and social structures as a basis for the QoL in Turkey were carried out at the latter part of 1980s. Geographical units were defined at the level of the neighborhood unit, district, city and province in these studies and social structure was determined at the level of age, social status and education. Istanbul has become a significant area of interest in the studies conducted about the QoL. The QoL researches in Istanbul have mainly focused on QoUL and spatial preferences after the 1990s. The common approach in these studies is the measurement of subjective

evaluation reflecting the population's "self-image" of "well-being" based on the results of surveys conducted on different sample sizes (Ayataç and Türk, 2003).

Initial studies were related to the living standards of the new city-dwellers. Their expectations, hopes and achievements have been investigated in housing, neighborhood and the city scale (Suher et al. 1989, 1991). Following studies focused on urban perception and identity within the scope of the sustainability principle. It compared with the image of the city and changing identity factors (Süher et al. 1996; Türkoğlu 2002). Istanbul's identity and an urban image defined in these studies largely based on migrations and population mobility, illegal building process, legal implementations, land use decisions in metropolitan scale and impacts of globalization (Süher et al., 1996). Current studies are directly intended to measure the QoUL (Türkoğlu, 1997; Süher et al., 1999; Dökmeci and Berköz, 2000; Türksever and Atalık, 2001; Ülengin et al., 2001; Baran et al., 2006) to compare places and to assess the preferences of respondents in selection of place and residential satisfaction. Residents' relations with housing and neighborhood, opportunities of social and technical urban infrastructure, and the respondents' assessment of the urban quality are questioned in the studies. These studies are found that the expectations from residence and its associated neighborhood have not diversified in parallel with the income level, but with the education level. Those studies further indicated that participation in the cultural activities offered by the city is associated with economic conditions and urban accessibility. Another interesting point was that security as the criteria of environmental quality has taken the highest priority.

Türkoğlu (1997) has assessed the change in residential satisfaction of the respondent in residential settlement areas which have been evaluated in four groups in Istanbul (central neighborhoods, newly planned neighborhoods, traditional squatter neighborhoods, new squatter neighborhoods). According to results of this research, physical comfort, building quality, house plan and residential size are indicators of a high level of satisfaction. Proximity to the center of the city, offices, shopping facilities and municipal services are other important reasons for satisfaction. Study by Berköz and Kellekçi (2007) shows that the overall satisfaction obtained from the housing environment increased together with the level of income. The other research developed by Berköz, Türk and Kellekçi (2009) examines whether there are any differences among the factors influencing housing and environmental quality satisfaction for mass housing users on location choice (central districts and peripheral districts) at the metropolitan level. According to results of the study, the variables that affect housing and

environmental quality satisfaction are determined as: accessibility, environmental features, security, neighbor relationships, and the appearance of the housing environment. Berköz (2009) presents comperative results of a study which is done for gated and non-gated communities in Istanbul. The purpose of the study was to assess the factors that improve housing and environmental satisfaction in gated (single-family) and non-gated housing developments in Istanbul. According to the results residents of both communities give the highest importance in "accessibility to urban facilities", "community safety", "neighborhood relationships", "status", and "accessibility to green areas' is found to be the most significant factors.

Among QoL studies in Turkey, Türksever and Atalık's (2001) study has received international attention by researchers. The authors illustrated the possibilities and limitations of a developing area in comparison to developed ones regarding QoL. They predicted life satisfaction in seven districts of Istanbul as well as the Istanbul region as a whole using satisfaction with 18 different aspects of living in the region. QOL indicators for this study were chosen from recent studies and were adapted to Istanbul context. The significance of different predictors varied across the districts, however, for the Istanbul region as a whole, the significant predictors were health, climate, crowding, housing conditions, travel to work and environmental pollution.

Another group of studies conducted in Turkey are based on conceptual development of the QoUL. Baycan-Levent and Nijkamp (2006) evaluate the QoUL from a taxonomic perspective in which several dimensions of QoUL ranging from environmental to social and economic components are taken into account. They address the concept of quality, environmental quality, quality of life, measurement of quality of life, liveability and sustainability, as well as various associated concepts such as wellbeing, satisfaction and performance. They also evaluate multidimensional aspects of urban environmental quality, while addressing the implications of spatial and urban planning policies with respect to these multiple dimensions. Similarly, Ayataç and Türk (2009) have created a taxonomy of a 'quality of place' research in Istanbul (Table 2.6).

Table 2.6. QoL Research in Turkey
(Source: Ayataç and Türk, 2009)

Emprical Studies	**Contextual Relations by Quality**	**Spatial** ***Scale of Place***	**Human / Community** ***Sample in Society***	**Indicators**	**Findings**
Suher et al., 1989,1991	Urbanization &life standards, community satisfaction *Environmental Quality*	District and city scale .Planned and illegal settlements	People in different socio-economic income levels. *New City Dweller*	Socio-economic indicators,*	Expectations are related to socio-economic level
Türkoğlu, 1997	Community (residential) satisfaction, urban perception, identity	Central planned, newly planned, traditional squatter, new squatter	People in different socio-economic income levels	Socio-economic indicators, Objectives variables about the house and its environment, The resident perception of residential environment	Higher satisfaction depends on building and close environmental quality, accessibility, social &physical environmental conditions
Suher et al. 1996	Place identity, place sense	Old and new settlements area in district scale	People in low income level	Socio-economic indicators, The resident perception of his /her residential environment	Urban identity and images are directly related to availability in urban place, income level and the frequency of using the city
Türkoğlu, 1996	Environmental perception, urban image, *Environmental Quality*	Central and peripheral districts	People in low and high income levels	Socio-economic indicators, The resident perception of his/her residential environment	Definition of urban image and its role within city has been changed by urban development Historical and cultural space has been transformed into commerce and shopping areas.
Suher et al. 1999	*Quality of Urban Life, Environmental Quality*	Settlements affected in the 1999 Marmara Earthquake	People (focus on women and children) in different socio-economic income level	Socio-economic variable The resident perception of his/her residential environment	The existence of all urban, social and technical infrastructures regarded as defining the quality of urban life, the vital threats precede quality in the urban place.
Dökmeci and Berköz, 2000	Residential – location preferences, *Residential Satisfaction Quality of Urban Life*	Settlement ring In city scale	Households, taken from different districts	Socio-economic variable The resident perception of his/her residential environment	Access to work and lifecycle is another important fundamental in spatial preference. Proximity to relatives, a clean environment, a social environment and amenities are the subsequent reasons.

(cont. on next page)

Table 2.6. (cont.)

Yurtsever and Atalık, 2001	Quality of Life, people's satisfaction	Istanbul inhabitants from different districts	People in different socio-economic income level	Socio-economic indicators, people satisfaction the physical environment indicators,**** accessibility indicators	Health, climate, crowding, sporting, housing conditions, travel to work, environmental pollution are major determinants of the satisfaction level in Istanbul.
Türk and Ayataç, 2003	Quality of Life Objective indicators, district scale	26 different districts within the Istanbul Metropolitan Area	The homogeneous district groups	Socio-economic variable Housing and close environment indicators**	The relative differences between the districts in terms of QoL in the metro area were above the average.
Sağlamer, Velioğlu, Türkoğlu and Dikbaş (2006)	The prospective residents' perceptions and evaluations	People in temporary housing	People in different socio-economic income levels.	Socio-cultural indicators, The resident perception of his/her residential environment *****	People prefer not only environmental protection and disaster mitigation, but also a high level of socio-cultural satisfaction in post-disaster re-construction.
Kellekçi and Berköz, 2006	User satisfaction in housing and Environmental Quality	Planned mass housing areas in Istanbul metropolitan area	People in different socio-economic income levels.	Housing and close environment indicators	The factors increasing level of satisfaction vary according to the socio-demographic differences of users.
Kellekçi and Berköz, 2007	User satisfaction in housing and Environmental Quality	Planned mass housing areas in Istanbul Metropolitan area	People in different socio-economic income levels.	Housing indicators The resident perception of his residential environment Accessibility indicators***	The overall satisfaction does not change depending on age, the level of education.
Berköz, Türk and Kellekçi, 2009	User satisfaction in housing and Environmental Quality	Planned mass housing areas in Istanbul Metropolitan area	People in different socio-economic income levels.	Housing indicators The resident perception of his/her residential environment Accessibility indicators	Housing and environmental quality satisfaction are determined as accessibility

*Socio-economic indicators: *Gender, level of education, occupation, birthplace, family size, family type, number of children in the family, family income, house ownership, district of work, location of weekly shopping place, the most visited house location of friends and relatives, the most important public square, public park, weekend activities, activities in free times, attendance of musical performances, fairs and festivals, social security systems, commerce, sports*

***Housing and close environment indicators: The age of the building, dwelling size, dwelling type, physical condition of the building, average density in the neighborhood and distance to the center environmental safety, economic value, environmental protection and disaster mitigation*

****Accessibility indicators: Accessibility to function areas and public service areas*

*****People satisfaction: Shopping facilities, environmental pollution, educational provision, cost of living, noise levels, climate, job opportunities, travel to work, crowding, relation with neighbors, housing conditions, parks, green areas, health, leisure opportunities, sports, crime rate, traffic congestion*

*****Residents perception: *Factor groups related to accessibility to function areas, factor groups related to the features of residence environment, factor groups in various facilities in the residence environment, factor groups related to environmental safety, factor groups related to residence environment and economic value*

In rapidly urbanizing regions like Turkey there is an increasing need for enhancing spatial life quality of urban settlements. Integrated Urban Development Strategy and Action Plan 2010-2023" (KENTGES) was prepared in 2010 by Ministry of Urbanization and Environment including a series of workshops and panels by the experts from all around Turkey. Among the three major aims of this national policy document, "Raising Life Standards of Cities and Enabling Sustainable Development" was determined. Under this strategic aim 13 objectives were placed in a variety of topics such as (1) sustainable spatial development in settlements, (2) sustainable and diversified land and housing production and supply, (3) revitalization of central business districts and other urban and neighborhood centers, (4) sustainable urban transportation system, (5) integration of urban infrastructure projects with spatial development, (6) fair distribution of social services within the city, (7) development of open public spaces and green areas within a system integration, (8) protection of natural and cultural assets, (9) provision of urban regeneration integrated with social, cultural and economic dimensions, (10) reduction of natural hazard risks, (11) development of places with high quality of urban life, (12) protection and development of urban identity, (13) creation of ecologically-sensitive living areas.

In order to watch the performance of KENTGES, an urban audit system called "KENTİZ" has been started by Ministry of Urbanization an Environment. KENTİZ is aimed to audit the impacts of KENTGES, support development process and enhance quality of life in cities. This project has rooted by "The Urban Audit: Towards the Benchmarking of Quality of Life in 58 European Cities" by support of the European Commission in 2004. Urban Audit project provided information on a consistent pan-European basis for a wide range of indicators at the city administrative level, the wider urban area, and for sub-city areas. Inspired by this project, in 2007, "Urban Indicators Guide" (Kentsel Göstergeler Kılavuzu) was conducted with the support of Ministry of Urbanization and Environment. Selected urban indicators (157 indicators with 7 main categories) in an objective basis were tested in cities of Samsun, Denizli and Osmaniye considering their different size and regional characteristics. These objective indicators set reorganized according to pilot test results but spatial information system and e-government applications have not been ready to fully connect this system yet.

TÜBA (Turkish Academy of Science) has made great contribution to QoL studies in Turkey. Environment Committee of TÜBA has done researches to improve environmental policies and audit the impact of those policies. In this sense, "Yaşam

Kalitesi Göstergeleri: Türkiye İçin Bir Veri Sistemi Önerisi" [Quality of Life Indicators: A Data Management Proposal for Turkey] was one of the earliest publication edited by Professor Ilhan Tekeli in 2003. In this study, the concept of QoL has been taken as major aim to accelerate local economic development within the context of urban development policies, health policies, economic policies and human rights. It was also very large indicators set developed for Turkey measuring subjective and objective QoL. Four different QoL criteria have been scrutinized in the study: community level subjective and objective indicators, personal level subjective and objective indicators. The report indicated that to develop policy and implementations in QoL, local levels are much more significant. Similarly, in local levels, data collecting, sorting and seeking for different user groups has to be improved (TÜBA, 2003).

2.4. Quality of Life Research and City Planning

The very idea of "quality of life" has long been rooted in the urban agenda since the end of 19th century. The notion of QoL refers more than the living standards or the material aspects of life such as increased wealth and availability of physical infrastructural facilities, but also the less tangible aspects of life such as good health and opportunities for recreation and play (Yuan et al., 1999).

In the evolution of the concept, there is a big shift from "standard of living" to "quality of life" which points to a mental change in planning practice and policy. Throughout its development line, the standard of living, as an indicator of material conditions, has turned out to be a one variable among the others to define the broader concept of quality of life. We may observe this transformation into four interrelated periods given below.

2.4.1. Early 1900s –Regularization

In 20th century urban planning has been accepted as a collective effort to shape people's living conditions in a better way, as a desire to remedy the evils of the industrial metropolis. Therefore, efforts of industrial philanthropists and works of social reformers and planners concentrated on creating healthy living conditions for people. This idea found its concise expression in the writings of British social reformer Ebenezer Howard

whom garden city idea promises more stable employment and a better standard of living for people (Hall, 2002).

The problem of the 19th century industrial city, according to social reformists and planners, had to be solved by scientific laws of right living. Not only a city plan but also legislation was needed to achieve this end. Therefore, plans and regulations went together (i.e. British Bye-Law Housing set a minimum standard and created areas of healthy living defined by legislation). In their battle against poverty and slum, social reformers operated based on legislative action to establish and maintain fair standard of wages, hours, and housing calculated according to scientific principles (Hall, 2002). In this period, then, the idea of "standard of living" developed as a major tool of reformist urban agenda. Ensuring good standard of living was seen as an economic possibility as well as a political necessity.

In the area of social welfare policy of early 1900s social reformers were recommended one supreme standard called "standard of life" that was the synthesis of all norms. They suggested that standard of life a generic standard behind all specific standards, the economic condition for the reproduction of labor power, elimination of poverty and maintenance of social order. Their method was based on the identification of basic needs like food, clothing, and shelter and the calculation of minimum revenues that assess the minimum human needs of labor (Fischler, 2000).

2.4.2. Interwar Years –Standardization

Planners of the Modern age were illuminated by the idea of progress and efficiency that first applications arrived from economics (i.e. Taylor's idea of scientific management of 1914). The term "quality of life" was first introduced in 1920 by Pigou, in a book about economics and welfare. In planning, as in many other fields of the time, "standardization" became an instrument of progress, a symbol of modernity.

The German modernist architects in 1920s designed as much new housing as possible while keeping costs down via standardization, which led to the theme of the 'dwelling for the existence minimum' (Frampton, 1992). Standardization of goods and diffusion of social welfare to the larger part of the industrialized society brought question of neighborhood quality into the agenda of planners. Le Corbusier, who is the founding fathers of the Modernist town planning, offered to masses good housing with a coherent

set of quantitative standards within various scales (i.e. regional, city, district, neighborhood) of planning and design. Similarly, in USA, Clarence Perry (1929) brought the concept of 'neighborhood unit' based on the basic qualities of life in local communities (Hall, 2002). These applications then became the major source of reference for the planners and developers of the postwar years.

Policy makers and social reformers, on the other hand, saw higher standard of living as one of the key issue for governments. Healthy housing, adequate nutrition, normal access to recreation, and so forth, were seen as important indicators of society's level of development, of its wealth and welfare. The role of the state, as a provider, should have met the increasingly demanding standards of food, clothing, housing, recreation and education. In this sense, the task of urban planners and others were to determine what these standards are, that is, to mediate between social need and economic interest and find thresholds that are useful and affordable. After the World War I, in the US, as a part of 'New Deal' policies, these ideas were put in action and the need for standardization and maintenance of healthy living conditions was accepted as an important task of the government (Fischler, 2000).

The idea of standard of living based on material wants and quantitative measures was not free from critiques. Quantification and standardization behind standard of living were criticized by planners of the age. According to them, despite its political usability, calculation of standard of living has limits on assessing human welfare in all its complexity and variety. Since there is a subjective dimension to the standard of living psychological needs of people should have been satisfied. Ironically, the source of this conflict rooted in the use of terms "standard" (predictable, quantitative) and "living" (unpredictable, qualitative) in the same phrase. Despite the critiques, standard of living, as a pragmatic tool, became a simple quantitative measure of quality of life for governments and urban practice: it was strategically useful and politically effective (Fischler, 2000).

2.4.3. Postwar Years – Quality of Life Movement

Two interrelated developments were instrumental in putting the qualitative dimension of well-being explicitly on the urban agenda for the postwar years: The first one was strong economic growth and higher productivity that helped to feed Welfare

State and to increase per capita income. Material conditions of life had improved so significantly in industrialized countries that higher-order wants could be placed on the political agenda. This, in turn, translated into higher spending in areas like dwellings and infrastructure (i.e. mass housing projects of 1950s or big infrastructure projects like Interstate Highway in USA). Big success of technocracy, professional normalization and material consumption in the 1950s and 1960s has brought the end of discussion on basic standard of living under the appropriate condition of Welfare State of postwar economic boom. The second turn was about dissatisfaction with the social and environmental side-effects of modernization which provoked critiques from many fields of socio-cultural and political spheres (Hall, 2002). The concept of QoL commonly accepted after World War II when it was used to emphasize that the 'good life' depends upon more than material affluence encompassing instead of a wide range of factors such as employment, housing, the environment, the visual arts and health. The turn of "Quality of Life Movement" can be examined under four main headings:

a. Urban Design

In the field of urban design, there was modernist urban renewal in action that was a radical transformation of the urban landscape in many cities. The destructive effects of public housing projects and urban renewal were heavily criticized by urbanists like Jane Jacobs in early 1960s. Erosion of identity and the loss of safety in urban public spaces were noted by them. Furthermore, Kevin Lynch published "The Image of the City" of 1960 his usage of mental maps in understanding of the visual quality from the view of the urban dwellers. Appleyard (1981) researched the quality of life in residential environments and found that residents structured their values in four principal dimensions: the street as ecology, child-rearing, accessibility, and neighbourhood identity. Those other studies in environmental psychology mainly focus on determinants good quality physical environments affecting the well-being of city dwellers.

b. Social Movements

Parallel to this, in the political and cultural sphere, the counter-cultural movements of 1960s brought great resistance to urban development grew, and provided efforts to preserve historic areas of the city. Additionally, environmental movements of 1970s has also given many urban planners a new sense of mission that orienting profession in search for high levels of environmental quality and public services.

Quantification and standardization behind standard of living were criticized by planners of the age. According to them, despite its political usability, calculation of standard of living has limits on assessing human welfare in all its complexity and variety. Since there is a subjective dimension to the standard of living psychological needs of people should have been satisfied. The emphasis was now on "livability", on qualitative rather than quantitative features of urban life (Murdie et al., 1992).

c. Changes in the Social Sciences

Social movements of postwar period catalyzed a radical change in some social sciences. Social researchers tried to understand the "subjective reactions" of people and social processes, both affective and cognitive. In the 1950s, Maslow, a well-known psychologists, told us that individuals have a hierarchy of needs, higher as well as lower ones, including the need for love and respect, the need for learning and beauty, and the need for self-actualization (see Section 2.6 for larger discussion). Based on Maslow's hierarchy of human needs, social activists of 1960s said that communities have also needs, the need for active citizenship and for the expression of cultural identity.

As a field of social science "social indicators research" was born in the United States in the mid-1960s. QoL emerged as an academic discipline in its own right in 1970s, with the establishment in 1974 of the peer-reviewed scientific journal 'Social Indicators Research' (McCrea et al., 2005).

Major studies of QoL have been sponsored by world-wide organizations such as UNESCO, OECD, and World Health Organization (WHO). In 1960s, United Nation had used the basic human needs approach in development, emphasizing on satisfying basic human needs (i.e. food and shelter) and the reduction of absolute poverty. Since then, the conception of QoL extends to basic needs issues, health, education, social security, working conditions and human liberty (Lanteigne, 2005). Then, OECD started program of work on social indicators in 1970s (Noll, 2002). Parallel to the social sciences, in medicine, perceived quality of life has been accepted as an important indicator of public health. By the mid 1970s, the research emphasis shifted to focus on the subjective elements of QoL, such as community involvement, fun, or freedom. Personal well-being and social development have been redefined to include political, cultural, and environmental factors. During this period, environmental design researchers were arguing that an understanding of how people respond to and use built environments was critical

to creating high quality buildings and places and that were responsive to user needs (McCrea et al., 2005).

d. Economic Development Planning

A similar revision occurred in the field of economic development planning after 1950s. Under the guidance and leadership of international organizations like UN, international indicators of well-being were revised according to multiplicity and variability of wants beyond monetary factors. Therefore, the Gross National Product (GDP) was seen as insufficient measurement of national welfare. Similarly, the standard of living was declared to be of limited value for personal well-being.

'Quality of Life Movement' has also questioned the concept of "standard of living" in urban public policy. Consequently, in public policy actions importance of subjectivity of QoL has been recognized, but standard of living remained an important variable to rationalize the evolution of living conditions and distribution of resources pragmatically on the some objective basis. Then, the search for common objective measures on QoL policies has begun in 1970s and 1980s. One approach addresses this issue came from World Bank experts indicated that quality of urban life indicators should be developed at the different levels of participation like neighborhood, district, city, metropolitan area or city-region. Another response came from planning practice and theory based on consensus building. In this approach, the strength of local democracy has been considered as an important QoL indicator for social inclusion and civic participation. Thanks to the developments in postwar period, QoL distinguished from standard of living not only the fact it accounts for non-material wants but also its postmodern conception of the community based on difference and identity (Fischler, 2000).

2.4.4. Post-Industrial Society – Quality of Place, Lifestyles

Beginning with early 1970s, the transformation of capitalism from industrial production to post-industrial one, together with the high-technology revolution has brought significant changes in modes of thinking and ways of doing in governments around the world. Personal well-being and social development have been redefined to include political, cultural and environmental factors. Since the Welfare State has slowly lost its grounds, the role of the state has been reformulated from "provider" to "enabler".

In the face of growing diversity one-size-fits-all approach has been avoided and the relationship between subjective and objective indicators of quality of urban life has recently been examined (McCrea et al., 2005).

In the changing rules of the world economy city competition has become a major issue and therefore 1980s witnessed rising and professional interest in the notion of the QoL of cities. In this decade, QoL research further evolved as 'rating places' literature (see Boyer and Savageau, 1981) began to appear based on studies that focused on the relative attractiveness of urban centers. Consequently, the use of indicators has become more popular as a means to compare cities between each other that spark enormous interest among researchers and city governments (Myers, 1987).

Since the late 1980s, social reformers and planners are not alone in the area of QoL. With their expertise in how to improve the attractiveness of places, urban designers have worked in line with economic development planners to enhance QoL and hence, local competitiveness that is the main concern of post-industrial economy.

In 1990s, QoL research has focused directly on the local environmental and economic development planning processes. These studies focus on the relative attractiveness of areas and target at people or firms intending to move and usually contain wide-ranging indicators. This holistic planning approach incorporated the findings of QoL studies, sustainable environment, and healthy cities perspectives (Murdie et al, 1992). Maintaining their standard of living appears to be goal of people who are losing ground in a post-industrial, high-tech economy (i.e. people who is in lower order service sector or manufacturing jobs), while ensuring their QoL is the objective of those who are gaining from the social transformation of the new economy (i.e. high-skilled knowledge workers) (Florida, 2003). In this context, policy makers have found in QoL assessment an important marketing device to attract high-income knowledge workers and taken their desires more than their needs as a matter of subject, not those of unskilled workers (Rogerson, 1999).

A further concern for the QoL in post-industrial society is rising dualities and splintering of urban spaces (i.e. gated communities vs. squatter settlements) between haves and have-nots (see Soja, 2000).

In the last decade, the interest in developing comparative information on urban areas has still kept its importance. In order to compare the QoL in European cities, European Communities (2000) conducted a study and published the report "The Urban Audit: Towards the Benchmarking of Quality of Life in 58 European Cities" by support

of the European Commission (2004). Urban Audit provides information on a consistent pan-European basis for a wide range of indicators at the city administrative level, the wider urban area, and for sub-city areas. LUDA and SELMA Projects, two recent European scale projects, have come to the fore in measuring urban QoL in European cities.

In the evolution line of the concept, the shift from "standard" to "quality" has also symbolize the complementary changes from industrial to post-industrial, average to difference, objective to subjective, quantitative to qualitative, material to non-material, social achievement to marketing, assimilationist to multicultural and modernity to post-modernity (Table 2.7). In the face of those changes, urban agenda today has evolved towards creating sustainable human development with better conditions of life. The challenge of planning today is then to search for harmonization among given values of QoL and have collaborative position among various participants and stakeholders.

2.5. Evaluation of Quality of Life Research for the Purposes of the Study

QoL is a complex, elusive phenomenon. Due to its interdisciplinary character, there is no single, agreed definition of the concept of QoUL. The mainstream research a topic in this field has been changed according to spirit of the age as scrutinized in the previous chapter. This section will give main lines of discussion on QoUL research organized under four main topics.

1. Objective or **Subjective**: QoL researchers would agree that objective as well as subjective indicators are necessary in defining the quality of urban life. While subjective indicators allow us to gain insight about what people consider important and valuable, objective indicators are somewhat necessary enabling the validation of subjective measures and comparison of places with different geographic and socio-economic attributes (see van Kamp et al., 2003). Although subjective studies in QoUL research is hard to evaluate and uneasy to transform into urban decision making process, it is extremely useful to uncover individual and context-based understanding of the phenomenon. Some other researchers tries to combine both objective and subjective quality dimensions/indicators to define the states of QoL (Table 2.8).

Table 2.7. Evolution of the QoL Concept in Urban Planning Agenda

	Early 1900s	**Interwar Years 1920-40s**	**Postwar Years 1950-80s**	**Post- Industrial 1980 onwards**
Urban Planning	- Social reformists, City Beautiful, Garden City Movement: Ebenezer Howard and architect-planners like R.Unwin - City Planning Acts and legislations	- The German modernist architects in 1920s –idea of minimum dwelling. - Le Corbusier's vision of masses with good housing with a coherent set of quantitative standards within various scales of planning and design. - C. Perry's concept of neighborhood unit based on the basic qualities of life in local communities.	- Modernist urban renewal in action - Heavy critiques of urban renewal and large scale Modernist projects by urbanists like Jane Jacobs in early 1960s. - Renewed sense of community and identity, "historicism", in postmodern architecture and design	- Collaborative Planning practices that help to rehabilitate the city of memory, the importance of place-making (Friedmann), the value of local knowledge & democracy (Healey), and cultural sensitivity (Sandercock) - Urban designers in collaboration with economic development planners to improve the attractiveness of places and to enhance local competitiveness
Public Policy	Main target: battle against poverty and slum; creating healthy living conditions for people Key Concepts: Industrialism, Faith in Progress	Main target: state as provider of higher standard of living; diffusion of social welfare to the larger part of the society. Key Concepts: Modernist Movement	Main target: From provision of basic standard of living to demand for higher-order wants Key Concepts: Welfare State, Technocracy, Social Movements, Environmentalism	Main Target: To enhance quality of life for economic competitiveness Key Concepts: Crisis of Welfare State, Post-industrial Capitalism and New Economy, Globalization, high-tech industries and knowledge workers, sustainability
QoL Concept	Need for standard of living and better living conditions, regularization	- State as Provider, Standardization, scientific management, standard of living - Limits of quantitative methods of standard of living,	- Quality of Life Movement - Appearance of quality of life as provider of higher-order wants, - Search for objective QoL standards in different levels	- State as Enabler, - From need to desire, life-style choices, - Blur of boundaries between consumption and entertainment design and the arts, tourism and recreation
Key developments in QoL Research	the idea of "standard of living" based on poverty measurement	Seeds of empirical QoL research	- Maslow's basic human needs - Postmodern accounts (gender, race) on subjective values of quality of life - Development of social indicators	- Quality of life research on environmental quality and public health as new areas of concern - Research on searching the link between objective and subjective indicators of quality of life

Table 2.8. States of QoL based on subjective and objective dimensions (Source: Tesfazghi et al., 2010)

	Objective condition	
	Good	Bad
Subjective condition		
Good	Well-being	Adaptation
Bad	Dissonance	Deprivation

2. **Neighborhood** or City (the question of the geographical scale): Many authors in QoL research (Murdie et al. 1992, Dissart and Deller 2000, Pacione, 2003) refer to the existence of certain "geographical dimension of the quality of life" (Table 2.9). As observed in the environmental determinism of urban designers/planners, behind the question of the geographical scale there is a general assumption that quality of life is changing not only "from man to man", but in dependence of that also "from place to place". The power of place resides in its capability to assess the spatial differentiation of selected territory from the quality of life viewpoint (Andrasko, 2009).

The cover of geographical scale is important in the evaluation of quality of life. The scale of study area reflects in the selection of indicators/dimensions, methods of data acquisition, treating or plotting. For the objective QoL research, for instance, the larger the studied area and population is, the higher is the degree our knowledge about quality of life is generalized. On the other hand, the local level of research represents a suitable spatial framework for the use of subjective QoL studies (Pacione, 2003; Androsko, 2009).

3. **Needs** or Wants (the question of consumerism): QoL largely refers degree of fulfillment of people's needs and expectations. As Baycan Levent and Nijkamp (2006) point out that QoUL, as a specific form of quality as; the performance level of urban life towards the needs of communities or societies.

In this definition to determine individual or community needs are critical. One of the most consistent need-based theoretical framework in the literature is the Abraham Maslow's "hierarchy of human needs" first introduced in his 1943 paper "A Theory of Human Motivation". In this theory, Maslow (1954) presents the "Needs Hierarchy", since needs are taken as the starting point for motivating people to change a situation. He described his theory based on happiness and true being on the concept of human needs. His perspective was simple: happiness, health, and ability to function come when you

take the responsibility for fulfilling all your needs. In this way, Maslow presented a universal roadmap of personal development, applying a progressive series of needs, where the next need is revealed as you realize the previous. He established his hierarchy of needs in the form of pyramid (Ventegodt et al., 2003) (Figure 2.10).

Table 2.9. Classification of QoL studies in different geographical scales

Scale		**Research Approaches**	**Research topics**
Inter-urban	• International scale • National scale • Regional scale	Livability comparison	• City ranking • City Competitiveness • QoL and Migration • QoL & Firm Location • Urban Economics and Growth Process • Human Capital, Quality of Place &Location
		Market/Resident Approach	• QoL and Migration • QoL and Firm Location • Urban Economics and Growth Process • Human Capital, Quality of Place &Location
Intra-urban	• City scale • Sub-city scale • Neighborhood	Monitoring Urban Ind.	• Urban Growth Process and Economics
		Population Groups & QoL	• Urban Environments and Individual Satisfaction • QoL and gender • Location decisions of the highly skilled labor force • Subjective assessment of urban QoL • Lifestyle studies
		City characteristics and urban environmental quality	• Urban Amenities & QoL • Urban Size & QoL • Compact city & QoL • Public services & QoL • Urban regeneration & QoL • Urban environmental condition & Public Health • Residential Development Patterns and Neighborhood Satisfaction • Social attractiveness of the urban physical environment • Aesthetic and attractive physical settings • Mobility and transportation, • Open spaces and civic activities • Identity and City image
		Residential Satisfaction	• Housing stock and quality, • Neighborhood characteristics

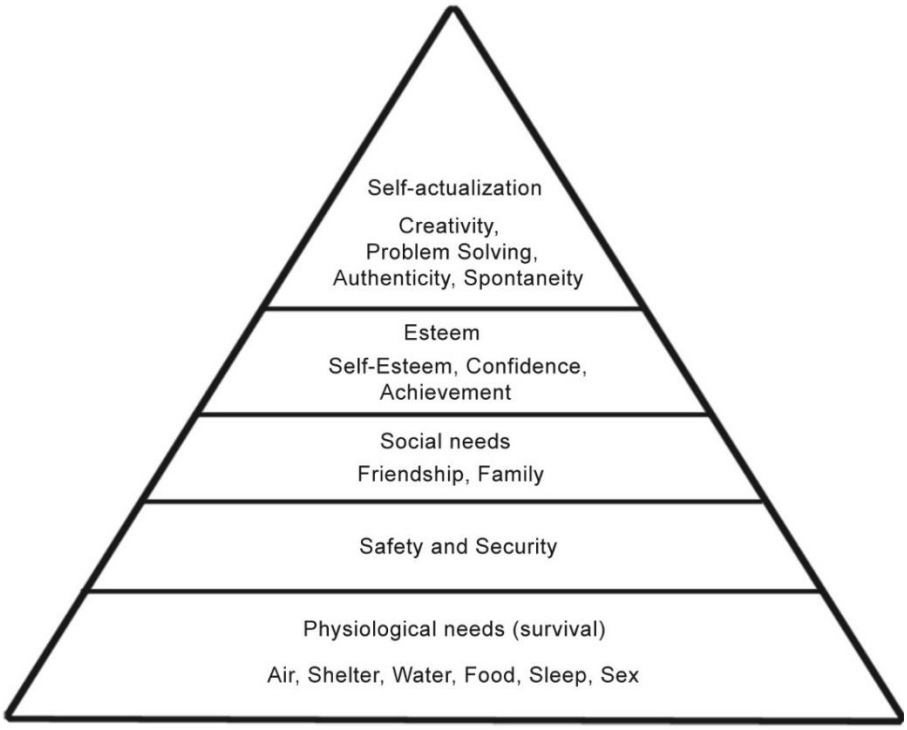


Figure 2.10. Maslow's Hiearchy of Needs
(Source: Ventegodt et al., 2003)

In their person-environment fit model, Carp and Carp (1984) distinguish Maslow's model between 'basic needs' and 'higher-order needs'. The former is oriented towards maintaining personal autonomy with respect to necessary activities of daily living and competencies in everyday life. While the latter reflects more subjective, development-oriented domains including privacy, comfort, familiarity, stimulation or favored personal activities (Oswald et al., 2005).

In urban design literature, John Lang (1995) used the five sets of basic needs identified by Maslow (1943): physiological needs (the need for survival, health, development and comfort), safety and security needs, affiliation needs, esteem needs, and self-actualization needs (including cognitive and aesthetic needs). Lang specifies that both needs and the mechanisms to fulfil them have to be perceived within a social order (Figure 2.11). Derived from Maslow, Lang's model tries to describe environmental psychology and cognition, then applying it to objects, spaces, and environments and people.

After 1980s there is a shift from provision of basic needs to demand for higher-order wants especially in post-industrial societies. For this era, Fischler (2000) points out the change in the notion of citizen itself. To him, if the citizen in industrial society was a

subject of ‘need’, the citizen in post-industrial society is a subject of ‘desire’. An increasing share of household consumption is related to lifestyle choices; even basic necessities are sold as sources of pleasure and bought as means of self-fashioning. This hedonistic conception of quality of life is oriented to instant satisfactions derived from the culture of consumerism.

On the other hand, in human development literature there is a turn from needs to capacity development based on defined community assets. This approach, like Maslow Human Needs Theory is away from consumerism-based quality of life models that can be seen in the writings of Amartya Sen in his famous book of “Development as Freedom” in 1991. He describes quality of life based on human capacity. Sen asserts that well-being of people depends on their capacity of achieving valuable actions and ability to reach this situation. Therefore, human capacities have become the basis of their freedom. In other words “The planning problem is not how to improve the quality of life of others but how to enable them to improve their own quality of life.” (Ackoff, 1977, p. 69). This view is commonly accepted in studies concerning urban poverty.

4. One-dimensional or **Two-dimensional** (the question of categorization): QoL is a concept that has aspects that are not easily measurable. Subjective QoL is often uncountable and measured on a Likert scale usually ranging from ‘very dissatisfied’ to a ‘very satisfied’. These studies are one-dimensional since they try to find the level of user satisfaction either good or bad. Similarly, objective QoL studies measure the performance of their selected indicators according to standards, field data or statistics that are easily quantifiable (i.e. GDP per capita, infant mortality rate, literacy rate). Measurement of objective QoL is also one-dimensional the performance level can be considered as good/bad according to selected thresholds and standards. Consequently, both satisfaction and performance level need to be explored and two-dimensional models should be adapted to QoL research. In this way, this study tries to employ Kano’s Model from a quality management literature whose features are mentioned in the following chapter.

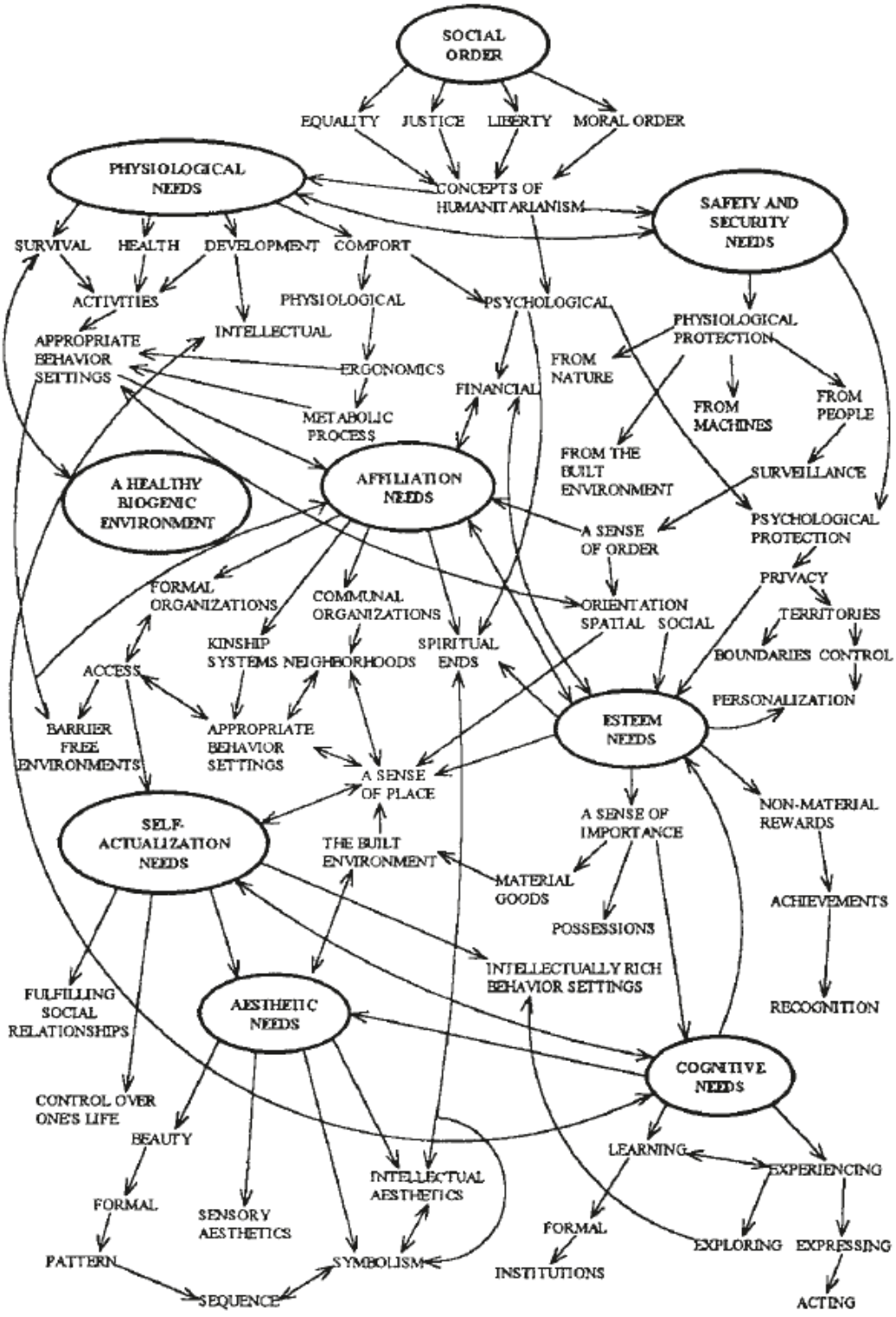


Figure 2.11. Human needs and functions of the built environment
(Source: Lang, 2005)

2.6. Summary

The search for QoL has started with studies in standard of living and extended to the so-called post-industrial and increasingly urbanized societies for more than 40 years. In this chapter evaluation of QoUL research was given and the main line of discussion in the field was summarized.

The next chapter scrutinizes Kano's Model and its application by reviewing the quality studies. This model is need-based, subjective, two dimensional and effective in specific product or services that are perfectly fit for the purposes of the study.

CHAPTER 3

KANO MODEL

This chapter is devoted to Kano's Model and its application. In a wider sense, the aim is to scrutinize Kano's model in various quality studies.

3.1. Kano's Model and its Application

In this study, Kano model is selected for measuring quality of urban life. Kano model explains the relationship between quality attributes of products and users' satisfaction. This method is useful to understand how users evaluate a product. In this study 'product' refers to urban environment and its performance levels assessed by its users' needs and expectations.

Kano model is a quality measurement tool used to prioritize user requirements based on their impact to user satisfaction. It is used to determine which requirements are important. All identified requirements may not be of equal importance to all users. Kano analysis can help to determine which quality factors have the highest priority for users. It can also be used to help identify user segments, based on the relative priority of each segment's requirements (Walden, 1993).

Kano model has been developed by Professor Noriaki Kano and his colleagues in 1984. This model was first used in the development of manufactured product quality of T.V. and decorative clocks (Kano et al., 1984). Dr. Kano used a survey comprising functional and dysfunctional questionnaires which led to the conclusion that the concept of quality is two dimensional rather than one-dimensional.

According to Kano, one-dimensional and two-dimensional models are two basic models understanding the customer satisfaction. The one-dimensional model is linear that is based on continuous improvement. Many of the previous definitions of quality were linear and one-dimensional in nature (i.e., good or bad, small versus large). Kano defines this situation as "more begets more, and less begets less" (Jane and Dominguez, 2003)

Dr. Kano has defined the notion of quality derived partially from the study of Herzberg's "Motivator-Hygiene Theory". Frederick Herzberg (1969) asserted that the

motivation is managed by two types of factors, namely satisfiers and dissatisfiers. To him, by removing the sources you can motivate the people with full commitment. Differ from Herzberg's one-dimensional theory, Kano et al. (1984) have integrated quality along two dimensions: The degree to which a product or service performs, and the degree to which the user is satisfied (Figure 3.1).

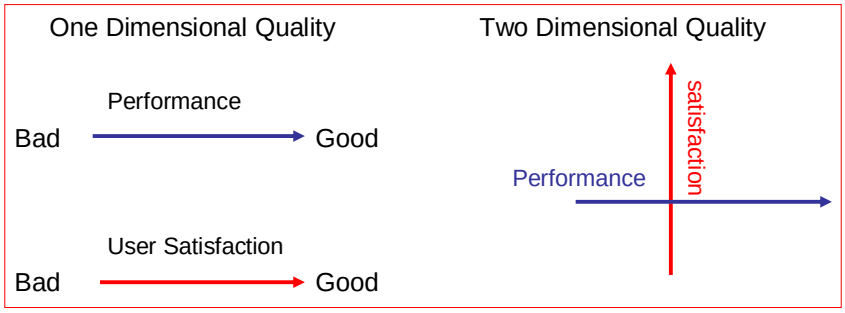


Figure 3.1. Two dimensions of quality
(Source: Kano et al., 1984)

Kano's Model uses concepts similar to Maslow's hierarchy of human needs. Instead of Maslow's five levels, Kano uses three different types of needs which together determine the customers' perception of quality. These needs are;

- Stated needs: expected by the customer to be satisfied means that needs are so obvious to the customer that the customer does not even mention these when asked for example in a survey.
- Implied needs: do not create greater customer satisfaction as these needs are considered as obligatory to fulfill. However, if these needs are not fulfilled, the level of customer satisfaction will decrease dramatically.
- Unconscious needs: are needs that are unexpected by the customer but what may result in high levels of customer satisfaction. The absence of these needs will, however, not lead to dissatisfaction (Lodenius, 2011).

Kano suggests that not all attributes are equal in the consumer mind, and not all attributes have a linear relationship to satisfaction (Gregory and Parsa, 2013). The juxtaposing of the quality parameters of performance and user satisfaction in a two-axis plot created the ability to define quality in a more holistic manner. Dr. Kano distinguishes three unique definitions of quality, namely: basic quality, performance quality and excitement quality (Figure 3.2):

- *The must-be or basic quality:* This quality category indicates that some user requirements, if not achieved cause high dissatisfaction, and, if they are achieved, have only a limited effect on causing user satisfaction. The reason for this is that this quality type is expected by the user. For example, when going into a restaurant for a meal, the customer expects there to be a place setting. If there isn't one, the customer will be dissatisfied. If there is a place setting, no credit will be given because there is supposed to be one.
- *The one-dimensional or performance quality:* Performance quality attributes generally cause a linear response. Increased levels of satisfaction are caused by increased levels of achievement. The customer in a restaurant expects his/her order to be taken promptly and accurately and the food delivered in a reasonable period of time. The better the restaurant meets these needs, the more satisfied he/she is. Users freely express their desires relative to performance quality when they are asked. This type of information is often called the Voice of the Customer (Ungvari, 2008).
- *The attractive or excitement quality*. These requirements are the product criteria which have the greatest influence on how satisfied a customer will be with a given product. Attractive requirements are neither explicitly expressed nor expected by the customer. Fulfilling these requirements leads to more than proportional satisfaction. If they are not met, however, there is no feeling of dissatisfaction (Sauerwein et al., 1996).

In addition these three main categories there are two quality categories in Kano model: indifferent and reverse quality (Figure 3.3).

- **Indifferent quality:** An attribute whose presence or absence does not cause any satisfaction or dissatisfaction to users.
- **Reverse quality:** An attribute whose presence causes customer dissatisfaction, and whose absence results in user satisfaction (Chen and Lin, 2007).

Based on Kano's model, Matzler and Hinterhuber (1998) summarized its following benefits:

- Kano model promotes understanding of product/service requirements. The attributes that have the greatest influence on customer satisfaction can be identified.

- It provides valuable guidance in the following trade-off situation. If two product attributes can not be promoted simultaneously due to technical or financial reasons, the attribute that has greater influence on customer satisfaction, can be determined.
- The use of Kano model can lead to developing a wide range of product/service differentiation by examining the attractive attributes. The attractive attributes are the key to beating the competition in the marketplace.

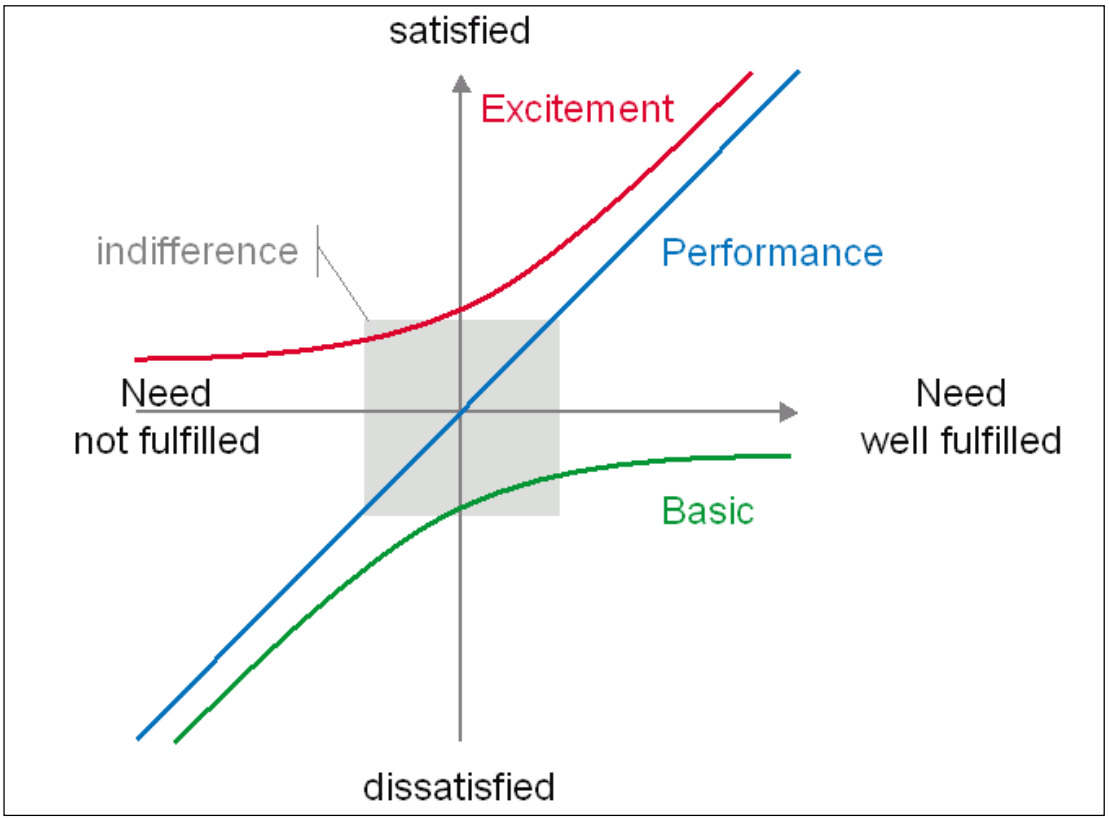


Figure 3.2. Kano model (1984)
(Source: http://en.wikipedia.org/wiki/Kano_model)

Figure 3.3. Indifferent and reverse quality in Kano Model
(Source: Kano et al, 1984)

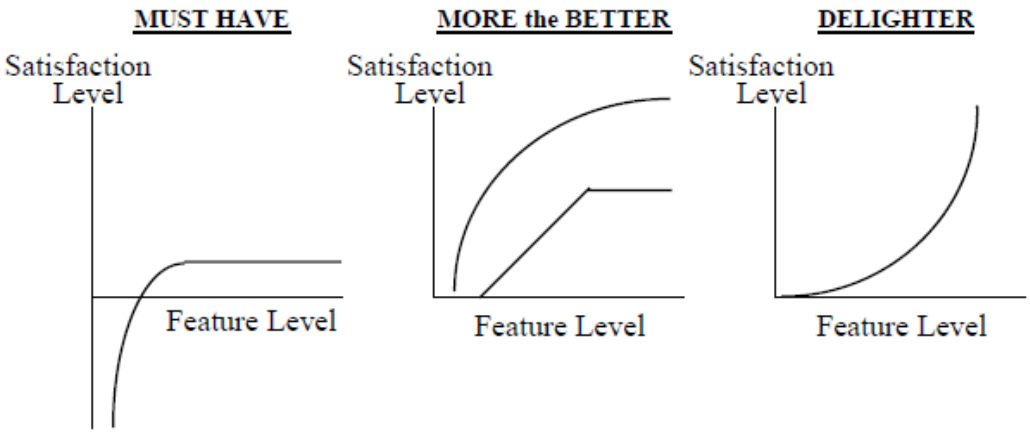


Figure 3.4. Kano taxonomy of customer needs
(Source: Chen and Lin, 2007)

Kano's model of the customer value components namely as dissatisfiers (must-be), satisfiers (more is better) and delighters (exciters) is similar to Kaufman's (1999) value components model. Kaufman asserts that 'want' is related to esteem value that reflects buyer's desire to own the product or services. Utility value or "need" is the primary value element which describes the performance and physical characteristics of the product (Figure 3.5).

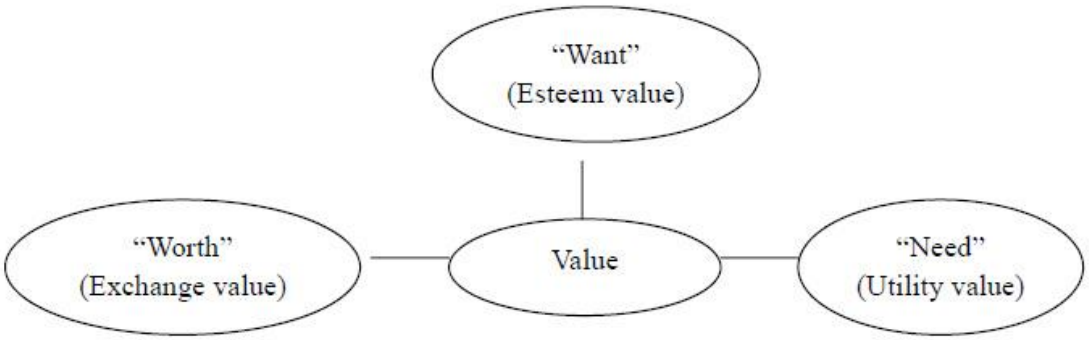


Figure 3.5. Customer perception of value
(Source: Kaufman, 1999)

The Kano model is a unique and flexible model for gathering and characterizing user needs, expectations and preferences and to identify the highest-priority quality factors from the user perspective. The model is constructed through surveys, where a customer questionnaire contains a set of question pairs for each and every product attribute. The question pair includes a *functional form question*, which captures the customers' response if a product has a certain attribute, and a *dysfunctional form question,* which captures the customers' response if the product does not have that attribute (Table 3.1). The questionnaire is deployed to a number of customers, and each answer pair is aligned with the Kano evaluation table, revealing an individual customer's perception of a product attribute (Table 3.2). The final classification of a product attribute is made based on a statistical analysis of the survey results of all respondents (Mikulic, 2011) (Figure 3.6).

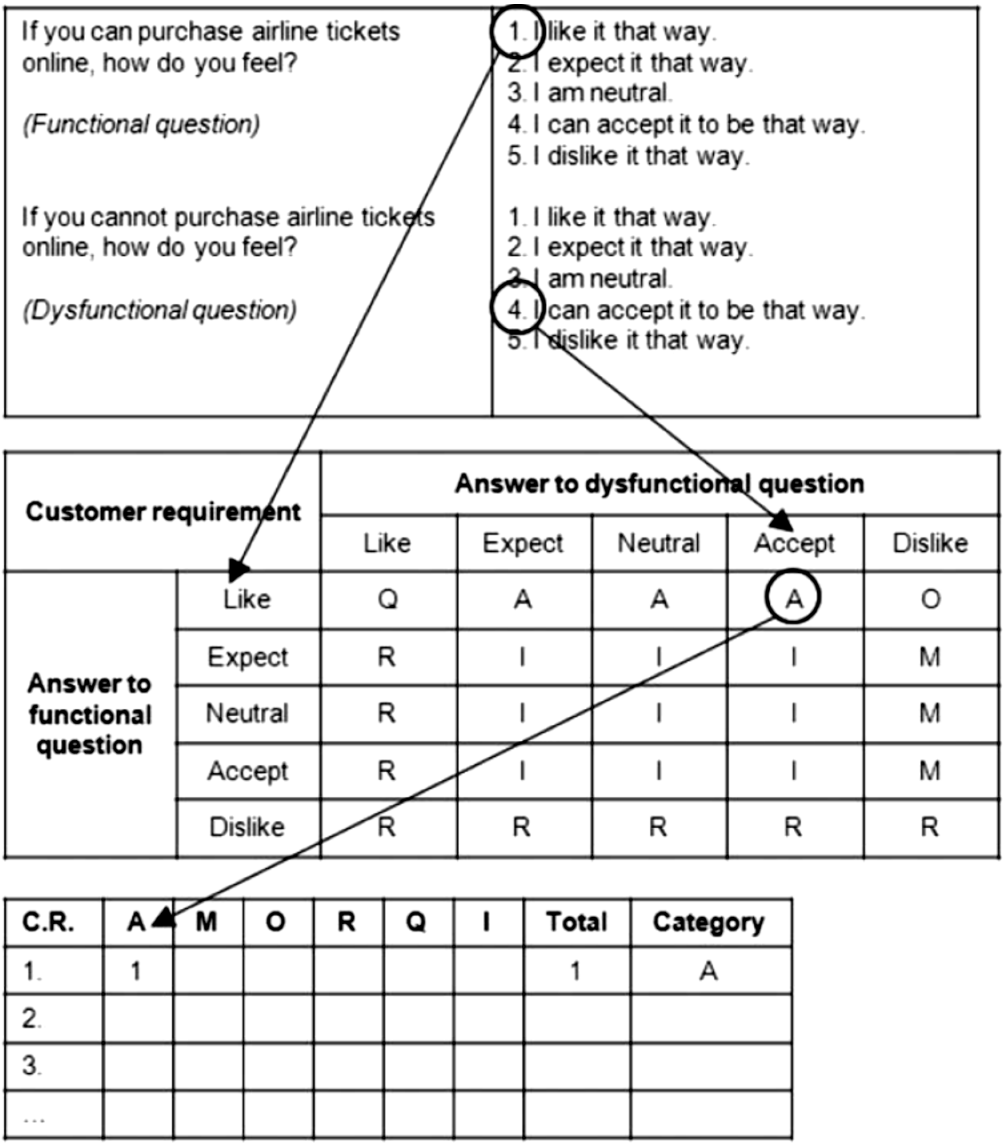
Table 3.1. An example of Kano questionnaire

Kano question	Answer
Functional form of the question (*e.g., if the car has air bags, how do you feel?*)	☐I like it that way ☐It must be that way ☐I am neutral ☐I can live with it that way ☐I dislike it that way
Dysfunctional form of the question (*e.g., if the car does not have air bags, how do you feel?*)	☐I like it that way ☐It must be that way ☐I am neutral ☐I can live with it that way ☐I dislike it that way

Table 3.2. Kano Evaluation table

		Dysfunctional				
Customer requirements		Like	Must-be	Neutral	Live with	Dislike
Functional	Like	Q	A	A	A	O
	Must-be	R	I	I	I	M
	Neutral	R	I	I	I	M
	Live with	R	I	I	I	M
	Dislike	R	R	R	R	Q

Notes: A: Attractive, O: One-dimensional, M: Must-be, I: Indifferent, R: Reverse, Q: Questionable



Customer requirement		Answer to dysfunctional question				
		Like	Expect	Neutral	Accept	Dislike
Answer to functional question	Like	Q	A	A	A	O
	Expect	R	I	I	I	M
	Neutral	R	I	I	I	M
	Accept	R	I	I	I	M
	Dislike	R	R	R	R	R

C.R.	A	M	O	R	Q	I	Total	Category
1.	1						1	A
2.								
3.								
…								

Notes: A = attractive; M = must-be; O = one-dimensional; R = reverse; Q = questionable; I = indifferent

Figure 3.6. The Kano Method
(Source: Mikulic, 2011)

Kano suggests how different aspects of quality attribute change with time. Customer satisfaction with a given feature will deteriorate over time. User's expectations continually increase therefore today's attractive attribute is tomorrow's must-be attribute (Figure 3.7).

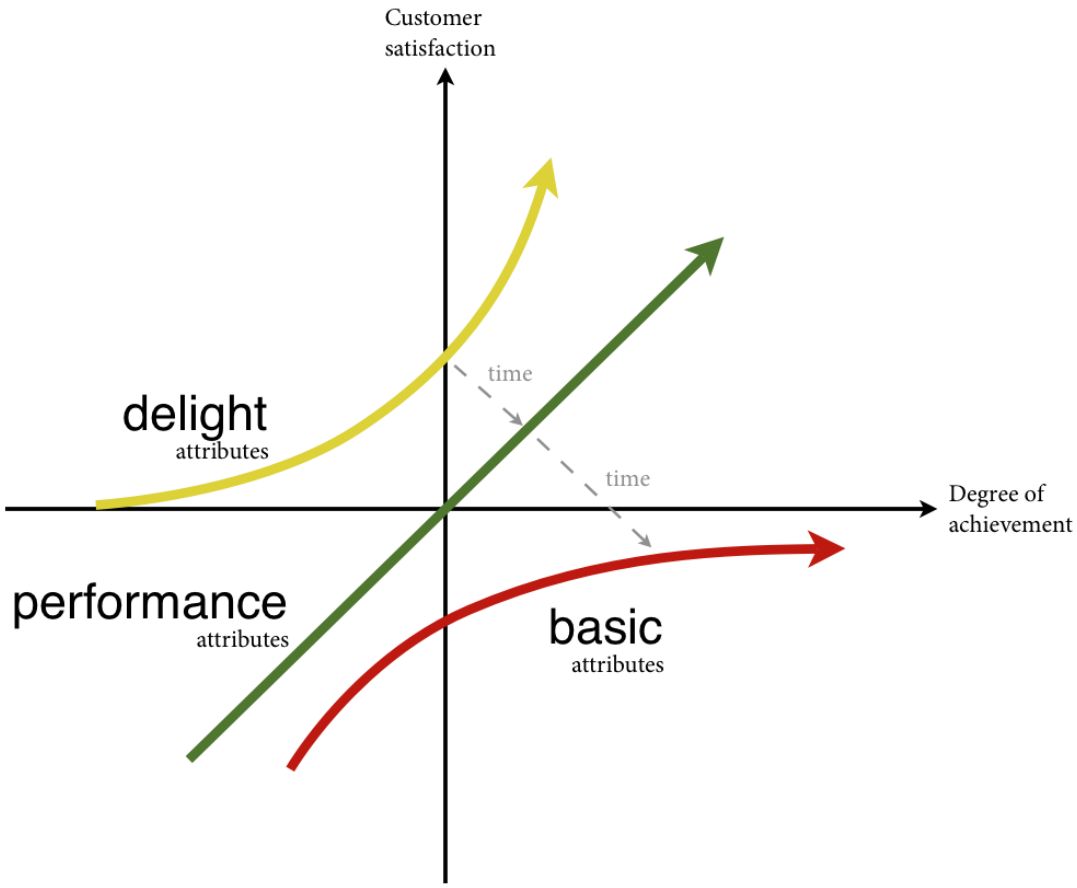


Figure 3.7. How time affects Kano attributes
(Source: Chen and Lin, 2007)

3.2. Criticism on the Kano model

Kano model is widely accepted in quality research. In order to enrich its usability some researchers use Kano in line with other models such as Service Quality Model (SERVQUAL), Quality Function Deployment (Sireli et al.2007; Baki et al., 2009) and Analytical Hierarchy Process (AHP) (Radfar et al., 2014). Even Kano's model has also been adopted as a component for Six Sigma practices popular in quality management.

Despite the benefits and usability with different approaches in quality management, Kano model is not without critique. The criticism on Kano Model is grouped into three categories as outlined below:

(1) The length of questionnaire: Matzler (2004) pointed out that due to the structure of the functional and dysfunctional type of question pairs, the length of the questionnaire can be boring.

(2) Problems on wording: To improve the original methodology, several authors have modified the wording of the questions and/or the answers:

- wording of the five optional answers in the questionnaire
- wording of the categorization (Tontini, 2000; Chen and Lee, 2009; Ek, 2012):

(3) Limited number of categories: Some researchers modified the subcategories of the original Kano categories. For example, Yang (2005) pointed out that, Kano's must-be category could be enhanced by an importance factor that would result in necessary attributes and critical attributes. Similarly, one-dimensional attributes could be categorized as high-value adds or low-value adds (Table 3.3). This two-category classification continues for each of Kano's categories except "reverse attributes," which are excluded from Yang's refined model (Gregory and Parsa, 2013). Similarly, Tontini (2000) indicated the limited number of possibilities in the answer sheet. He extended the number of answer-choices from five to seven by adding new categories of "very attractive" and "very must-be".

Table 3.3. Categories of Yang's modified model
(Source: Gregory and Parsa, 2013)

Kano model	Yang's high-importance categories	Yang's low-importance categories
Attractive	Highly attractive	Less attractive
One dimensional	High value added	Low value added
Must be	Critical	Necessary
Indifferent	Potential	Carefree

3.3. Kano's Model in Quality Studies

Since Kano has first introduced his methodology in 1984, several industries/disciplines have extensively applied Kano's Model as an effective tool to understanding customer preferences (Table 3.4). According to Luor et al. (2012), top four subject areas (out of 30) using Kano model between 1998 and 2012 are business economics (32.6 %), engineering (17 %), operations research management science (12.1 %) and computer science (9.9 %).

Table 3.4. Use of Kano Model in Different Industries
(Source: Mikulic, 2007; Luor et al., 2012)

Author(s) / Year	**Industry / Field ***
Brandt (1987)	transport services
Berger et al. (1993)	technical products
Matzler et al. (1996)	sports products
Chikara and Takahashi (1997)	information system
Tan and Shen (2000)	IT (web page)
Erto and Vanacore (2002)	tourism (hotel service quality)
Ting and Chen (2002)	retail services (hypermarket)
Jane and Dominguez (2003)	health care
Matzler et al. (2003)	bank services
Conklin et al. (2004)	retail outlet
Matzler et al. (2004)	automotive supplier
Chen et al. (2005)	mobile-commerce car system
Riviere et al. (2006)	food products
Shahin and Zairi (2009)	airline industry
Moura and Saraiva (2010)	daily services (Kindergarten)
Tsai et al. (2011)	tourism
Yi-Kai et al. (2014)	green building design strategy
Zhang and Wang (2014)	recreational travel

* Empirical studies in different industries are cited. Studies on methodology and theory are not included in the list.

Kano analysis was initially used in the development of the manufactured product quality (Kano et al., 1984). Schvaneveldt et al. (1991) apply Kano's two-way quality

model to banks, dry cleaning establishments, restaurants and supermarkets. They found that the five quality elements are different in the four service industries. Matzler & Hinterhuber (1998) believe that Kano's model can help businesses to understand the quality features that can satisfy customers, and can locate customers of different segments according to the quality features. Shen *et al.* (2000) discussed another important implication of Kano's model concerned with the timely delivery of products and services. Kano's model posited that attributes that had once been attractive, over time, become one-dimensional. Zhang & von Dran (2002) use Kano's model on website design quality. Ying-Feng Kuo (2004) uses Kano's model to categorize web-community service quality dimensions and their elements and understand the demands of users. Matzler at al. (2004) apply Kano analysis to employee satisfaction in a pharmaceutical company. Williams et al. (2008) explore the possibilities of increasing customer satisfaction and reducing the environmental impact from food-packaging systems in a life cycle perspective using results from a study on consumers' demands on packaging based on Kano's Theory of Attractive Quality.

Empirical studies using Kano's Model in Turkey are limited in numbers and generally refers to service industry including education (Uca and Menteş, 2008), new product development (Sofyalıoğlu and Tunail, 2012), logistics (Uğur, 2007) retail (Tabak et al., 2006), tourism (Bilgili et al., 2012; Korkmaz, 2013) and customer satisfaction (Delice and Güngör, 2008).

Dissertations, documented by Higher Education Council's (YÖK) Dissertation Center, are also limited in number referring service quality in the areas of health, tourism, food industry and innovative product development.

The main unit of analysis in studies applying Kano's Model based on customer satisfaction in different service industries is industrial product or service. Among them, a few recent studies such as Yi-Kai et al.'s (2014) are related to architectural design. Similarly, Ek's (2012) study scrutinizes architectural design quality and user satisfaction of building condition as a part of housing industries' product, mass-housing units as the unique case of standardized design quality in architecture.

Understanding attributes of quality elements as described in Kano model can be adapted to improving QoUL. Therefore, one can select different strategies for different qualities and focus on priorities for product/service development. The goal is enhancing quality of urban life and minimizing dissatisfaction from the urban environment. In the

next section potential contribution of Kano's model into the urban studies will be discussed.

3.4. Kano's Model for Urban Studies

Despite some partial applications of Kano's model related to satisfaction level of people on some daily urban services (i.e. parks, kindergarten) until now, no studies have applied Kano's methodology to the definition of urban dwellers' need-based quality perceptions in any geographic setting (i.e. neighborhood level for this study). However, Kano's Model can contribute to urban studies whose relations will be discussed in this section.

Kano Model focuses on product/service quality. What is the product of urban planning and design? Urban planning and design deals with its product, the urban space (Madanipour, 2007). In the term 'urban planning', 'urban' part refers to product. The modern term "city" comes from civic or civilization which has Latin origins urb and civitas. The *civitas* was the realm of the religious and political; the *urbs* was the place, a solid one (Sennett, 1992). On the other hand, 'planning' part implies a process that managing and shaping the urban spaces.

We see these dichotomy in the urbanism related occupations. According to Madanipour (1997), architects have historically been interested in the product of their design and not in the management and urban development processes regarding to implementation. On the other hand, planners have larger interest with the policies and procedures of change in the urban environment. In one hand, urban planning and design attempts to understand (describing) urban spaces as product, on the other hand, it is expecting that managing and designing (prescribing) this process for the future.

In todays urban planning and social sciences interface, researchers face mainly two subjects. The former refers to understanding meaning and measurement of quality of life; the latter is to develop principles or to define indicators in the evaluation of changes in QoL. Kano model assists researchers to understand user-defined quality (Voice of Customer in quality management studies) and to mobilize this knowledge by making invisible ideas about quality make visible.

In Marans's (2003: 75) study there are two main assumptions measuring the quality of geographical environment. Firstly, quality of any geographic setting (i.e. city,

neighborhood, house) cannot be captured with a single measure. Rather, measures of the multiple attributes of the setting in question are needed. Secondly, quality is a subjective phenomenon reflecting the lives of the setting's occupants.

Parallel to his second assumption, Marans (2003) criticizes studies QoL only as an objective issue. Firstly, he indicates that a use of indicator set in these studies generally depends on the personal view of researchers whose influence can be observed in the selection of indicators and weighting them. Secondly, the absence of the idea of occupants of this place in the evaluation and prioritization of the quality of life measures. The most importantly, those objective QoL studies do not assume that the change in the QoL in a settlement varies in terms of different segment of population. In that sense, Kano model gives greater flexibility to researchers in assessing how different groups' perception of quality vary through their needs and priorities.

Policy makers are concerned with the subjective meaning of satisfaction that their policies may alter. Often, they want to know the most effective means of enhancing satisfaction. Therefore, producing an urban planning policy to know user's priorities and needs in different urban contexts creates advantages in decision-making process. Scanty available resources are sometimes invested in improving aspects that citizens do not perceive as important. It is therefore particularly necessary to have tools that can include citizens' opinions in the urban development process. In this context, Kano's model would support urban managers to ensure that resources are invested in aspects that can increase citizens' satisfaction.

The fields of architecture and town planning establish a relationship between the quality of an urban community and its physical form, in order to develop an understanding of the social, psychological, and physical elements that contribute to a quality community. Environmental perception studies of Lynch (1961), Appleyard (1981), Rapoport (1982) Nasar (1997) testified that good environmental quality promotes social life and a sense of well-being. Understanding the cognitive factors behind citizens' evaluation of their city or neighborhood is a complex process that requires the interrelation of different areas of knowledge beyond urban planning. Accordingly, models in quality management studies like SERVQUAL, QFD and Kano would be considered in urban research focusing on quality of urban life.

Those environmental perception literatures also illustrate that the relationship between user response and stimulus properties is not necessarily linear. Therefore, to measure non-linear behavior, analytical techniques are needed to understand overall

satisfaction. Quality management studies have been working in this line for many years. Thus, Kano's Model, provides a non-linear treatment of the importance of individual product attributes for user satisfaction. This model provides two-dimensional quality perception that gives us clues whether certain consumer needs are completely, partially or barely fulfilled.

Another discussion is on the nature of the product, urban space whose nature is ambiguous and complex. In this context, Kano's Model presents a flexible tool of translating vast majority of urban dimensions into a language of quality of urban life (see Ek 2012 for a larger discussion).

3.5. Summary

As discussed, the Kano model has been applied within a variety of contexts and industries. In this chapter, Kano's model and its application were scrutinized within the light of quality management studies. Also, the possible role of Kano's model in quality of urban life studies was discussed literally. In the next chapter, Kano's model technical and place-based elaborations will be mentioned in the case study area.

CHAPTER 4

CASE STUDY

4.1. Research Design

This study explores the concept of quality of urban life (QoUL) defined as the performance level of urban life towards the needs and expectations of residents. In other words, QoUL refers to the degree of satisfactory character of urban life. Major aims of the study is to give additional information to urban policy makers and planners about needs of different socio-economic groups and their satisfaction with urban living and to re-define the QoUL as meaningful and measurable set of indicators rather than abstract issue in terms of planning policy and practice.

The term ‘quality’ is subjective however largely due to the difficulty in measurement; the subjective nature of quality of life has not been adequately addressed in the planning literature. The study uses Maslow’s theory of needs as a starting point to investigate subjective dimensions of QoUL. It explores QoUL in a neighborhood scale since subjective evaluations gain significance while the geographic scale getting smaller. To address the significance and priority of subjective dimensions and to re-define in terms of quality terms Kano model is selected as an analysis tool.

Prior to main study, a preliminary survey was designed to exemplify reliable application of Kano’s Model in the quality of urban life context. Based on this idea, survey was designed in three main steps:

- In the first step, Kano questionnaire format was tested by urban planning professionals and then case study area was selected.
- Second step consists of a focus group discussion about need-based quality variables derived from previous literature survey.
- Combining the results of previous steps, a preliminary Kano questionnaire was prepared and applied to 58 users who live in the case study area. The results illustrated that preliminary survey design is reliable and ready to area-wide application. Figure 4.1 illustrates the designation of the survey.

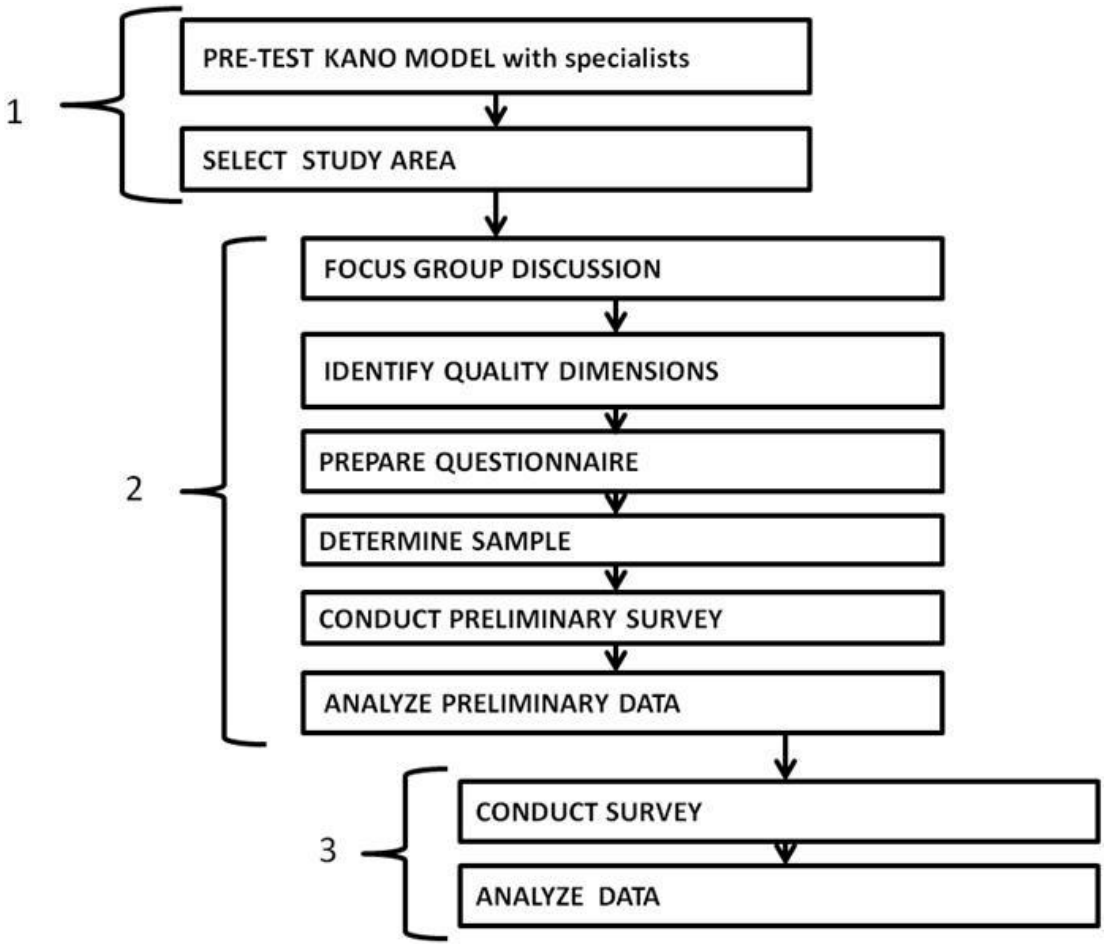


Figure 4.1. Steps in the Survey Design

4.1.1. Pre-testing of Kano Model

Preliminary survey was designed and conducted to justify Kano Model to the purposes of the study. The survey has been delivered to 8 academic experts including urban planners and architects. Respondents answered three questions about the coverage and general design of the survey. The analyzing of the pre-test gave acceptable results in terms of the distribution and coverage of the Kano quality groups. Pre-test gave an impression that the question design is important in terms of positive and negative question pair (Table 4.1).

Table 4.1. Pre-test Results

Are the questions comprehensible?	**YES**	**NO**	**NO ANSWER**
	6	**1**	**1**
Is the length of the questionnaire acceptable?	**TOO LONG**	**LONG**	**NORMAL**
	-	**4**	**4**
Is the layout of the questionnaire clear?	**YES**	**NO**	
	7	**1**	

Throughout pre-test study, question of usability of Kano's model as an analysis tool in the evaluation of QoUL was explored. Respondents evaluated Kano Model as suitable method to determine rankings of urban quality of life. However, due to the Kano Model's positive and negative question type, questionnaire could be boring to potential respondents and they suggested that the length of should be kept in acceptable limits. Case study selection was made after the constructive comments of the focus group study experts.

4.1.2. Description and Selection of the Study Area

Field survey was conducted in Bornova that is one of the largest metropolitan districts of Izmir home to a population of 419624 according to Turkish Statistical Institute's 2013 data. Following Karabağlar and Buca, Bornova is the third largest district of Izmir and has a share of 10.6 % in the total population. Ege University and Yaşar University have campuses in the jurisdictions of Bornova. The district also located at the nodal point covering major intercity transportation networks in Izmir (Figure 4.2).

Evka3 is one of the 32 neighborhoods within the jurisdiction of Bornova metropolitan district. According to Turkish Statistical Institute's 2013 data, the neighborhood has a population of 19567 people. In the east, Erzene Neighborhood; in the south, İzmir-Ankara state road; in the west, small industrial estate (4. Sanayi); and to the north, forest area surrounds the neighborhood.

Development of Evka3 which is at the northeast part of Bornova reached to 1980s. The neighborhood takes its name from Evka3 Mass Housing Project developed by Izmir Metropolitan Municipality between 1987 and 1989. In this site, there are 1408 housing units with different housing types. Evka3 Mass Housing Project is the first large-scale housing development in the neighborhood followed by Bor-Kop and Adil Demir Housing Cooperatives for low-to middle income families. Neighborhood's legacy has mostly

changed after growing numbers of upper level luxury housing production in early 2000s. As community assets, in the neighborhood there is a primary school (Ergenekon), a private high school (Özel Ege), two state high schools (Yunus Emre and Cem Bakioğlu) and growing numbers of private nurseries located in the region.

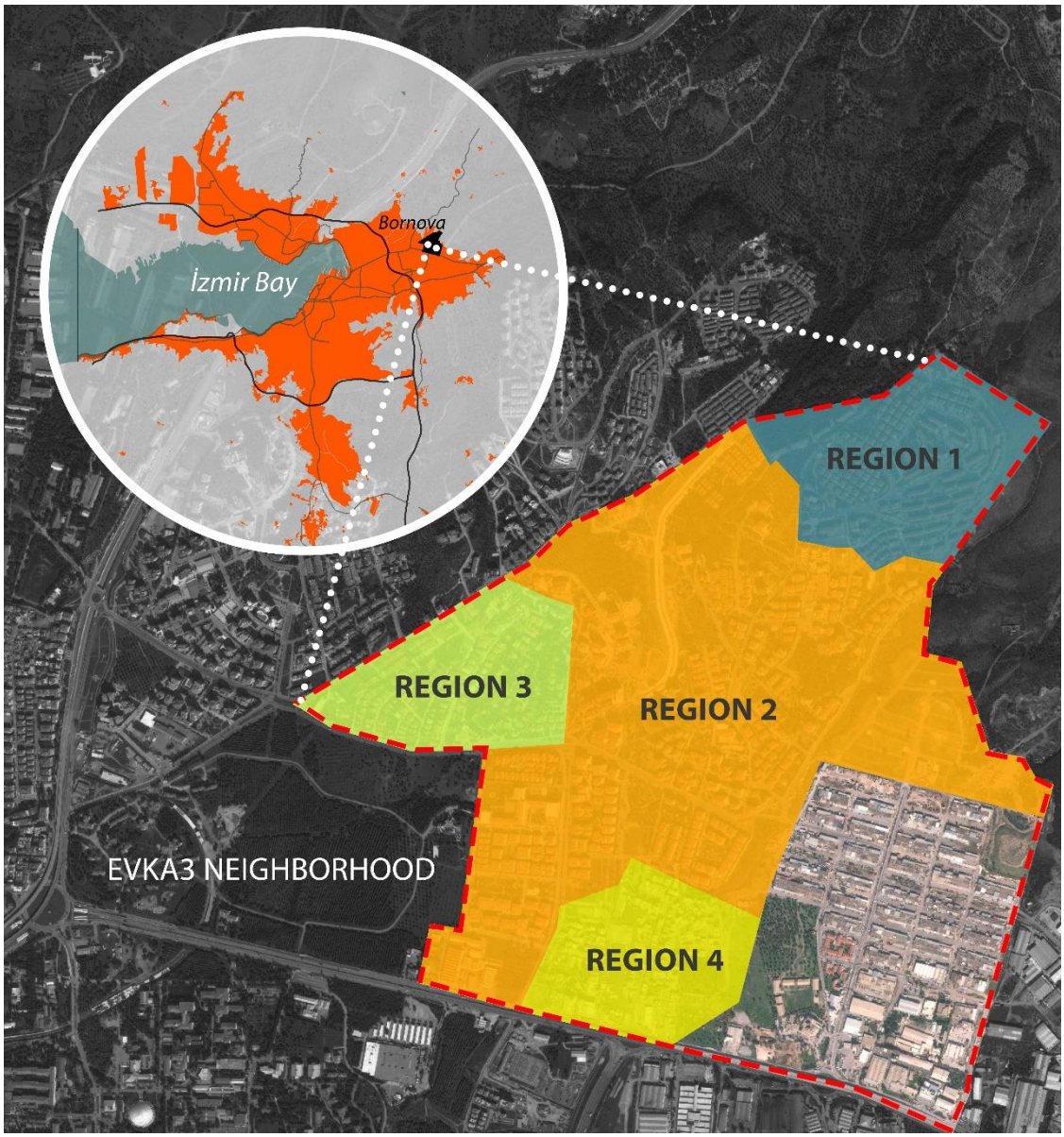


Figure 4.2. Location of sub-regions in the city

Characteristics of sub-regions

Evka3 Neighborhood can be divided into four character areas each of which is classified according to their homogenous characteristics such as housing production method, housing density, housing type and household income (Figure 4.3).

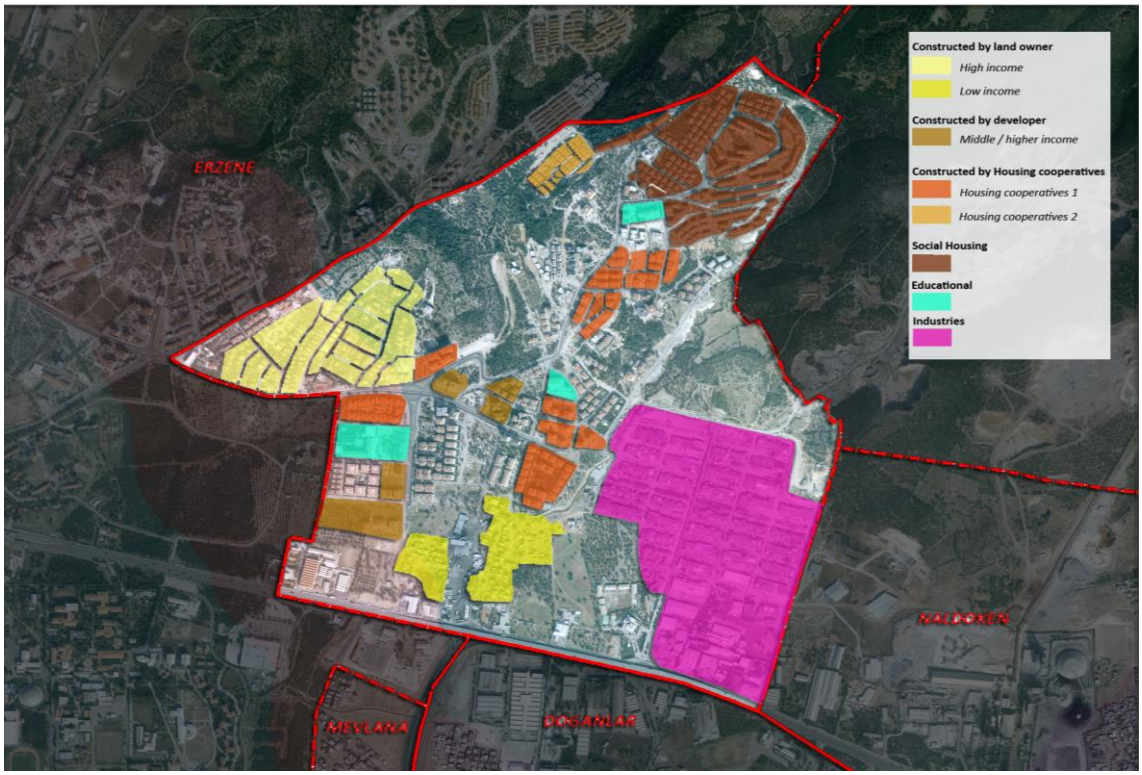


Figure 4.3. Evka3 Neighborhood and Housing Types

Evka3 Mass Housing Project that gives name of the neighborhood is located at the Region-1. This site has been developed approximately on 22 hectare public land completed in 1989 (Özdemir, 1991). In this residential area; 288 units of 115 m^2 triplex residences; 260 units of 110m^2 flats; 740 units of 75 m^2 flats;120 units of 55 m^2 flats; in total 1408 residential units exist. Region-1 is also located on an area with a slope between 5% - 30%. Daily urban services and community assets are severely limited in this region. Environmental quality is fair and in some parts environmental obsolescence is observed (Figure 4.4).

Figure 4.4. A view from Region-1

In terms of land cover, Region-2 is the largest sub-region. Housing development in this region via housing cooperatives and private developers cover high density housing estates and gated communities. Housing development in this sub region is relatively new, starting at the end of 1990s and gaining impetus after 2000s. Housing quality is observed as middle to upper level. Region-2 can be considered as the core of the neighborhood. There is the highest opportunity to reach daily urban services like shopping, neighborhood bazaar, main public transportation routes and connections are in this region (Figure 4.5).

Region-3 is recognized with 'Profesörler Sitesi', a prestigious site with high-quality housing stock and a preferred location in Izmir's real estate market. This sub-region has started in early 1990s as housing cooperative founded by Ege University's academic members. In time, it turns out to be an ill-defined collection of single family houses developing piece-by-piece within the private lots. Some single family houses were then converted to growing numbers of private nurseries (Figure 4.6).

Figure 4.5. A view from Region-2

Figure 4.6. A view from Region-3

Region-4 is located at the southern part of the neighborhood, next to small industrial estate and at the edge of the Ankara-İzmir state road. An illegal housing

development is observed through the axis opening to İzmir-Ankara state road. In this sub-region, an “improvement plan” (1993, 1997) was applied by Bornova Metropolitan District Municipality to control squatter housing around the region. In terms of low housing environment and quality it is easily departed from other sub-regions. Dominated by illegal housing development the area’s image is of a never-finished construction site (Figure 4.7 and Figure 4.8).

Figure 4.7. A view from Region-4

Figure 4.8. Region-4 map

In sum, general characteristics of sub-regions according to production method, housing density, housing types and social profile (income) can be seen in Table 4.2 below:

Table 4.2. Character areas in Evka3 Neighborhood

CHARACTER AREAS	**REGION 1**	**REGION 2**	**REGION 3**	**REGION 4**
Production Method	Mass Housing	Housing Cooperatives and Developer	Constructed by Land Owner	Constructed by Land Owner
Housing Density	Medium-to-High	Medium-to-High	Low	Low–to-Medium
Housing Types	Apartments and Single Family Houses	Apartments and Housing Estates	Single Family Houses	1-2 -3 storey houses
Social profile (Income)	Low–to-Middle	Middle –to-High	High	Low

After reviewing housing character areas, Evka3 Neighborhood is found as an appropriate case study area which selection criteria are given below:

- A neighborhood with heterogeneous character (in terms of density, social profile, housing types, housing production method).
- Recently developed area (late 1980s onwards) in which both planned development and unplanned development occurs simultaneously.
- Residential environment with suburban character.

4.1.3. Focus Group Study and Identifying Need Dimensions

Lang (1994) outlines a comprehensive framework based on Maslow's theory of human needs that aims to help urban designers and planners to understand the relationships between basic human needs, behavior and physical structures. In this research, Lang's study is largely adopted in the determination of two major categories of needs as basic level needs and higher level needs. Basic level needs are divided into four sub-categories as shelter, urban environment, social and security. Under these sub-categories, types of needs are listed. Higher level needs are also divided into two major categories namely as self-esteem and self-actualization. Consequently, as seen in Table 4.3, in two major needs level 6 sub-categories and 28 needs are defined. Keeping feedbacks of pre-test study in mind and positive and negative types of Kano's question pairs, number of sub-components are limited to a reasonable numbers due to ease of implementation when conducting the questionnaire.

Major categories of needs and their sub-components were evaluated by focus group study. Firstly an interview was done with headman of neighborhood (mukhtar), aim of the study is explained and focus group study is conducted with the participation of Mukhtar. Within the case study area from four sub-regions 7 volunteers were selected with the help of Mukhtar. Together with these volunteers and Mukhtar aim of the study and variables anticipated to use in the main study were explained approximately for 50 minutes and overall strategy of the study was discussed in detail. An intimate discussion environment was created to encourage participants freely reflecting their own point of view. In focus group study, two major needs categories, 6 sub-categories and 28 needs sub-components were discussed. Then, group members were asked to rank categories as "very important", "important" and "not important". It was also asked whether listed needs

are easily understandable and good enough in terms of scope and coverage. When some needs components such as "personal privacy", "feeling of equality and "justice" were regarded as basic priorities for urban living, some other needs components related to housing such as "affordability" and "housing characteristics" would be considered as positive by the group members in order to increase the clarity of the survey. Within this framework, prior to and after the focus group study, needs sub-components were rearranged (Table 4.3). Finally, revised table of needs cover 2 major categories, 7 sub-categories and 21 needs sub-components (see Table 4.4, Figure 4.9 and Appendix A).

Table 4.3. Identification of quality dimensions in the light of Maslow's theory (based on Lang, 1994)

BASIC LEVEL NEEDS (16)				**HIGHER LEVEL NEEDS (12)**	
SHEL TER ~~(5)~~	**~~URBAN ENVIRONMENT AND SERVICES (7)~~**	**SECURITY (2)**	**SOCIAL (2)**	**SELF-ESTEEM (7)**	**SELF-ACTUALIZATION ~~(5)~~**
Affordability	Urban Services	Psychological safety	Relations with Neighbors	Place attachment	Practicing cultural facilities
~~well built, in good condition~~	Shopping	Physiological safety	Social facilities	Status neighborhood	Aesthetic and design living environment
~~size and comfort~~	Public transportation			Participation decision-making	Ecological behavior
~~parking~~	Urban infrastructure			Satisfaction income and working condition	~~Feeling of equality and justice~~
~~garden~~	Green Recreation			Display personal skills	~~Historical and natural amenity rich environment~~
	Physical exercise			~~Personal privacy~~	
	~~Healthy environment~~			Learning opportunities	

Table 4.4. Revised needs sub-components after focus group study

BASIC LEVEL NEEDS (12)					**HIGHER LEVEL NEEDS (9)**	
SHELTER (2)	**HEALTH (2)**	**SECUR. (2)**	**SOCIAL (2)**	**COMF. (4)**	**SELF-ESTEEM (5)**	**SELF-ACTU. (4)**
Housing affordability	Green Recreation	Psycho. safety	Relations with Neighb.	Urban Serv.	Place attachment	Practicing cultural facilities
Housing charac.	Physical exercise	Physio. safety	Social facilities	Shopping	Status neighborhood	Aesthetic & designed env.
				Public trans.	Participation decision-making	Ecological behavior
				Urban infra.	Satisfaction income and working cond.	Learning opport.
					Display personal skills	

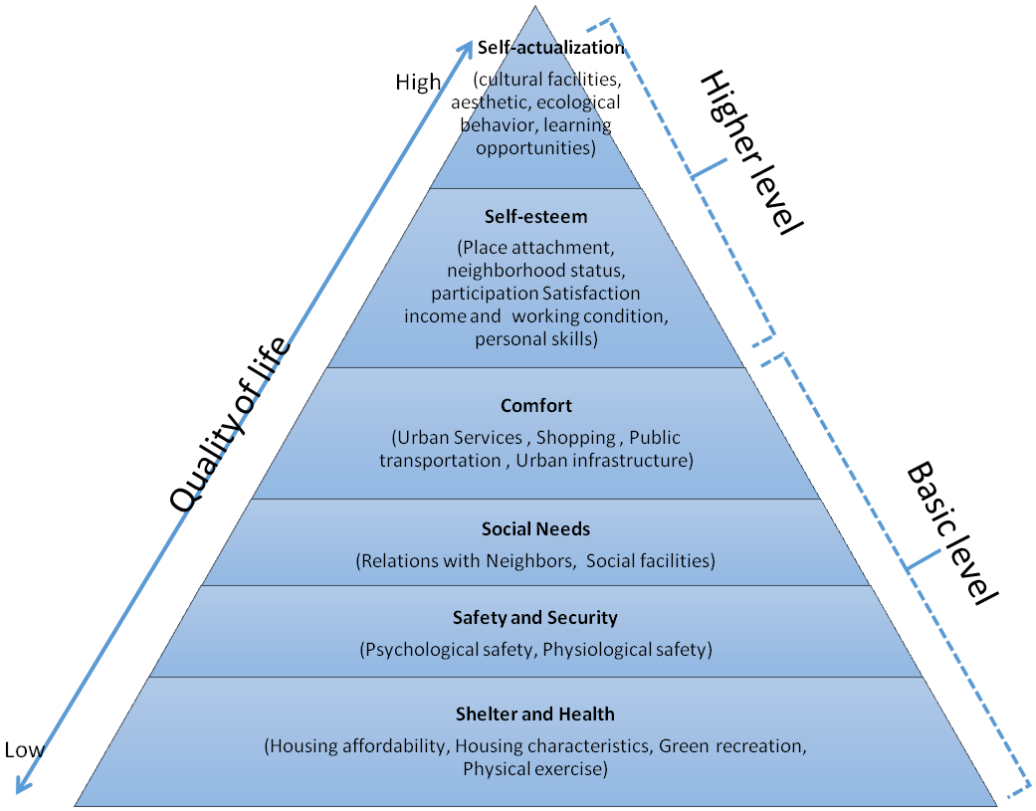


Figure 4.9. Elaborations of need dimensions for the study

4.1.4. Questionnaire Design with Kano Model

To obtain accurate and relevant information and to maximize the return of answers as much as possible Kano questionnaire is prepared using different types of participation mechanisms. The survey is sensitive not to obtain personal information, reasonable length of time answering the questionnaire and clarity of questions for the similar level of understanding by the respondents. A face-to-face questionnaire technique is selected and before starting the survey all participants is informed about the purpose of the study. The survey questionnaire is composed of seven main parts:

1. Background questions
2. Kano questions
3. Self-stated importance of users
4. Satisfaction of housing environment-neighborhood and urban life
5. Open ended questions about satisfaction and dissatisfaction factors in neighborhood and city
6. Opinions about changing perception of urban life quality in 5 years' time
7. Basic characteristics defining high quality of urban life

In the first part of the survey, basic demographic information about respondents (age, gender, marital status, income, education, occupation, home ownership, house size and duration of time in the city and the neighborhood) are asked.

In the second part, fit to the purposes of the study, revised Kano questions are asked. Kano's model is used as unique and flexible model for characterizing users' needs. This model is easily applied when evaluating users' expectations about service and product quality. On the other hand, it is the first time in this study Kano's Model is used to evaluate urban needs and priorities of users. Therefore, question types are revised in order to fulfill the purposes of this study. Due to survey is applied in Turkish language original English language question structures are adapted to Turkish. To do this, a literature review was done to find studies in Turkey using Kano Model. In these studies, Kano question types and its Turkish equivalents are investigated. After then, survey questions are prepared in line with the conventional Kano questionnaire. Based on basic level needs and higher level needs, 21 needs components are constructed according to both positive and negative Kano question pairs. For each feature, a pair of questions are formulated to which the users can answer in one of five different ways (Table 4.5).

Table 4.5. Question types applied in the survey

What do you think if you find healthy exercise opportunities in your everyday life (walking trails, bicycle roads, sports and activity areas etc.) ?	☐ I like it that way ☐ It must be that way ☐ I am neutral ☐ I can live with it that way ☐ I dislike it that way
What do you think whether you do not find healthy exercise opportunities in your daily life?	☐ **I like it that way** ☐ **It must be that way** ☐ **I am neutral** ☐ **I can live with it that way** ☐ **I dislike it that way**

In English, uses of the answer categories "I like it that way" and "It must be that way" if translated to Turkish as "Çok hoşuma gider" and "Öyle olmasını beklerim" the differences in the meaning of these phrases are so close and causes the lack of clarity when answering the question. The Kano literature highlights that international implementation of Kano's conventional answer categories may cause semantic shift in different languages and advised to be approach questions carefully: "If you do translate the questions and answers, you need to make sure Kano's "spirit"- that is, classification – survives" (Berger et. al., 1993).

Combining the studies in Turkey using Kano Model Turkish language question and answer types are investigated and their equivalents preferred in this study are given in Table 4.6.

Table 4.6. Kano Questionnaire in Turkish Language

CONVENTIONAL KANO ANSWERS	**İPEK EK (2012)**	**ELİF KILIÇ DELİCE, ZÜLAL GÜNGÖR (2008)**	**PREFFERED IN THE STUDY**
I like it that way	Çok hoşuma gider	Hoşlanırım	**Kesinlikle isterim**
It must be that way	Öyle olmasını beklerim	Öyle olmalı	**Tercih ederim**
I am neutral	Fark etmez	Farketmez	**Farketmez**
I can live with it that way	Hoşlanmam ama katlanabilirim	Katlanabilirim	**Katlanabilirim**
I dislike it that way	Hiç hoşuma gitmez	Hoşlanmam	**Kesinlikle İstemem**

Kano's method often uses a self-stated importance questionnaire together with the Kano questionnaire. Thus, the third part of the questionnaire is designed to collect self-stated importance questions that can help to understand the relative importance of each requirement for users and focus attention on the most important results from the Kano Survey. Constructing the self-stated importance questionnaire is straightforward:

1. For each of the user requirements to be included in the Kano questionnaire, construct a question on the self-stated importance questionnaire in the following format (Table 4.7).

Table 4.7. An example of self-stated importance question

	Not Very Important		**Neutral**		**Extremely Important**
	1	**2**	**3**	**4**	**5**
How important for you to find healthy exercise opportunities in everyday life?					

2. Provide a scale on which users can mark their responses from 5 points Likert scale table varies from "Extremely important" to "Not very important".

   Following parts of the Kano Survey devoted to Kano support questions that aim to test the findings of the Kano's Model. In the fourth part of the survey, user satisfaction levels on the housing environment, neighborhood and urban life were asked on 5 points Likert scale illustrated in Table 4.8.

Table 4.8. Examples of satisfaction level of users

	Completely Dissatisfied		**Neutral**		**Completely Satisfied**
	1	**2**	**3**	**4**	**5**
Housing environment					
Neighborhood (Evka3)					
City					

In the fifth part of the survey, respondents were asked to answer open-ended questions measuring the level of satisfaction or dissatisfaction about their neighborhood and the city by prioritizing three options respectively. Answers given in this part of the

survey will be compared in terms of conformity with the original analysis of Kano Model (Table 4.9).

Table 4. 9 Open-ended question format

	I am Satisfied with	I am dissatisfied with
Housing Environment		
Neighborhood (Evka3)		
The city of İzmir		

In the sixth part of the survey respondents were asked in which way their quality of living change in the last five years' period. To this end, one-dimensional scale was used from "worse" to "better" (Figure 4.10).

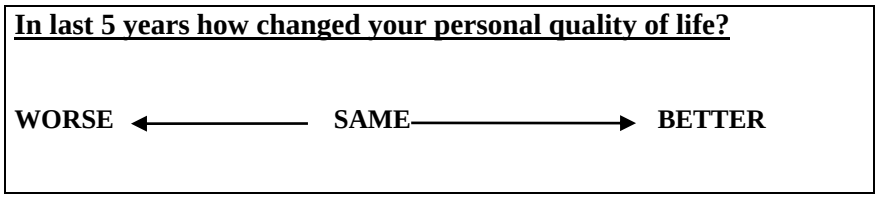


Figure 4.10. Temporal change in the perception of QoL

In the last part of the survey, open-ended questions were asked to define characteristics of high quality living environment. In this section, it was aimed to measure which user-defined quality dimensions are effective on the respondents' perception and definition of urban quality (See Appendix B).

4.1.5. Data Collection and Analyzing Strategy

In preliminary study, suitability and reliability of Kano's Model were justified. Evka3 Neighborhood has divided into four homogenous character areas. Number of housing units and household belonging to those areas is taken from Turkish Statistical Institute's Address Based Population Registration System (ABPRS) (Table 4.10).

Table 4.10. Distribution of housing, household and sampling size by regions

	Housing Units	Number of Household	Number of Survey
Region 1	413	1542	63
Region 2	464	4239	99
Region 3	346	824	34
Region 4	231	481	40
Total	1454	7086	236

Sampling Method

In the literature it is stated that at least 30 sampling in each group guaranties the validity of the results (Arlı and Nazik, 2001). On the other hand, in Kano literature, it is highlighted that at least 10 sampling for each need/quality variable is acceptable for the validity of the study. When considering 21 Kano survey variables were defined, minimum sampling size should be 210 provided that at least 30 surveys was conducted for each need/quality dimension category. Accordingly, sampling size was determined as 236 in conjunctions with household size given in the Table 4.10 (Raosoft sample size calculator gives closer results when population size of 19567, margin of error: 5%, confidence level 90%). Though a higher confidence level was intended, it was hardly possible to conduct a survey in such a large size regarding the time and supply limitations.

Prior to implementation of the survey streets in the case study area and door numbers of houses located on those streets were determined. Door numbers of houses in the survey were randomly selected from the database constituted in the MS Excel 2007. In case of not to find apartment in the selected address, another sample was determined applying the same procedure. When people in the selected address did not want to accept survey then, continued with a new address according to random sampling method. Firstly, preliminary survey was tested in June 2011, then main survey was conducted between June-July 2012 and January-February 2013 period.

Conduct Preliminary Survey and Analyzing Techniques

In an attempt to confirm the appropriateness of the questionnaire content, prior to implementation, a pilot test was applied to total 58 households representing the four sub-regions with a number of 15,23, 12 and 8 respectively.

For the analysis of preliminary survey data SPSS 17 (Statistical Package for the Social Science) was used. Applying the SPSS quality groups of survey data was

determined. Data of survey respondents was analyzed according to percentage and frequency method. MS Excel 2007 was used for the distributions of answers, reliability analysis, arithmetic means and standard deviations.

Evaluation according to frequencies:

First method used in Kano's Model is frequency distribution measuring the count of the occurrences of values within a particular group or interval. In Kano evaluation, frequency distribution was accepted as starter in order to evaluate general picture of the survey data. Using this method, survey answers were classified according to frequency distribution table (see Table 4.11). For each needs/quality category the most frequent, secondly and thirdly frequently occurred data classifications were obtained. If different needs/quality dimensions counted as equal in numbers then M>O>A>I rule was used for Kano evaluation (Table 4.12).

Table 4.11. Most Frequents Responses to User Needs

	Need Dimensions	**A**	**M**	**I**	**O**	**Q**	**R**	**Total Answer**
1	Housing_affordability	18	4	8	27	1	0	58
2	Housing_characteristics	1	30	13	12	1	1	58
3	Green_recreation	19	6	20	13	0	0	58
4	Physical_exercise	22	0	16	20	0	0	58
5	Psychological_safety	16	2	1	39	0	0	58
6	Physiological_safety	11	3	1	43	0	0	58
7	Neighbours_relations	12	1	19	26	0	0	58
8	Social_relations	23	6	16	13	0	0	58
9	Urban_services	26	3	13	16	0	0	58
10	Shopping	21	2	11	24	0	0	58
11	Public_transportation	7	9	19	23	0	0	58
12	Urban_infrastructure	11	10	15	21	1	0	58
13	Place_attachment	11	6	17	24	0	0	58
14	Status_neighborhood	16	2	14	26	0	0	58
15	Participation_decisionmaking	14	1	32	8	1	2	58
16	Display_personal skills	17	6	22	13	0	0	58
17	Satisfaction_income_working_condition	21	3	10	24	0	0	58
18	Learning_opportunities	7	1	27	23	0	0	58
19	Practicing_cultural_facilities	11	1	27	17	0	2	58
20	Aesthetic_and_design_living environment	19	5	11	23	0	0	58
21	Ecological_behaviour	10	3	25	19	0	1	58

Table 4.12. Kano Evaluation Table
(Source: Berger et al., 1993)

A: Attractive M: Must-be O: One-dimensional R: Reverse Q: Questionable I: Indifference

Customer requirements		Dysfunctional				
		1. I like it that way	2. It must be that way	3. I am neutral	4. I can live with it that way	5. I dislike it that way
Functional	1.I like it that way	Q	A	A	A	O
	2. It must be that way	R	I	I	I	M
	3. I am neutral	R	I	I	I	M
	4. I can live with it that way	R	I	I	I	M
	5. I dislike it that way	R	R	R	R	Q

Preliminary survey data was analyzed using Kano Evaluation Table given above. In Table 4.11, frequency distribution of quality categories was evaluated with the data provided by 58 preliminary survey participants. Similarly, the frequency distribution according to sub-regions can be observed in Table 4.13.

Table 4.13. Distribution of need dimensions by Kano evaluation table

Need Hierarchy	Need Dimensions	R1	R2	R3	R4
Shelter	1. Housing affordability	O	O	O	A
	2. Housing characteristics	M	M	M	O
Health	3. Green recreation	A	O	A	M
	4. Physical exercise	O	A	A	A
Security	5. Psychological safety	O	O	O	I
	6. Physiological safety	**O**	**O**	**O**	**O**
Social	7. Neighbors relations	O	O	I	O
	8. Social relations	A	A	I	A
Comfort	9. Urban services	O	A	A	O
	10. Shopping	O	O	A	O
	11. Public transportation	I	I	O	O
	12. Urban infrastructure	O	O	A	O
Esteem	13. Place attachment	O	O	O	A
	14. Status neighborhood	**O**	**O**	**O**	**O**
	15. Participation decision making	**I**	**I**	**I**	**I**
	16. Display personal skills	A	I	I	O
	17. Income_working condition	O	A	O	O
Self-actualization	18. Learning opportunities	O	I	I	I
	19. Practicing cultural facilities	O	I	I	I
	20. Aesthetic and design	O	O	A	I
	21. Ecological behavior	O	O	I	I

Customer satisfaction coefficient:

Kano Survey's results should be tested by the methods offered in original Kano model. One of these methods is "Customers' Satisfaction Coefficient" (CSC) using in the validity and consistency of survey results. CSC illustrates satisfaction and dissatisfaction level of users regarding to their need fulfillment with that product or service. Satisfaction/dissatisfaction level of users is calculated according to formulas given in the Table 4.14. Satisfaction level ranges from "0" to "1". Should the value close to "1" illustrate that customers' needs fulfilled better. On the other hand, dissatisfaction level ranges from "0" to "-1" implies that the more values close to "-1", the higher their dissatisfaction becomes.

Table 4.14. Calculation method of CS and CDS
(Source: Berger et al., 1993)

User satisfaction coefficient (CS) : (A+O) / (A+O+M+I)
User dissatisfaction coefficient (CDS): (-1) x (O+M) / (A+O+M+I)

Since most of the user needs are classified as one-dimensional (O) (11) and indifferent (I) (6) we need to decide whether their tendencies belongs to must-be (M) or attractive (A) category. To calculate this, Total Customer's Satisfaction Coefficients (CSC) formula is used (Table 4.15).

Table 4.15. Total Customer Satisfaction Coefficient
(Source: Berger et al., 1993)

Total CSC	$\frac{A+O}{(A+O+I+M)} + \frac{O+M}{(-1)x(A+O+I+M)} = \frac{A\_M}{(A+O+I+M)}$

Should the results of Total CSC is positive it is classified closer to attractive (A) category or should the results are negative, that need generally belongs to must-be (M) category. Total CSC results then illustrated among the 17 needs dimensions that fall into one-dimensional and indifferent categories just one of them refers to must-be (M), rest of them are regarded as attractive (A) (Table 4.16).

Two-dimensional Representation of Kano Quality Categories:

The customer satisfaction coefficients are plotted in Figure 4.10. The diagram can be approximately divided into four quadrants according to the different types of requirements. The Y-axis represents impact on satisfaction level, while the X-axis represents the dissatisfaction level. The locations of the cross hair that divide the matrix into quadrants are the means of satisfaction and dissatisfaction level. A representation of satisfaction and dissatisfaction coefficients can also be overlaid on the traditional Kano diagram. This Kano graphic is representing more information simultaneously than a non-graphical approach.

Table 4.16. Customers' Satisfaction / Dissatisfaction Coefficient and Total CSC

	NEED DIMENSIONS	CSC	CDC	Total CSC
1	Housing_affordability	0,79	-0,54	0,25
2	Housing_characteristics	0,23	-0,75	-0,52
3	Green_recreation	0,55	-0,33	0,22
4	Physical_exercise	0,72	-0,34	0,38
5	Psychological_safety	0,95	-0,71	0,24
6	Physiological_safety	0,93	-0,79	0,14
7	Neighbours_relations	0,66	-0,47	0,19
8	Social_relations	0,62	-0,33	0,29
9	Urban_services	0,72	-0,33	0,40
10	Shopping	0,78	-0,45	0,33
11	Public_transportation	0,52	-0,55	-0,03
12	Urban_infrastructure	0,56	-0,54	0,02
13	Place_attachment	0,60	-0,52	0,09
14	Status_neighborhood	0,72	-0,48	0,24
15	Participation_decisionmaking	0,40	-0,16	0,24
16	Display_personal_skills	0,52	-0,33	0,19
17	Satisfaction_income_working_ condition	0,78	-0,47	0,31
18	Learning_opportunities	0,52	-0,41	0,10
19	Practicing_cultural_facilities	0,50	-0,32	0,18
20	Aesthetic_and_design_living environment	0,72	-0,48	0,24
21	Ecological_behaviour	0,51	-0,39	0,12

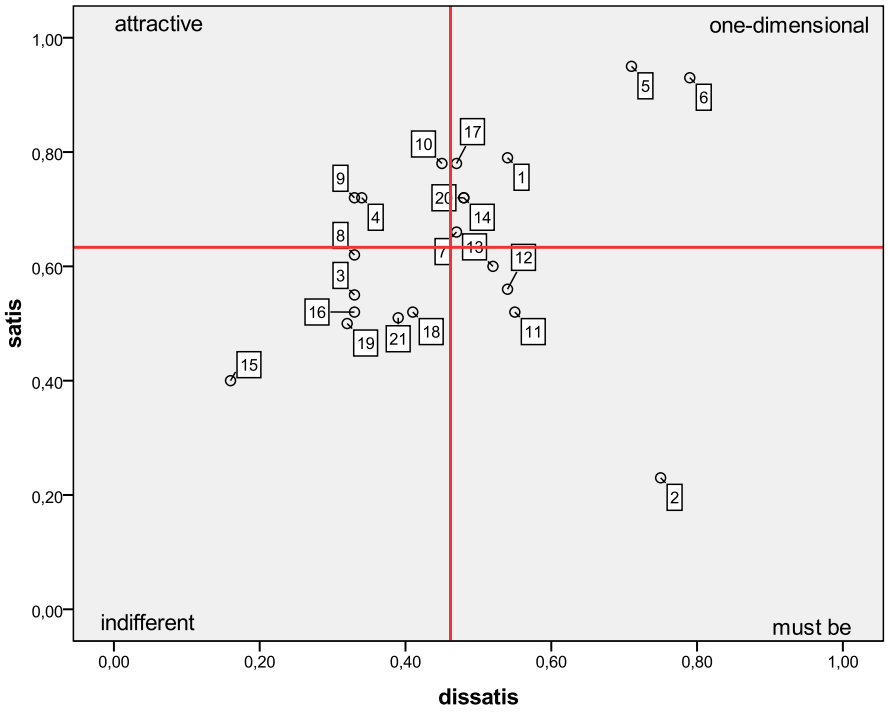


Figure 4.11. Sample graphical representation of Kano quality categories

4.2. Summary

Definition of user needs affecting QoUL and condition of satisfaction/dissatisfaction were analyzed by Kano's Model. Derived from Maslow's Needs Theory, firstly urban dwellers' needs in the case study area were defined. After then, preliminary survey was conducted by using classical Kano question pairs. Within the four homogeneous sub-regions, preliminary survey was conducted (n=58). Using the frequency distribution, user needs was divided into 5 Kano quality categories. To determine effects of needs on the satisfaction level, satisfaction/dissatisfaction coefficients were calculated. Finally, needs list were represented on 2D graphic based on quadrants each of which defines different Kano quality categories.

In this preliminary test, the emphasis was given to effectiveness of Kano calculation methods and questionnaire design rather than the examination of the survey results. The results of preliminary survey study found acceptable in line with Kano questionnaire design. Next section focuses on the assessment of main study results applied to 236 respondents in Evka3 Neighborhood.

CHAPTER 5

EVALUATION OF RESEARCH FINDINGS

5.1. Profile of the Sample

In the case study area, total 236 surveys were conducted to sub regions: 63 in region 1 to 99, 34 and 40 respectively (Table 5.1).

Table 5.1. Region characteristics and number of surveys

CHARACTER AREAS	REGION 1	REGION 2	REGION 3	REGION 4
Production Method	Mass Housing	Housing Cooperatives and Developer	Constructed by Land Owner	Constructed by Land Owner
Density	Medium-to-High	Medium-to-High	Low	Low–to-Medium
Housing Types	Apartments and Single Family Houses	Apartments and Housing Estates	Single Family Houses	1-2 -3 storey houses
Social profile (Income)	Low–to-Middle	Middle-to-High	High	Low
Number and Percentage of Surveys	63 (26.7%)	99 (41.9%)	34 (14.4%)	40 (16.9%)

Derived from survey results, residents' demographics, economic profile, preference of the neighborhood and duration of stay in the city and the neighborhood were analyzed using frequency distribution and cross-tabulation. Characteristics of the sub-regions and some other observational data were given specifically in the previous chapter.

5.1.1. Demographic Profile

Age of the survey respondents are range from 15 to 70. People from 25 to 54 age interval and female respondents are the majority in the case study area (Table 5.2).

Table 5.2. Gender and age distribution by region

Gender	Region 1 (%)	Region 2 (%)	Region 3 (%)	Region 4 (%)	Total (%)
Female	**68**	**67**	**59**	**65**	**65 (1)**
Male	32	33	41	35	35
Total (%)	100	100	100	100	100
Age	**Region 1 (%)**	**Region 2 (%)**	**Region 3 (%)**	**Region 4 (%)**	**Total (%)**
15-19	2	2	-	5	2
20-24	8	8	-	8	7
25-29	11	6	3	13	8
30-34	11	8	**23**	13	12
35-39	11	12	**23**	7	13
40-44	**13**	14	12	**15**	**14 (1)**
45-49	8	11	18	5	10
50-54	**13**	**15**	6	10	12
55-59	9	8	-	7	7
60-64	6	7	-	5	5
65-69	2	5	12	7	5
70+	6	4	3	5	5
Total (%)	100	100	100	100	100

When examining the educational status university graduates are the highest in numbers in the first three regions, in the fourth region, however, primary and secondary school graduates put forward. In sub-region 1 and 2 educational statuses have observed regular distribution. Nevertheless, in region 3 and 4 educational status has big differences in the distribution of items. Third region by university and master-PhD graduates (94%) and the fourth region by primary and secondary school graduates (82%) are distinguished from the other sub-regions. When scrutinizing the case study is university graduates put forward (40%) and then secondary school graduates (24.2%) follow up respectively (Table 5.3).

Table 5.3. Educational statuses by region

Educational Status	Region 1 (%)	Region 2 (%)	Region 3 (%)	Region 4 (%)	Total (%)
Primary school	1	6	-	**30**	8
Secondary school	15	15	3	22	15
High school	30	27	3	**30**	**24.2 (2)**
University (BSc)	**43**	**40**	**68**	15	**40 (1)**
Master-PhD	8	12	26	3	12
Literate	3	-	-	-	.8
Total (%)	100	100	100	100	100

In the case study area, mean of married couples is 75 per cent of the whole population. Percentage of single person is relatively high in the sub-region 1 whose available flats are rented by university students due to its closeness to Ege University and relatively lower level of hire purchase (Table 5.4).

Table 5.4. Marital Status by regions

Marital status	Region 1 (%)	Region 2 (%)	Region 3 (%)	Region 4 (%)	Total (%)
Single	26	18	12	17	20
Married	**68**	**75**	**85**	**80**	**75 (1)**
Other	6	7	3	3	5
Total (%)	100	100	100	100	100

Residents living with their children constitutes 76% of total population that sub-region 3 and 4 takes the lead in terms of ‘people having children’ and ‘number of children’ respectively (Table 5.5).

Table 5.5. Number of residents living with their children

Child Number	Region 1 (%)	Region 2 (%)	Region 3 (%)	Region 4 (%)	Total (%)
0_chid	**41**	30	18	20	**30 (1)**
1_child	25	25	**44**	27	28
2_child	22	**31**	38	**30**	**30 (1)**
3_child	10	11	-	8	8
4_child	2	3	-	15	4
Total (%)	100	100	100	100	100

5.1.2. Economic Profile

When scrutinizing the employment structure of the survey respondents first three regions are dominated with salaried employees. In the fourth region, housewives (32%) take the lead. While the highest unemployment rate is in the region 2 (5%), other regions have the same unemployment rate of 3 per cent. In general, salaried employees (34%), housewives (24%) and retired people (21%) constitute the majority (Table 5.6).

Table 5.6. Occupational distributions by region

Occupation	Region 1 (%)	Region 2 (%)	Region 3 (%)	Region 4 (%)	Total (%)
Employee	**33**	**31**	**57**	26	**34 (1)**
Employer	-	4	-	2	2
Causal	-	4	-	2	2
Self-employed	5	5	14	10	7
Housewife	24	24	14	**32**	**24 (2)**
Students	8	3	-	13	6
Retired	27	24	12	12	**21 (3)**
Unemployed	3	5	3	3	4
Total (%)	100	100	100	100	100

In terms of households' income level region 3 and 4 are at the completely different sites. While in the third region income with 6500 and more is 62 per cent (accompanied by the highest amount of home ownership), fourth region shelters the most low-income households in the neighborhood. Median income in other regions varies between 1500 and 4500 interval.

In general, home ownership is high in the neighborhood (65%). In the third region while homeownership rate is high, tenancy is low. Rest of the regions have similar values in terms of homeownership-tenancy rate. Regarding home size, 101-140 m^2 houses are located in Region 1, 100 m^2 houses in Region 2 and 4, 180 m^2 and above are in Region 3 (Table 5.7).

Table 5.7. Income, home-ownership, home size by region

Income(Turkish Lira- TL)	**Region 1 (%)**	**Region 2 (%)**	**Region 3 (%)**	**Region 4 (%)**	**Total (%)**
600 TL	-	2	-	-	0,8
601-1500 TL	19	19	3	**65**	**24 (2)**
1501-2500 TL	**38**	**25**	-	27	**25 (1)**
2501-3500 TL	24	18	6	-	15,4
3501-4500 TL	10	12	6	-	8
4501-5500 TL	3	9	17	3	8
5501-6500 TL	3	8	6	-	5
6500 TL+	3	7	**62**	-	13
Missing	-	-	-	5	0,8
Total (%)	100	100	100	100	100
Home Ownership	**Region 1 (%)**	**Region 2 (%)**	**Region 3 (%)**	**Region 4 (%)**	**Total (%)**
Owner	**62**	**66**	**76**	**60**	**65**
Tenant	35	33	18	35	32
Other	3	1	6	5	3
Home Size	**Region 1 (%)**	**Region 2 (%)**	**Region 3 (%)**	**Region 4 (%)**	**Total (%)**
100 m^2	45	**44**	6	**50**	39
101-140 m^2	**55**	40	15	48	**40**
141-180 m^2	-	10	20	-	10
180 m^2+	-	6	**59**	2	11
Total	100	100	100	100	100

5.1.3. Mobility Features

Duration of stay in the neighborhood and the city is one of the most used indicators in the QoL studies. Those same studies suggest that displacement has become common trend when QoL is perceived low by residents (see Topçu and Dökmeci, 2005). Similarly, duration of stay is strongly coincided with indicators like place attachment.

In this study, this indicator was asked in the resident survey too. In the case study area there seems to be clusters within 0-5 years (26%) and 11-15 years (25%) intervals regarding duration of stay in the neighborhood. The longest period of stay was observed in the sub-region 1 including the Evka3 Mass Housing. New comers, on the other hand, are located in sub-region 3 hosting high-income group of inhabitants. Regarding duration of stay in the city (İzmir), in all sub-regions, 21 years and above category takes the lead. Besides, new comers (0-5 years) have relatively higher in region 2 (Table 5.8).

Table 5.8. Duration of stay (neighborhood and city)

Duration of stay NEIGHBORHOOD	**Frequency**	**Percent**
0-5 years	62	26,3
6-10 years	42	17,8
11-15 years	59	25
16-20 years	42	17,8
21+ years	31	13,1
Total	**236**	**100**
Duration of stay IZMIR		
0-5 years	23	9,7
6-10 years	21	8,9
11-15 years	36	15,3
16-20 years	26	11
21+ years	130	55,1
Total	**236**	**100**

5.1.4. Selection of the Neighborhood

Motivation of selecting the neighborhood is one of the common indicators in QoL research. Physical characteristics of the home (size, quality etc.), household features (age, income, marital status, home ownership etc.), environmental characteristics of the neighborhood (location, accessibility, availability of social and physical facilities, safety etc.), closeness to friends and relatives, proximity to place to work etc. are cited as the indicators correlated with selection of the neighborhood (Dökmeci and Berköz, 2000).

In the survey, an open-ended question was asked to know "how people selected the neighborhood" and then the most frequent answers were grouped and listed in Table 5.9. It is found that family ties, place attachment, satisfaction with housing and environmental conditions, proximity to work, school and access to transportation facilities are the most frequent reasons in the selection of the neighborhood.

Table 5.9. Reasons for the selection of Evka3 Neighborhood

Personal preferences	Locational preferences	Environmental attributes	Housing attributes
family ties	proximity to the workplace	modern	single family home
place attachment	Proximity to the school	green areas	housing quality
	proximity to the transportation		earth-quake resistant

In the first part of the survey respondent's demographic features, economic profile, duration of stay and selection of the neighborhood and the city were analyzed. Thus, the general characteristics of the neighborhood and the region were described. It was also observed that the result of the survey is validated the observational zoning of sub-regions. In sum, survey respondents in sub-region 1 and 2 have monthly income between 1500 and 4500 Turkish Lira, having vast majority of salaried workers and composed of secondary school and university graduates. Sub-region 3 has the highest income and educational status within the neighborhood, while sub-region 4 is vice versa.

5.2. Perception of Quality Dimensions

5.2.1. Region 1

A Kano survey conducted with a number of 63 in Region 1 characterized with Evka3 Mass Housing Area. Survey results have distinguished to quality categories according to Kano Matrix. Frequency distribution was given in the Table 5.10 subsequently. Perceived needs were observed in A= Attractive, M= Must-be and O= One-dimensional categories.

According to analysis results, in the Region 1, among the total 21 needs dimensions 17, 3 and 1 are determined as one-dimensional, must-be and attractive respectively. For the basic level needs "housing characteristics" and the higher level needs "participation decision making" and "display personal skills" were determined as 'must-be' category. This means that should the needs in this category are not fulfilled

then creates large amount of dissatisfaction. Furthermore, "Housing affordability" was treated as 'attractive' in quality categorization.

Table 5.10. Quality categorization with frequency distribution of needs (Region 1)

	REGION 1 **Need Dimensions**	**A**	**M**	**I**	**O**	**Q**	**R**	**Valid Answer**	**Evaluation according to frequencies**
Basic Level Needs	housing_affordability	22	4	14	20	2	1	63	**A**
	housing_characteristics	5	20	21	8	3	6	63	**M**
	green_recreation	19	6	17	20	1	0	63	**O**
	physical_exercise	12	1	16	34	0	0	63	**O**
	psychological_safety	17	0	1	45	0	0	63	**O**
	physiological_safety	9	1	1	51	0	0	62	**O**
	neighbours_relations	7	1	24	31	0	0	63	**O**
	social_relations	18	5	17	22	1	0	63	**O**
	urban_services	20	1	8	34	0	0	63	**O**
	shopping	9	3	4	47	0	0	63	**O**
	public_transportation	7	9	12	34	0	1	63	**O**
	urban_infrastructure	10	12	13	24	2	2	63	**O**
Higher Level Needs	place_attachment	6	23	3	29	0	2	63	**O**
	status_neighborhood	16	20	2	25	0	0	63	**O**
	participation_decisionmaking	10	31	1	18	1	2	63	**M**
	display_personalskills	10	26	6	20	0	0	62	**M**
	satisfaction_income_working_condition	16	2	14	30	0	0	62	**O**
	learning_opportunities	8	15	1	38	0	0	62	**O**
	practicing_cultural_facilities	12	15	1	34	1	0	63	**O**
	aesthetic_and_design_living environment	13	16	1	31	1	1	63	**O**
	ecological_behaviour	7	23	0	31	1	0	62	**O**

Satisfaction and dissatisfaction level of users regarding to their need fulfillment with that product or service was analyzed using Customer Satisfaction Coefficient (CSC) values (Table 5.11). Satisfaction coefficient value close to "1" indicates that need dimension has greater impact on customer satisfaction. On the contrary, when

dissatisfaction coefficient values close to "-1" that means more dissatisfaction due to that need is not fulfilled. Regarding satisfaction and dissatisfaction coefficient values top five need dimensions are given in Table 5.12.

Table 5.11. Customer satisfaction coefficient values for Region 1

No	REGION 1 Need Dimensions	Quality Categories	CS-coefficient Satis.	CS-coefficient Dissatis.	Total CS Coefficient
1	Housing_affordability	A	0,70	-0,40	0,30
2	Housing_characteristics	M	0,24	-0,52	-0,28
3	green_recreation	O	0,63	-0,42	0,21
4	physical_exercise	O	0,73	-0,56	0,17
5	psychological_safety	O	0,98	-0,71	0,27
6	physiological_safety	O	0,97	-0,84	0,13
7	neighbours_relations	O	0,60	-0,51	0,10
8	social_relations	O	0,65	-0,44	0,21
9	urban_services	O	0,86	-0,56	0,30
10	shopping	O	0,89	-0,79	0,10
11	public_transportation	O	0,66	-0,69	-0,03
12	urban_infrastructure	O	0,58	-0,61	-0,03
13	place_attachment	O	0,57	-0,85	-0,28
14	status_neighborhood	O	0,65	-0,71	-0,06
15	participation_decisionmaking	M	0,47	-0,82	-0,35
16	display_personalskills	M	0,48	-0,74	-0,26
17	satisfaction_income_working_condition	O	0,74	-0,52	0,23
18	learning_opportunities	O	0,74	-0,85	-0,11
19	practicing_cultural_facilities	O	0,74	-0,79	-0,05
20	Aesthetic_and_design_living env.	O	0,72	-0,77	-0,05
21	ecological_behaviour	O	0,62	-0,89	-0,26

Table 5.12. Top five needs according to CSC values

No	REGION 1 Satisfaction Coefficient	Quality Categories	CS-coefficient Satisfaction	CS-coefficient Dissatisfaction
5	psychological_safety	O	0,98	-0,71
6	physiological_safety	O	0,97	-0,84
10	shopping	O	0,89	-0,79
9	urban_services	O	0,86	-0,56
17	satisfaction_income_working_condition	O	0,74	-0,52
No	**REGION 1 Dissatisfaction Coefficient**	**Quality Categories**	**CS-coefficient Satisfaction**	**CS-coefficient Dissatisfaction**
21	ecological_behaviour	O	0,62	-0,89
18	learning_opportunities	O	0,74	-0,85
13	place_attachment	O	0,57	-0,85
6	physiological_safety	O	0,97	-0,84
15	participation_decisionmaking	M	0,47	-0,82

In sum, needs are generally observed as "one-dimensional" for Region 1. Then, Total CS Coefficient values were examined to find whether those needs close to "attractive" or "must-be" categories (Table 5.13 and Table 5.14). According to this test, total 17 need dimensions in one-dimensional category, nine of them were close to 'attractive' category, and the remaining eight were determined corresponding to 'must-be' category. To elaborate Kano categorization and to represent visually, a quadrant map was produced (Figure 5.1) (Table 5.15).

Table 5.13. Need Dimensions close to attractive category (Region 1)

No	Need Dimensions	CS-coefficient Satisfaction	CS-coefficient Dissatisfaction	Total CS Coefficient
3	green_recreation	0,63	-0,42	0,21
4	physical_exercise	0,73	-0,56	0,17
5	psychological_safety	0,98	-0,71	0,27
6	physiological_safety	0,97	-0,84	0,13
7	neighbours_relations	0,60	-0,51	0,10
8	social_relations	0,65	-0,44	0,21
9	urban_services	0,86	-0,56	0,30
10	shopping	0,89	-0,79	0,10
17	satisfaction_income_working_condition	0,74	-0,52	0,23

Table 5.14. Need Dimensions close to must-be category (Region 1)

No	Need Dimensions	CS-coefficient Satisfaction	CS-coefficient Dissatisfaction	Total CS Coefficient
11	public_transportation	0,66	-0,69	-0,03
12	urban_infrastructure	0,58	-0,61	-0,03
13	place_attachment	0,57	-0,85	-0,28
14	status_neighborhood	0,65	-0,71	-0,06
18	learning_opportunities	0,74	-0,85	-0,11
19	practicing_cultural_facilities	0,74	-0,79	-0,05
20	Aesthetic_and_design_living environment	0,72	-0,77	-0,05
21	ecological_behaviour	0,62	-0,89	-0,26

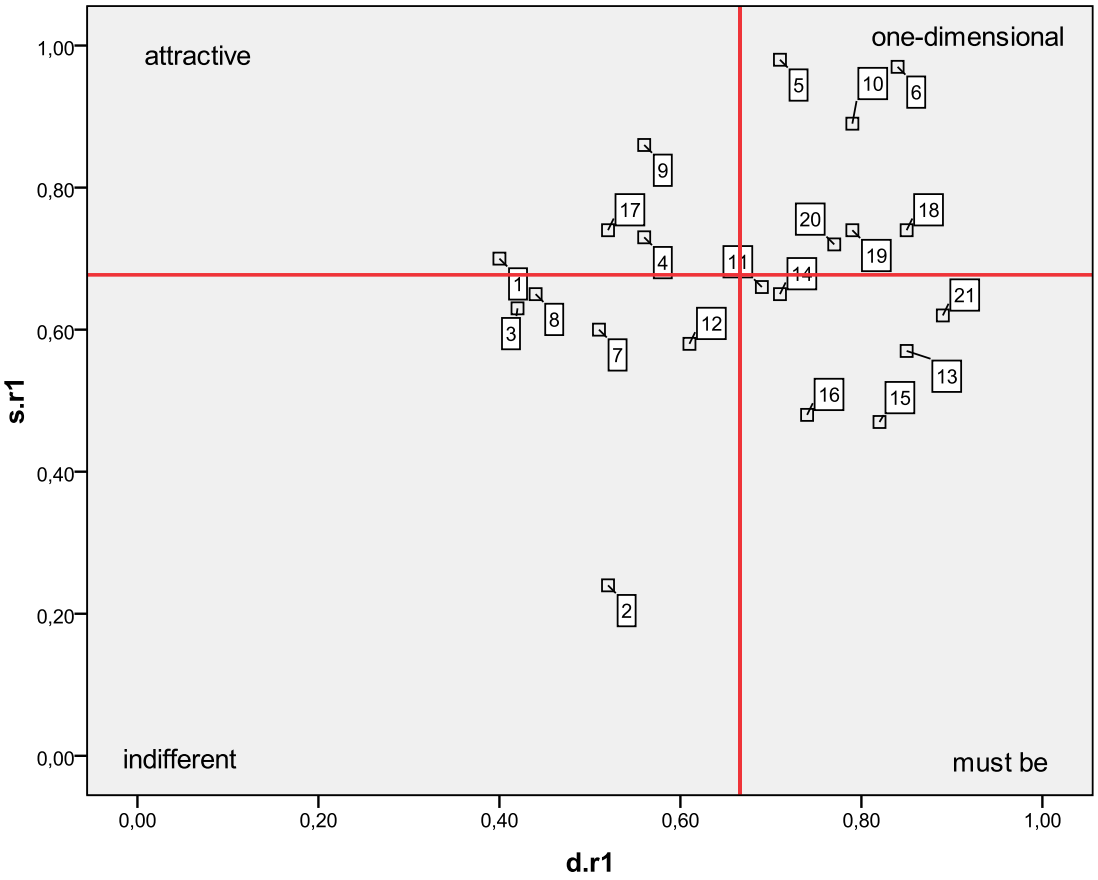


Figure 5.1. Quadrant map (Region 1)

Table 5.15. Distribution of need dimensions by Quadrant map (Region 1)

ATTRACTIVE		**ONE-DIMENSIONAL**	
1	Housing affordability	5	Psychological safety
4	Physical exercise	6	Physiological safety
9	Urban services	10	shopping
17	Satisfaction income and working condition	18	Learning opportunities
		19	Practicing cultural facilities
		20	Aesthetic and design living environment
INDIFFERENT		**MUST-BE**	
2	Housing characteristics	11	Public transportation
3	Green recreation	13	Place attachment
7	Neighbours relations	14	Status neighborhood
8	Social relations	15	Participation decisionmaking
12	Urban infrastructure	16	Display personalskills
		21	Ecological behaviour

General evaluation of Region 1 can be outlined below according to results of frequency distribution, satisfaction /dissatisfaction coefficient and quadrant map.

- Frequency Distribution: In Region 1, from total 21 need dimensions, 17 of them 'one-dimensional', three of them 'must-be' and the remaining one was labelled as 'attractive'. "Housing characteristics" from basic level needs and "participation decisionmaking", "display personal skills" from higher level needs category determined by survey respondents as 'must-be 'quality class. The quality of living conditions has a major influence on health and well-being. Therefore, to know what people's priorities and criteria choosing their homes and to produce houses corresponding the users' profile are one of the basic condition of healthy and livable urban development. The survey result reflects this basic requirement as user tendency. It also suggests that a great amount of dissatisfaction will emerge on users unless this need is satisfied. "Participation decisionmaking", for individuals, refer to basic conditions of living in a community, construct community belonging and identity, determine their own needs and expectations and defend their rights. This condition was indicated by survey respondents within basic needs category. Similarly, "Display personal skills" that refers to individual's awareness of his/her own skills and owning opportunities to exhibit them, was perceived as basic needs by survey respondents. "Housing affordability" was indicated as 'attractive' quality class which are for the most part unforeseen (or unknown need) by the user but may yield great satisfaction.

In the case study area, to find affordable house is not an expected thing since real estate values are extremely high. Whenever they find it their level of satisfaction will surely increase.

- Satisfaction and Dissatisfaction Coefficient: Impact of needs over satisfaction levels was determined by calculating coefficient values. Accordingly, it was found that need dimensions like "psychological safety", "physiological safety", and "shopping", "urban services" and "satisfaction income and working condition" have higher impact on user satisfaction. On the other hand, "ecological behavior", "learning opportunities", "place attachment", "physiological safety" and "participation decisionmaking" affecting the dissatisfaction of users.
- Quadrant Map: is produced by using CS Coefficient values. 'Attractive' part of the quadrant includes "housing affordability", "physical exercise", "urban services", "satisfaction income and working condition" that when those need dimensions fulfilled this creates great satisfaction. However, their impact in reducing dissatisfaction is extremely limited. Since attractive quality has larger impact on satisfaction level policies/strategies need to be developed to meet those needs. In 'one-dimensional' part of the quadrant, "psychological safety", "physiological safety", "shopping", "learning opportunities", "practicing cultural facilities", "aesthetic and design living environment" are found. Fulfilling those need dimensions not only increase the satisfaction level but also reduce the dissatisfaction in a greater extent. Fulfillment of those needs must be the first priority for policy makers and planners. In 'must-be' part of the quadrant, need dimensions like "public transportation", "place attachment", "status neighborhood", "participation decisionmaking", "display personalskills" and "ecological behavior" are observed. While those needs have little impact on the rise of satisfaction, a greater influence on the reduction of dissatisfaction. Best possible policy/strategy option should be reduction of dissatisfaction since we know that satisfaction will not significantly rises. "housing characteristics", "green recreation", "neighbors relations", "social relations", "urban infrastructure" are located on the 'indifferent' part of the quadrant. These attributes refer to aspects that are neither good nor bad, and they do not result in either user satisfaction or user dissatisfaction.

5.2.2. Region 2

In the Region 2 in which high density housing estates located Kano survey was conducted with 99 people. Survey results have distinguished to quality categories according to Kano Matrix (Table 5.16).

Table 5.16. Quality categorization with frequency distribution of needs (Region 2)

	REGION 2 **Quality Dimensions**	**A**	**M**	**I**	**O**	**Q**	**R**	**Valid Ans.**	**Evaluation according to frequencies**
Basic Level Needs	Housing_affordability	46	9	19	22	2	1	99	**A**
	Housing_characteristics	9	29	29	13	6	13	99	**M**
	green_recreation	25	3	34	37	0	0	99	**O**
	physical_exercise	30	0	26	42	0	1	99	**O**
	psychological_safety	14	1	0	84	0	0	99	**O**
	physiological_safety	10	1	1	85	2	0	99	**O**
	neighbours_relations	15	2	18	61	3	0	99	**O**
	social_relations	28	36	1	34	0	0	99	**M**
	urban_services	26	10	2	61	0	0	99	**O**
	shopping	17	12	0	70	0	0	99	**O**
	public_transportation	6	19	8	66	0	0	99	**O**
	urban_infrastructure	19	22	10	44	3	1	99	**O**
Higher Level Needs	place_attachment	5	31	8	52	0	3	99	**O**
	status_neighborhood	29	36	2	32	0	0	99	**M**
	participation_decisionmaking	20	52	2	23	0	2	99	**M**
	display_personalskills	26	42	2	29	0	0	99	**M**
	satisfaction_income_working_con.	29	45	25	0	0	0	99	**M**
	learning_opportunities	18	28	2	49	0	2	99	**O**
	practicing_cultural_facilities	21	39	1	37	0	1	99	**M**
	Aesthetic_and_design_living env.	22	24	3	50	0	0	99	**O**
	ecological_behaviour	15	45	5	33	0	1	99	**M**

Analysis of results from the research data illustrates that, in the Region 2, among the total 21 needs dimensions 12, 8 and 1 are determined as one-dimensional, must-be and attractive respectively. Similar to Region 1, while "Housing affordability" was considered as attractive quality**,** "housing characteristics" was treated as must-be quality. In this region, another remarkable point is that there seems to be 6 (out of 9) must-be quality need dimensions namely as "place attachment", "status neighborhood", "participation decisionmaking", "display personalskills", "satisfaction income and

working cond.", "practicing cultural facilities", "ecological behaviour" placed in higher level needs category.

Satisfaction and dissatisfaction level of users regarding to their need fulfillment with that product or service was calculated using Customer Satisfaction Coefficient (CSC) values (Table 5.17).

Table 5.17. Customer satisfaction coefficient values (Region 2)

No	REGION 2 Need Dimensions	Quality Categories	CS-coefficient Satis.	CS-coefficient Dissatis.	Total CS Coefficient
1	Housing_affordability	A	0,71	-0,32	0,39
2	Housing_characteristics	M	0,28	-0,53	-0,25
3	green_recreation	O	0,63	-0,40	0,22
4	physical_exercise	O	0,73	-0,43	0,31
5	psychological_safety	O	0,99	-0,86	0,13
6	physiological_safety	O	0,98	-0,89	0,09
7	neighbours_relations	O	0,79	-0,66	0,14
8	social_relations	M	0,63	-0,71	-0,08
9	urban_services	O	0,88	-0,72	0,16
10	shopping	O	0,88	-0,83	0,05
11	public_transportation	O	0,73	-0,86	-0,13
12	urban_infrastructure	O	0,66	-0,69	-0,03
13	place_attachment	O	0,59	-0,86	-0,27
14	status_neighborhood	M	0,62	-0,69	-0,07
15	participation_decisionmaking	M	0,44	-0,77	-0,33
16	display_personalskills	M	0,56	-0,72	-0,16
17	satisfaction_income_working_condition	M	0,29	-0,45	-0,16
18	learning_opportunities	O	0,69	-0,79	-0,10
19	practicing_cultural_facilities	M	0,59	-0,78	-0,18
20	Aesthetic_and_design_living environment	O	0,73	-0,75	-0,02
21	ecological_behaviour	M	0,49	-0,80	-0,31

Regarding CSC values, top five need dimensions affecting satisfaction for Region 2 are belongs to basic level needs category. The findings suggested similar results with Region 1 that "psychological safety", "physiological safety", "urban services" and "shopping" are the needs affecting satisfaction in a positive way. On the other hand, according to dissatisfaction coefficient, unless "physiological safety" "place attachment", "public transportation", "psychological safety" and "shopping" needs are satisfied, dissatisfaction expected to rise respectively (Table 5.18).

Table 5.18. Top five needs according to CSC values (Region 2)

No	REGION 2 Satisfaction Coefficient	Quality Categories	CS-coefficient Satisfaction	CS-coefficient Dissatisfaction
5	psychological_safety	O	0,99	-0,86
6	physiological_safety	O	0,98	-0,89
9	urban_services	O	0,88	-0,72
10	shopping	O	0,88	-0,83
7	neighbours_relations	O	0,79	-0,66
No	**REGION 2 Dissatisfaction Coefficient**	**Quality Categories**	**CS-coefficient Satisfaction**	**CS-coefficient Dissatisfaction**
6	physiological_safety	O	0,98	-0,89
13	place_attachment	O	0,59	-0,86
11	public_transportation	O	0,73	-0,86
5	psychological_safety	O	0,99	-0,86
10	shopping	O	0,88	-0,83

Examining Total CS Coefficient values, one-dimensional needs (12 out of 21) were decided whether close to “attractive” or “must-be” categories. Thus, seven of them were close to attractive category and the remaining five were closer to ‘must-be’ category (Table 5.19 and Table 5.20).

Table 5.19. The needs closer to attractive requirements (Region 2)

No	Need Dimensions	CS-coefficient Satis.	CS-coefficient Dissatis.	Total CS Coefficient
3	green_recreation	0,63	-0,4	0,22
4	physical_exercise	0,73	-0,43	0,31
7	neighbours_relations	0,79	-0,66	0,14
9	urban_services	0,88	-0,72	0,16
10	shopping	0,88	-0,83	0,05
5	psychological_safety	0,99	-0,86	0,13
6	physiological_safety	0,98	-0,89	0,09

Table 5.20. The needs closer to must-be requirements (Region 2)

No	Need Dimensions	CS-coefficient Satisfaction	CS-coefficient Dissatisfaction	Total CS Coefficient
12	urban_infrastructure	0,66	-0,69	-0,03
20	Aesthetic & design_living environment	0,73	-0,75	-0,02
18	learning_opportunities	0,69	-0,79	-0,10
11	public_transportation	0,73	-0,86	-0,13
13	place_attachment	0,59	-0,86	-0,27

To elaborate Kano categorization and to represent visually, a quadrant map was produced for Region 2 (Figure 5.2) (Table 5.21).

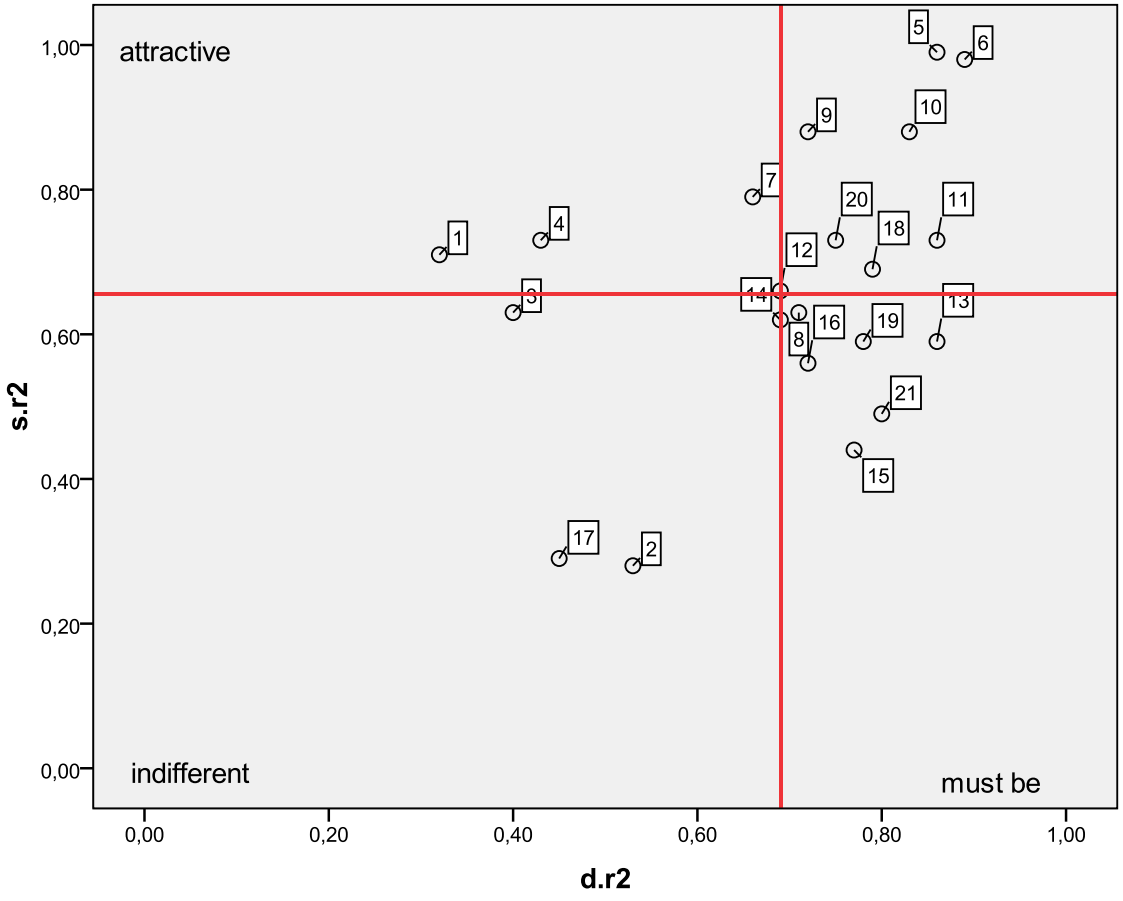


Figure 5.2. Quadrant map (Region 2)

Table 5.21. Distribution of need dimensions by Quadrant map (Region 2)

ATTRACTIVE		**ONE-DIMENSIONAL**	
1	Housing affordability	**5**	Psychological safety
4	Physical exercise	**6**	Physiological safety
7	Neighbours relations	**9**	Urban services
		10	shopping
		11	Public transportation
		18	Learning opportunities
		20	Aesthetic and design living environment
INDIFFERENT		**MUST-BE**	
2	Housing characteristics	**8**	Social relations
3	Green recreation	**13**	Place attachment
17	Satisfaction income and working condition	**15**	Participation decisionmaking
		16	Display personalskills
		19	Practicing cultural facilities
		21	Ecological behaviour

General evaluation of Region 2 can be outlined below according to results of frequency distribution, satisfaction /dissatisfaction coefficient and quadrant map:

- Frequency Distribution: In Region 2, from total 21 need dimensions, 12 of them 'one-dimensional', eight of them 'must-be' and the remaining one was labelled as 'attractive'. Must-be category needs in this region is higher than the Region 1. "Place attachment", "status neighborhood", "participation decisionmaking", "display personalskills", "satisfaction income and working conditions", "practicing cultural facilities", "ecological behavior" are in the higher-level needs list and these needs are defined as 'must-be' class by their users. A great amount of dissatisfaction will emerge on users unless these must-be class needs are satisfied. The survey respondents in this region are sensitive to higher-order needs according to the Maslow's five stage pyramid (physiological, safety, social, esteem, self-actualization). According to this theory, satisfaction of higher needs creates better conception of QoL.
- Satisfaction and Dissatisfaction Coefficient: suggest that "psychological safety", "physiological safety", "urban services", "shopping" and "neighbors relations" have higher impact than the other needs. On the other hand, unless fulfilled "physiological safety", "place attachment", "public transportation", "psychological safety" and "shopping" affect the dissatisfaction of residents in Region 2.

- Quadrant Map: ‘Attractive’ part of the quadrant includes “housing affordability”, “physical exercise”, “neighbors relations” that when those need dimensions fulfilled this creates great satisfaction. However, their impact in reducing dissatisfaction is extremely limited. In ‘one-dimensional’ part of the quadrant, “psychological safety”, “physiological safety”, “urban services”, “shopping”, “public transportation”, “learning opportunities”, “aesthetic and design living environment” are found. Safety, urban services, learning and place quality could be given to the highest priority in the satisfaction of the Region 2 inhabitants. “social relations”, “place attachment”, “participation decisionmaking” “display personalskills”, “practicing cultural facilities”, “ecological behavior” take place on ‘must-be’ part of the quadrant. While those needs have little impact on the rise of satisfaction, a greater influence on the reduction of dissatisfaction. Lastly, “housing characteristics”, “green recreation”, “satisfaction income and working condition” are located on the ‘indifferent’ part of the quadrant. Considering that this classification implies extremely marginal impact on satisfaction level of users, the resultant need dimensions are highly remarkable.

5.2.3. Region 3

A Kano survey conducted with a number of 34 in Region 3 characterized with single family houses and high-income social groups. Survey results have distinguished to quality categories according to Kano Matrix. Perceived needs were observed in A= Attractive, M= Must-be, O= One-dimensional and I=Indifferent categories (Table 5.22).

Analysis of results from the research data illustrates that, in the Region 3, among the total 21 needs dimensions 13, 6, 1 and 1 are determined as one-dimensional, indifferent, must-be and attractive respectively. As observed in other two regions, while “housing affordability” was considered as attractive quality**,** “housing characteristics” was treated as must-be quality. “participation decisionmaking”, “display personalskills”, “learning opportunities”, “practicing cultural facilities” and “ecological behavior” in higher-order needs category and “neighbors relations” in basic level needs category are observed as ‘indifferent’. Remembering that ‘indifferent’ class of needs do not create big differences in residents’ satisfaction resultant condition is remarkable for this category.

Table 5.22. Quality categorization with frequency distribution of needs (Region 3)

	REGION 3 **Need Dimensions**	**A**	**M**	**I**	**O**	**Q**	**R**	**Valid Ans.**	**Evaluation according to frequencies**
Basic Level Needs	Housing_affordability	15	5	6	8	0	0	34	**A**
	Housing_characteristics	4	13	13	3	0	0	33	**M**
	green_recreation	12	0	9	13	0	0	34	**O**
	physical_exercise	11	0	3	20	0	0	34	**O**
	psychological_safety	6	0	0	28	0	0	34	**O**
	physiological_safety	6	1	0	26	1	0	34	**O**
	neighbors_relations	6	1	18	9	0	0	34	**I**
	social_relations	3	5	12	14	0	0	34	**O**
	urban_services	15	1	3	15	0	0	34	**O**
	shopping	15	0	3	16	0	0	34	**O**
	public_transportation	10	2	4	18	0	0	34	**O**
	urban_infrastructure	7	5	5	17	0	0	34	**O**
Higher Level Needs	place_attachment	5	1	14	14	0	0	34	**O**
	status_neighborhood	7	3	11	13	0	0	34	**O**
	participation_decisionmaking	8	0	19	6	0	0	33	**I**
	display_personalskills	9	1	18	6	0	0	34	**I**
	satisfaction_income_working_con	8	4	2	20	0	0	34	**O**
	learning_opportunities	9	1	14	9	0	1	34	**I**
	practicing_cultural_facilities	5	1	15	12	0	1	34	**I**
	Aesthetic_and_design_living env.	10	1	4	19	0	0	34	**O**
	ecological_behaviour	4	0	18	12	0	0	34	**I**

Satisfaction and dissatisfaction level of users regarding to their need fulfillment with that product or service was calculated using Customer Satisfaction Coefficient (CSC) values (Table 5.23 and Table 5.24).

Table 5.23. Customer satisfaction coefficient values (Region 3)

No	REGION 3 Need Dimensions	Quality Categories	CS-coefficient Satis.	CS-coefficient Dissatis.	Total CS Coefficient
1	Housing_affordability	**A**	0,68	-0,38	0,29
2	Housing_characteristics	**M**	0,21	-0,48	-0,27
3	green_recreation	**O**	0,74	-0,38	0,35
4	physical_exercise	**O**	0,91	-0,59	0,32
5	psychological_safety	**O**	1,00	-0,82	0,18
6	physiological_safety	**O**	0,97	-0,82	0,15
7	neighbors_relations	**I**	0,44	-0,29	0,15
8	social_relations	**O**	0,50	-0,56	-0,06
9	urban_services	**O**	0,88	-0,47	0,41
10	shopping	**O**	0,91	-0,47	0,44
11	public_transportation	**O**	0,82	-0,59	0,24
12	urban_infrastructure	**O**	0,71	-0,65	0,06
13	place_attachment	**O**	0,56	-0,44	0,12
14	status_neighborhood	**O**	0,59	-0,47	0,12
15	participation_decisionmaking	**I**	0,42	-0,18	0,24
16	display_personalskills	**I**	0,44	-0,21	0,24
17	satisfaction_income_working_condition	**O**	0,82	-0,71	0,12
18	learning_opportunities	**I**	0,55	-0,30	0,24
19	practicing_cultural_facilities	**I**	0,52	-0,39	0,12
20	Aesthetic_and_design_living environment	**O**	0,85	-0,59	0,26
21	ecological_behaviour	**I**	0,47	-0,35	0,12

Since one-dimensional and indifferent categories are dominant (19 out of 21) their proximity either ‘must-be’ or ‘attractive’ categories were calculated from Total CS Coefficient values. The results suggest that “social relations” are corresponding to must-be category due to its negative CSC value, the rest of them were found very close to attractive quality. CSC values are represented on quadrant map (Figure 5.3) (Table 5.25).

Table 5.24. Top five needs according to CSC values (Region 3)

No	REGION 3 Satisfaction Coefficient	Quality Categories	CS-coefficient Satisfaction	CS-coefficient Dissatisfaction
5	psychological_safety	O	1,00	-0,82
6	physiological_safety	O	0,97	-0,82
4	physical_exercise	O	0,91	-0,59
10	shopping	O	0,91	-0,47
9	urban_services	O	0,88	-0,47
No	**REGION 3 Dissatisfaction Coefficient**	**Quality Categories**	**CS-coefficient Satisfaction**	**CS-coefficient Dissatisfaction**
5	physiological_safety	O	1,00	-0,82
6	physiological_safety	O	0,97	-0,82
17	satisfaction_income_working_condition	O	0,82	-0,71
12	urban_infrastructure	O	0,71	-0,65
4	physical_exercise	O	0,91	-0,59

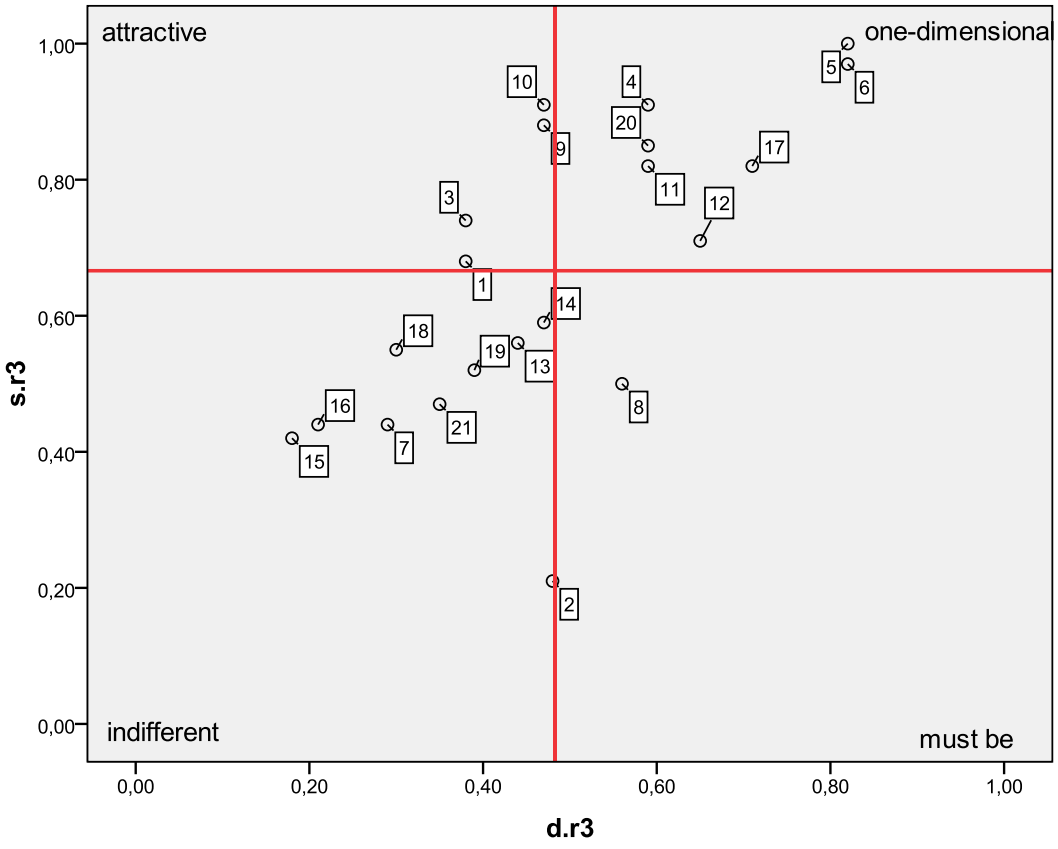


Figure 5.3. Quadrant map (Region 3)

Table 5.25. Distribution of needs according to Quadrant map (Region 3)

ATTRACTIVE		**ONE-DIMENSIONAL**	
1	Housing affordability	4	Physical exercise
3	Green recreation	5	Psychological safety
9	Urban services	6	Physiological safety
10	Shopping	11	Public transportation
		12	Urban infrastructure
		17	Satisfaction income and working condition
		20	Aesthetic and design living environment
INDIFFERENT		**MUST-BE**	
7	Neighbours relations	2	Housing characteristics
13	Place attachment	8	Social relations
14	Status neighborhood		
15	Participation decisionmaking		
16	Display personalskills		
18	Learning opportunities		
19	Practicing cultural facilities		
21	Ecological behaviour		

General evaluation of Region 3 can be outlined below according to results of frequency distribution, satisfaction /dissatisfaction coefficient and quadrant map:

- Frequency Distribution: In Region 3, total 21 need dimensions was determined as ‘one-dimensional’ (13), ‘indifferent’ (6), ‘must-be’ (1) and ‘attractive’ (1). Nine out of five need dimensions in higher-order needs categories were determined as ‘indifferent’ that were remarkably different from other two regions.
- Satisfaction and Dissatisfaction Coefficient: suggest that among the 19 need dimensions just “social relations” was considered in must-be category, the rest of them were found close proximity to the attractive quality.
- Quadrant map: When the map scrutinized there seems to be clustering tendency in one-dimensional and indifferent categories. The former includes psychological and physical safety that brings high level of importance in the satisfaction of Region 3 inhabitants. Site observations testify that high walls, security gates, cameras are among the preferences of the people living in this region. In other words, the higher the safety the more satisfied the person. Survey respondents have greater expectation of quality living environment and high-income. Therefore, the need dimensions of “public transportation” and “urban infrastructure” has relatively effective on the satisfaction level of the residents in

the region. “Physical exercise opportunities” was also cited among the priority needs of this group. “Neighbors relations”, “place attachment”, “status neighborhood”, “participation decisionmaking”, “display personalskills”, “learning opportunities”, “practicing cultural facilities”, “ecological behavior” were located at the ‘indifferent’ category that has no impact on user satisfaction or dissatisfaction. Some studies in Turkish local government context suggest that in lower socio-economic levels community ties are much stronger (Yavuzçehre and Torlak, 2006). In other words, in low-income groups availability of social capital increases quality of urban life and hence, more intimate community relationship and friendship among the neighbors has been established. For this region, however, the need of “neighbors relations” does not create difference in the level of satisfaction. Similar results can be found for the dimensions like “participation decisionmaking”, “ecological behavior” and “learning opportunities” too. This result need to be confirmed with the help of researches on the income levels, lifestyle preferences and consumption behaviors. On the other hand, the aim of the study does not focus upon the reasons of these complex social attitudes. “Housing affordability”, “green-recreation”, “urban services”, and “shopping” were found as need dimensions that increase satisfaction in a greater extent.

5.2.4. Region 4

A Kano survey conducted with a number of 40 in Region 4 characterized with low quality living environment. Survey results have distinguished to quality categories according to Kano Matrix. Perceived needs were observed in A= Attractive, O= One-dimensional and I=Indifferent categories (Table 5.26).

Analysis of results from the research data illustrates that, in the Region 4, among the total 21 needs dimensions 7, 8, and 6 are determined as one-dimensional, indifferent, and attractive respectively.

Table 5.26. Quality categorization with frequency distribution of needs (Region 4)

No	REGION 4 Need Dimensions	A	M	I	O	Q	R	Valid Ans.	Evaluation according to frequencies
Basic Level Needs	Housing_affordability	17	4	7	9	3	0	40	**A**
	Housing_characteristics	8	5	15	6	0	6	40	**I**
	green_recreation	21	1	16	1	0	1	40	**A**
	physical_exercise	22	2	11	4	0	1	40	**A**
	psychological_safety	7	1	0	32	0	0	40	**O**
	physiological_safety	2	1	0	36	1	0	40	**O**
	neighbours_relations	5	0	4	31	0	0	40	**O**
	social_relations	21	0	10	9	0	0	40	**A**
	urban_services	8	1	6	25	0	0	40	**O**
	shopping	6	0	3	31	0	0	40	**O**
	public_transportation	3	11	2	24	0	0	40	**O**
	urban_infrastructure	7	1	17	14	0	1	40	**I**
Higher Level Needs	place_attachment	9	3	15	11	0	2	40	**I**
	status_neighborhood	12	0	19	9	0	0	40	**I**
	participation_decisionmaking	6	1	22	9	1	1	40	**I**
	display_personalskills	14	0	18	7	0	1	40	**I**
	satisfaction_income_working_cond.	22	10	8	0	0	0	40	**A**
	learning_opportunities	9	2	13	15	0	1	40	**O**
	practicing_cultural_facilities	11	0	20	8	0	1	40	**I**
	Aesthetic_and_design_living env.	17	2	12	9	0	0	40	**A**
	ecological_behaviour	4	1	25	8	0	2	40	**I**

The higher the level of satisfaction in those needs dimensions (psychological safety, physiological safety, neighbors relations, urban services, public transportation, shopping, learning opportunities), the more satisfaction the person becomes. On the other hand, need dimensions like “housing characteristics”, “urban infrastructure”, “place attachment”, “status neighborhood”, “participation decisionmaking”, “display personalskills”, “practicing cultural facilities” and“ecological behavior” do not create impact on residents’ satisfaction in this region. “Housing affordability”, “green recreation”, “physical exercise”, “social relations”, “satisfaction income and working condition”, “aesthetic and design in living environment” were found needs that creates greater amount of satisfaction if they have been met.

Satisfaction and dissatisfaction level of users regarding to their need fulfillment with that product or service was calculated using Customer Satisfaction Coefficient values (Table 5.27).

Regarding CSC values, top five need dimensions affecting satisfaction for Region 4 were found as “psychological safety”, “physiological safety”, “shopping”, “neighbors relations”, and “urban services”. On the other hand, since the need dimension of “public transportation” have not been met, it could be regarded as effective in the perception of dissatisfaction for the region (Table 5.28).

Table 5.27. Customer satisfaction coefficient values (Region 4)

No	REGION 4 Need Dimensions	Quality Categories	CS-coefficient Satis.	CS-coefficient Dissatis.	Total CS Coefficient
1	Housing_affordability	A	0,70	-0,35	0,35
2	Housing_characteristics	I	0,41	-0,32	0,09
3	green_recreation	A	0,56	-0,05	0,51
4	physical_exercise	A	0,67	-0,15	0,51
5	psychological_safety	O	0,98	-0,83	0,15
6	physiological_safety	O	0,97	-0,95	0,03
7	neighbors_relations	O	0,90	-0,78	0,13
8	social_relations	A	0,75	-0,23	0,53
9	urban_services	O	0,83	-0,65	0,18
10	shopping	O	0,93	-0,78	0,15
11	public_transportation	O	0,68	-0,88	-0,20
12	urban_infrastructure	I	0,54	-0,38	0,15
13	place_attachment	I	0,53	-0,37	0,16
14	status_neighborhood	I	0,53	-0,23	0,30
15	participation_decisionmaking	I	0,39	-0,26	0,13
16	display_personalskills	I	0,54	-0,18	0,36
17	satisfaction_income_working_condition	A	0,55	-0,25	0,30
18	learning_opportunities	O	0,62	-0,44	0,18
19	practicing_cultural_facilities	I	0,49	-0,21	0,28
20	Aesthetic_and_design_living environment	A	0,65	-0,28	0,38
21	ecological_behaviour	I	0,32	-0,24	0,08

Table 5.28. Top five needs according to CSC values (Region 4)

No	REGION 4 Satisfaction Coefficient	Quality Categories	CS-coefficient Satisfaction	CS-coefficient Dissatisfaction
5	psychological_safety	O	0,98	-0,83
6	physiological_safety	O	0,97	-0,95
10	shopping	O	0,93	-0,78
7	neighbours_relations	O	0,90	-0,78
9	urban_services	O	0,83	-0,65
No	**REGION 4 Dissatisfaction Coefficient**	**Quality Categories**	**CS-coefficient Satisfaction**	**CS-coefficient Dissatisfaction**
6	physiological_safety	O	0,97	-0,95
11	public_transportation	O	0,68	-0,88
5	psychological_safety	O	0,98	-0,83
10	shopping	O	0,93	-0,78
7	neighbors_relations	O	0,90	-0,78

Among the need dimensions, 15 of them take place in ‘one-dimensional” and indifferent categories. Regarding CSC values, attractive and must-be quality needs were determined. If CSC value is negative (i.e. public transportation) then labeled as ‘must-be’; the remaining 14 need dimensions were found close proximity to ‘attractive’ category. Those CSC values were represented on quadrant map and their quality classes were reevaluated (Figure 5.4) (Table 5.29).

General evaluation of Region 4 can be outlined below according to results of frequency distribution, satisfaction /dissatisfaction coefficient and quadrant map:

- Frequency Distribution: In Region 4, total 21 need dimensions was determined as ‘one-dimensional’ (7), ‘indifferent’ (8), ‘and ‘attractive’ (6). This situation has great similarities with that Region 3.
- Satisfaction and Dissatisfaction Coefficient: Need dimensions (15) corresponding to ‘one-dimensional’ and ‘indifferent’ categories were scrutinized by looking at Total CSC values. According to this, since the CSC value was negative public transportation was labeled as ‘must-be’ quality, the rest of them (14) were found close proximity to the ‘attractive’ quality.

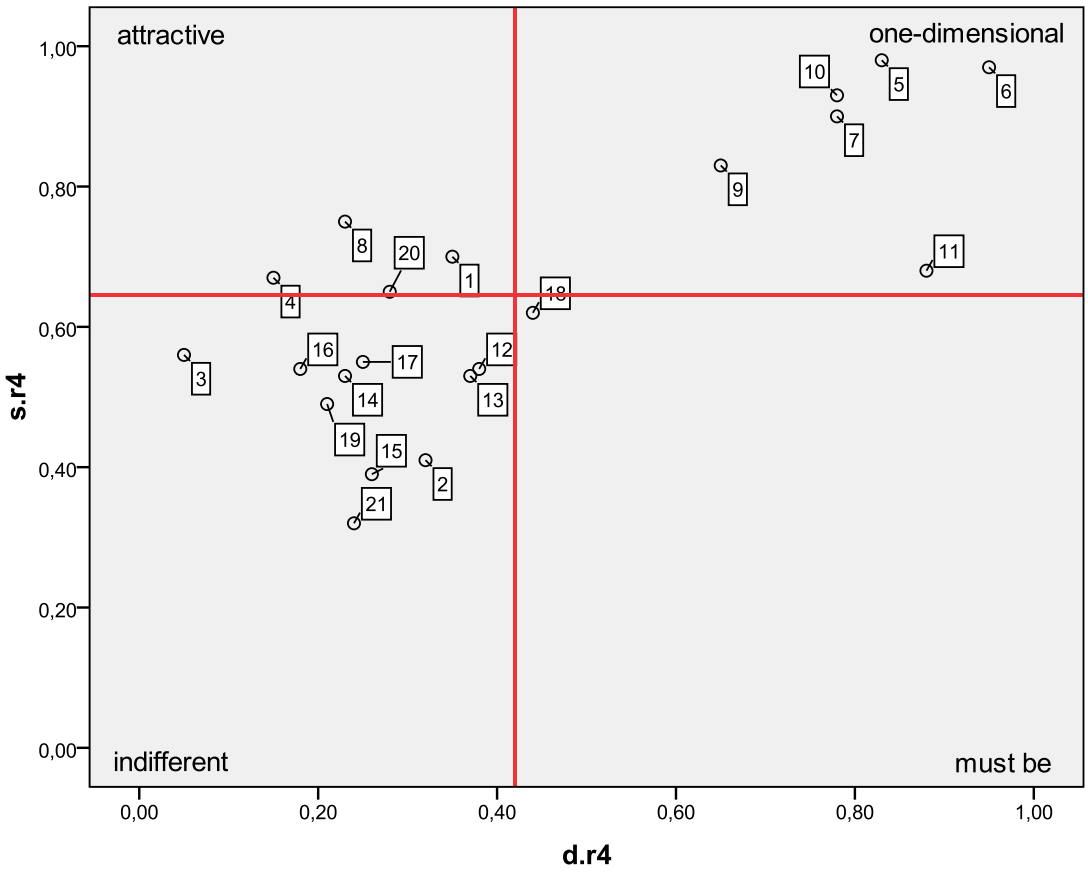


Figure 5.4. Quadrant map (Region 4)

Quadrant map: 'Indifferent' and 'one-dimensional' are the categories that have larger concentration of need dimensions. "Psychological and physical safety" in 'one-dimensional' category are highly important in the satisfaction of Region 4 inhabitants. Whenever have been met, "neighbors relations", "urban services", "public transportation" and "shopping" which are in basic needs category increase the level of satisfaction. Another remarkable result is that "learning opportunities" is utmost important in the level of dissatisfaction for Region 4 that low-income families live there. "Learning opportunities" is the need dimension that may up standard of living of this residents and provide opportunities to participate community activities in the region. In other words, the highest the learning opportunities are, the more the level of dissatisfaction reduces. "Housing affordability", "physical exercise", "social relations" and "aesthetic and design in living environment" were found as need dimensions that increase satisfaction in a greater extent. Therefore, these need dimensions should be given the highest priority in the development of strategies and policies specific to the region. There were 10 need dimensions in the 'indifferent' part

of the quadrant. In other words, 10 need dimensions (out of 21) have not created difference on the level of satisfaction. Seven of them (out of 10) including "place attachment", "status neighborhood", "participation decisionmaking", "display personalskills", "satisfaction income and working condition", "practicing cultural facilities" and "ecological behavior" were placed in higher-order need category. At this point, echoing the Maslow's theory, it is important to say that the assumption of people with minimum standard of living do not want higher order needs such as place attachment and participation in decision making. Indeed, the person may have higher order needs but he/she put basic or survival needs first.

Table 5. 29. Distribution of need dimensions by Quadrant map (Region 4)

	ATTRACTIVE		**ONE-DIMENSIONAL**
1	Housing affordability	**5**	Psychological safety
4	Physical exercise	**6**	Physiological safety
8	Social relations	**7**	Neighbors relations
20	Aesthetic and design living environment	**9**	Urban services
		10	Shopping
		11	Public transportation
	INDIFFERENT		**MUST-BE**
2	Housing characteristics	**18**	Learning opportunities
3	Green recreation		
12	Urban infrastructure		
13	Place attachment		
14	Status neighborhood		
15	Participation decisionmaking		
16	Display personalskills		
17	Satisfaction income and working condition		
19	Practicing cultural facilities		
21	Ecological behaviour		

5.2.5. General Evaluation of Case Study Area

When analyzing the satisfaction and expectation of four sub-region residents together it can be said that 'shelter', 'security' and 'comfort' are the common quality perception in their mind (Table 5.30). Except these categories, quality perception and expectations varies through the research data. 'Shelter – Housing affordability' were found 'attractive' for all regions. Thus, if the expectation of owning affordable house is met, then the level of satisfaction will be increased vastly. On the other hand, whenever they have been met, 'psychological and physiological security' in one-dimensional quality group would affect the level of satisfaction in positive way. The same assumption is valid for urban services, shopping and public transportation too.

Table 5.30. Comparison of quality groups for all sub-regions

Need Categories		**Need Dimensions**	**R1**	**R2**	**R3**	**R4**
Basic level needs	**Shelter**	Housing_affordability	A	A	A	A
		Housing_characteristics	M	M	M	I
	Health	green_recreation	O	O	O	A
		physical_exercise	O	O	O	O
	Security	psychological_safety	O	O	O	O
		physiological_safety	O	O	O	O
	Social	neighbours_relations	O	O	I	O
		social_relations	O	M	O	O
	Comfort	urban_services	O	O	O	O
		shopping	O	O	O	O
		public_transportation	O	O	O	O
		urban_infrastructure	O	O	O	O
Higher level needs	**Self-Esteem**	place_attachment	O	O	O	O
		status_neighborhood	O	M	O	O
		participation_decisionmaking	M	M	I	M
		display_personalskills	M	M	I	M
		satisfaction_income_working_con.	O	M	O	A
	Self-actual.	learning_opportunities	O	O	I	O
		practicing_cultural_facilities	O	M	I	O
		Aesthetic_and_design_living env.	O	O	O	O
		ecological_behaviour	O	M	I	O

For the Region 1, 2 and 3, housing characteristics (M), green recreation (O), physical exercise (O), urban infrastructure (O), place attachment (O) and aesthetic and design in living environment (O) create common quality perception. Regarding basic level needs, there seems to be more common quality groups for all regions. For higher-order needs, or climbing the upper parts of the Maslow's pyramid, quality perceptions vary among regions. This result confirms the assumptions of 'hierarchy of needs'.

Without zoning to sub-regions, survey results (out of 236) are constituted the quality groups given in the Table 5.31. Total number of 21 need dimensions for all regions are separated to one-dimensional (15), attractive (3), must-be (2) and indifferent (1) quality classes. Thus, quality groups for the totality of the region is differ from the quality groups by sub-regions. This sheds light in the application of Kano's Model in heterogeneous urban environments. Accordingly, case study area should be homogenous and be small as possible to obtain accurate results in the application of Kano's model.

Table 5.31. Customer satisfaction coefficient değerleri (neighborhood scale)

No	Need Dimensions	Quality Categories	CSC Satisfaction	CSC Dissatisfaction
1	**Housing_affordability**	A	0,70	-0,36
2	**Housing_characteristics**	I	0,28	-0,48
3	**green_recreation**	A	0,63	-0,35
4	**physical_exercise**	O	0,75	-0,44
5	**psychological_safety**	O	0,99	-0,81
6	**physiological_safety**	O	0,97	-0,87
7	**neighbours_relations**	O	0,71	-0,58
8	**social_relations**	O	0,63	-0,53
9	**urban_services**	O	0,86	-0,63
10	**shopping**	O	0,89	-0,76
11	**public_transportation**	O	0,71	-0,78
12	**urban_infrastructure**	O	0,63	-0,61
13	**place_attachment**	O	0,57	-0,72
14	**status_neighborhood**	O	0,61	-0,58
15	**participation_decisionmaking**	M	0,44	-0,61
16	**display_personalskills**	M	0,52	-0,56
17	**satisfaction_income_working_con.**	A	0,53	-0,47
18	**learning_opportunities**	O	0,67	-0,68
19	**practicing_cultural_facilities**	O	0,60	-0,63
20	**Aesthetic&designed_living env.**	O	0,73	-0,65
21	**ecological_behaviour**	O	0,49	-0,66

5.3. Self-stated Importance of Users

The self-stated importance questionnaire included in Kano survey is used to evaluate and compare Kano method consequences. For each of the user requirements to be included in the Kano questionnaire, construct a question on the self-stated importance questionnaire on a Likert scale between "1= not very important" and "5- extremely important". Self-stated importance questions were evaluated with frequency distribution on the basis of sub-regions and for each dimension a mean importance evaluation score was calculated (Table 5.32).

Table 5.32. Mean evaluation of the self-stated importance

NEED DIMENSIONS / REGION	1R	2R	3R	4R	Total
housing affordability	4,82	4,63	4,59	4,6	4,67
housing characteristics	4,16	3,99	4,44	4	4,1
green recreation	4,15	4,05	4,09	3,88	4,05
physical exercise	4,05	4,13	3,97	4,1	4,08
psychological safety	4,85	4,92	4,47	4,87	4,83
physiological safety	4,84	4,83	4,97	4,87	4,86
neighbours relations	4,19	4,37	4,24	4,67	4,36
social relations	3,98	4,15	3,82	4,13	4,06
urban services	4,53	4,68	4,18	4,75	4,58
shopping	4,69	4,67	4,59	4,87	4,7
public transportation	4,4	4,63	4,62	4,55	4,55
urban infrastructure	4,52	4,37	4,68	4,23	4,43
place attachment	4,13	4,08	4,18	3,78	4,06
status neighborhood	4,3	4,14	4,12	3,8	4,12
participation decisionmaking	4,2	3,88	4,09	4,15	4,04
display personalskills	4,51	4,34	4,53	4,18	4,38
income working condition	4,59	4,41	4,5	4,18	4,43
learning opportunities	4,18	3,86	4,12	4	4
practicing cultural facilities	4,43	3,98	4,12	3,88	4,1
aesthetic & design living env.	4,31	4,32	4,06	3,98	4,22
ecological behaviour	4,16	3,95	4,26	3,63	4

When the mean importance values are descending sorted out, for the Region 1, "psychological safety", "physiological safety", "housing affordability", "satisfaction income and working condition" and "shopping" take the top five positions in the list. Scrutinizing the CSC values for this region, top five need dimensions were found as "psychological safety", "physiological safety", "shopping", "urban services" and

"satisfaction income and working condition" respectively (Table 5.33). The same procedure was applied to other regions and mean importance values were compared with CSC values (Table 5.34, 35 and 36). Consequently, the results of self-stated importance test supported the results of CSC of Kano's Model. This finding could be regarded as remarkable in terms of the consistency of the model.

Table 5.33. Region-1 self-stated importance and CSC ranking

Self-stated importance	CSC
Psychological safety	**Psychological safety**
Physiological safety	**Physiological safety**
Housing affordability	**shopping**
shopping	**urban services**
Satisfaction income and working condition	**satisfaction income and working condition**

Table 5.34. Region-2 self-stated importance and CSC ranking

Self-stated importance	CSC
Psychological safety	**psychological_safety**
Physiological safety	**physiological_safety**
Urban services	**urban_services**
shopping	**shopping**
Housing affordability	**neighbours_relations**

Table 5.35. Region-3 self-stated importance and CSC ranking

Self-stated importance	CSC
physiological_safety	**psychological_safety**
urban_infrastructure	**physiological_safety**
public_transportation	**physical_exercise**
Housing_affordability	**shopping**
shopping	**urban_services**

Table 5.36. Region-4 self-stated importance and CSC ranking

Self-stated importance	CSC
psychological_safety	**psychological_safety**
physiological_safety	**physiological_safety**
shopping	**shopping**
urban_services	**urban_services**
neighbours_relations	**neighbours_relations**

5.4. Satisfaction of Housing, Neighborhood and Urban Life

In the fourth part of the survey, user satisfaction levels on the housing, neighborhood and urban life were asked on 5-points Likert scale. Regarding to answers, frequency distribution could be observed in Table 5.37.

Table 5.37. Frequency distribution of housing environment, neighborhood and urban life satisfaction

Sat. Housing and Environ.	**1R**	**2R**	**3R**	**4R**	**Total**
not very satisfied	0	1	0	9	10
not satisfied	3	5	1	1	10
neutral	18	18	4	12	52
satisfied	14	35	17	11	77
very satisfied	26	40	12	7	85
Total	61	99	34	40	234
Sat. neighbourhood	**1R**	**2R**	**3R**	**4R**	**Total**
not very satisfied	2	0	0	4	6
not satisfied	1	3	4	5	13
neutral	9	11	8	10	38
satisfied	25	45	15	14	99
very satisfied	24	40	7	7	78
Total	61	99	34	40	234
Sat. Urban life	**1R**	**2R**	**3R**	**4R**	**Total**
not very satisfied	0	0	1	0	1
not satisfied	1	1	1	0	3
neutral	8	9	8	4	29
satisfied	11	23	6	15	55
very satisfied	41	66	18	21	146
Total	61	99	34	40	234

In the person-environment relationship, Francescato (1998) claimed that housing can be associated with person's shelter in daily living environment, socio-economic status, symbol of his/her personality and so on. Therefore, there is an on-going debate on the components of satisfaction with housing within the frame of basic human needs (Lawrence, 1987). Considering the level of satisfaction from the housing, Region 3 is to get the highest score (4.18). On the contrary, Region 4 obtains the lowest (3.15). Furthermore, Region 2 residents generally living in single family houses are much satisfied from the housing environment (4.09) (Table 5.38).

Table 5.38. Satisfaction housing-neighborhood-urban life evaluation

Region		sat_housing_environment	sat_neighbourhood	sat_urban_life
1R	**Mean**	**4,03**	**4,11**	**4,51**
	% of Total Sum	26,80%	26,90%	26,30%
2R	**Mean**	**4,09**	**4,23**	**4,56**
	% of Total Sum	44,10%	45,00%	43,20%
3R	**Mean**	**4,18**	**3,74**	**4,15**
	% of Total Sum	15,50%	13,60%	13,50%
4R	**Mean**	**3,15**	**3,38**	**4,43**
	% of Total Sum	13,70%	14,50%	17,00%
Total	**Mean**	**3,93**	**3,98**	**4,46**
	% of Total Sum	100,00%	100,00%	100,00%

Satisfaction from the neighborhood can be regarded as an important component of overall quality of life. Satisfaction or dissatisfaction from the neighborhood can be seen among the major reasons of displacement. Age, income, housing quality and duration of stay are among the major variables in the determination of neighborhood satisfaction (see Topçu and Dökmeci, 2005). In the case study research, regarding to neighborhood satisfaction, Region 2 is the highest and the Region 4 is the lowest (see Table 5.38). Survey respondents are asked to list positive and negative features of their neighborhood. According to this, aspects defining neighborhood satisfaction is mostly related to physical and environmental conditions such as closeness to nature, easy access to public transportation, plenty of parks and recreation areas, close proximity to shopping areas and availability of car-parking spaces. In second place, themes of social relationship and safety come to a fore. These positive themes were stated as 'good neighborhood relations', 'safety, 'educated people', 'calm' and 'comfortable' and 'orderly planned'.

Among the negative features, lack of urban and municipal services (the most cited) lack of social facilities and cultural events were specified.

Considering the level of satisfaction with urban life, Region 2 (4.56), Region 1 (4.51), Region 4 (4.43) and Region 3 (4.15) are sorted out respectively. Survey respondents defined aspects increasing urban quality of life in the city as follows: 'good standard of living', 'a lovely city', 'slow city', 'authentic city', 'a tolerant city' and so on. Physical characteristics of the city life were limitedly stated: 'lovely coast lines', 'a sun-belt city', 'not crowded' etc.

Negative features affecting urban quality of life can be grouped under three headings:

- Municipal services: 'low maintenance of roads', 'lack of urban infrastructure' and 'need for better public transportation'.
- Environmental quality: 'unplanned development', 'gecekondu', 'lack of car parking spaces', and 'lack of green spaces'.
- Social and economic life: 'lack of cultural events', 'limited job market', 'lack of investment', and 'slow development'.

When creating an order from housing >neighborhood>city scale, the latter takes the first place. Satisfaction from the neighborhood is the second, and satisfaction from the housing environment is the third.

5.5. Opinions about Changing Perception of Quality of Urban Life

In the sixth part of the survey, respondents are asked in which way their quality of living change in the last five years' period. To this end, one-dimensional scale is used from "worse" to "better".

When describing QoL as 'the performance levels of urban life towards the needs of communities or societies' survey respondents are optimistic in that regard. In the last five years' period, ranking of opinions are as follows: optimists (50.4 %), people saying 'no change' in their QoL (28.8%) and lastly the pessimists (17.8%). Regarding to comparison among the regions, Region 3 seems optimist and Region 4 has an attitude of 'no change' (Table 5.39).

Table 5.39. Perception of quality of urban life

Perception of QoUL / Region	1R	2R	3R	4R	Total	%
pessimist	13	15	5	9	42	17,8
no change	10	39	3	16	68	28,8
optimist	35	45	24	15	119	50,4
Total	58	99	32	40	229	100

5.6. Open-ended Questions about Satisfaction and Dissatisfaction

Regarding to seventh part of the survey, open-ended questions were evaluated. By making a content analysis, the most frequently cited words were selected and listed in Table 5.40 and Table 5.41. High quality of urban life and housing environment were categorized under the title of social, physical, cultural and economic aspects.

Table 5.40. Criteria defining high quality of urban life

CULTURAL ASPECTS	PHYSICAL ASPECTS	SOCIAL ASPECTS	ECONOMIC ASPECTS
Cultural events (regular and numerous)	Effective public transport	Liveable for people with disabilities, elderly and children	High level of income
	Sufficient urban facilities	Tolerant	Good learning opportunities
	Sufficient urban infrastructure	High quality human stock	High purchasing power
	Well-design public spaces	Good municipal services	High technology
	Harmony with the nature	Respect to the nature	Affordable housing
	Aesthetic buildings	Safe	
	Planned development	Low crime rates	
	Cleand and tidy environment	Well educated	

Table 5.41. Criteria defining high quality of housing environment

CULTURAL ASPECTS	PHYSICAL ASPECTS	SOCIAL ASPECTS	ECONOMIC ASPECTS
Socio-cultural events	Clean and tidy	Safe	Fulfilment of daily needs
	Green	Quiet	Shopping opport.
	Calm	Social facilities	Community Market places
	Fresh air	Respect to elderly	
	Good urban infrastructure	Good neighborhood relations	
	Single family houses	Playful spaces for children	
	Sports areas	Good education institutions	
	High quality building stock	Health-related facilities	
	Earthquake-res. homes	Well educated people	
	Car parking	Places for optional activities	
	Walking trails	Free thought	
	Low density housing	Peaceful	
	Playgrounds		
	Planned		

5.7 Socio-economic Characteristics and Quality of Life

To investigate empirically the determinants of urban life satisfaction in Evka 3 Neighborhood, we consider various dependent and independent variables in a multivariate regression setting and adopt the following model which takes the generic form:

$$Y_i = \alpha + \beta_1 x_{1,i} + \beta_2 x_{2,i} + \ldots\ldots + \beta_n x_{n,i} + e_i$$

Where *Y* represents a range of dependent variables and *X* denotes the independent variables. *i* represents the individuals which have been interviewed and taken as observations, 236 people in total. We evaluate the impact of independent variables in three groups: socio-demographic variables, economic variables and mobility. A dichotomy of variables is summarized in the Table 5.42. Each group of independent variables has been regressed on the dependent variables which produce 24 X 3 regressions in total.

Table 5.42. Summary of variables

Dependent variables	**Independent Variables**		
Need /Satisfaction	**Socio-Demographic**	**Economic**	**Mobility**
Housing satisfaction	Age	Homeownership (dummy, 1 if homeowner)	Izmir years
Neighborhood satisfaction	Marital status (dummy, 1 if married)	homesize	Evka3years
Urban satisfaction	Child number	Housewife (dummy, 1 if h.wife)	
housing affordability	Education	Income	
housing characteristics	Students (dummy, 1 if std.)	Retired (dummy, 1 if retired)	
green recreation	Gender (dummy, 1 if fem.)	Unemployed (dummy, 1 if unemployed)	
physical exercise		Employee (dummy, 1 if employee)	
psychological safety		Employer (dummy, 1 if employer)	
physiological safety			
neighbours relations			
social relations			
urban services			
shopping			
public transportation			
urban infrastructure			
place attachment			
status neighborhood			
participation decisionmaking			
display personalskills			
income working cond.			
learning opportunities			
practicing cultural fac.			
aesthetic and design living environment			
ecological behaviour			

We present the results from each regression, the estimated coefficients of variables and their significance (p-values) in Appendix C. To do so, we adopt a simple OLS (ordinary least squares) methodology. A significance level has been scrutinized between answers to self-stated importance and satisfaction with the living environment (housing, neighborhood and the city) and socio-demographic aspects of survey respondents. Then, statistically significant variables were listed in Table 5.43.

Table 5.43. Regression Results of socio-demographic variables

	Socio-Demographic	**Economic Profile**	**Mobility**
Housing satisfaction	Age (0,12539***) Childnumber (-0,20269**)	Homeownership (0,33698**) Housewife (0,49275**) Retired (0,69383***)	Evka3years (0,1478**)
Neighbourhood satisfaction	Age (0,05453*)		Evka3years (0,13263**)
Urban satisfaction	Age (0,0374838*) Education (-0,0989339*)	Income (-0,08346**)	
housing affordability	Childnumber (-0,092345*)	Income 0,11079***	
housing characteristics	Education (0,17148***)	Income (0,11079***)	
green recreation	Age (0,04626*)	Retired (0,551894***)	İzmiryears (0,09237*) Evka3years (-0,08294*)
physical exercise			
psychological safety	Education (-0,0566*)	Income (-0,04984***)	Evka3years (0,0805***)
physiological safety	Childnumber (0,086***)	Unemployed (-0,293399*)	
neighbours relations	Maritalstatus (0,42444**)	Homeownership (0,35398***) Income (-0,13016***) Unemployed (-0,9116***)	
social relations	Students (0,62369**)		
urban services	Childnumber (0,117697**)	Income (-0,07546***)	
shopping	Childnumber (0,10322**) Education (-0,0696*)	Housewife (0,252617**) Income (-0,061064***) Employer (0,690136**)	
public transport.		Employer (0,79399**)	
urban infra.	Education (0,21563***)	Income (0,08009**)	
place attachment	Age (0,05849*) Childnumber (0,16531**) Students (-0,64026*) Gender (0,41976**)	Homeownership (0,274*) Housewife (0,48089**) Employee (0,46109**)	
status neighborhood	Age (0,051005**) Childnumber (-0,168001**) Gender (0,267503**)	Homeownership (0,31655**) Income (0,10605***)	
participation decisionmaking	Education (0,1115899*) Students (0,8156321***)	Housewife (-0,61249***)	
display personalskills	Age (-0,03998*)	Income (0,07045**)	
satisfaction income working condition	Age (-0,05172**) Education (0,14253*)		İzmiryears (0,09602**)
learning opportunities	Gender (0,253376**)		İzmiryears (0,12783**)
practicing cultural facilities	Education (0,12809**)		
aesthetic &designed env.	Education (0,120613**)		
ecological behaviour	Education (0,187155***)		

* denotes significance at 1 %; ** at 5 % ; *** at 10 %

Regarding the interpretations, we observe in the first equation the impact of demographic variables on the housing satisfaction. The only significant variables are age and child number which the former one has a positive coefficient and the latter one has a negative coefficient. This actually means that the individuals who are older and have less number of children are likely to have more housing satisfaction compared to others. Economic variables are homeownership, housewife, and retired has positive impact on the housing satisfaction. Finally, mobility variables in terms of time spent in the neighborhood has influence the housing satisfaction.

In the second equation, we instead observe the impact on neighborhood satisfaction. Age variable has a significant coefficient. According to which older people are likely to have more satisfaction from neighborhood life. Similarly, duration of stay in the neighborhood has been determined as effective in the level of satisfaction.

Thirdly, three variables which are supposed to be effective upon quality of urban life were determined: age, education and income. While a positive coefficient was observed with 'age', education and income were vice versa. As people get older, satisfaction from the quality of urban life rises. However, the same statement is not thru for income and education variables: the lower income and education levels are increasing the satisfaction from urban life.

As people get older, the importance of the needs such as green recreation, place attachment, status neighborhood rises. On the other hand, for younger people, display personal skills and income satisfaction needs are much more important in their perception of quality of urban life. It was found that, educational level has positive impact on housing characteristics, urban infrastructure, participation decisionmaking, satisfaction income and working condition, practicing cultural facilities, aesthetic and design living environment, and ecological behavior categories. The higher the educational level is increasing the importance of those need categories. On the other hands, the lower the educational level is increasing the importance of safety and shopping. Among the socio-demographic variables, in addition to educational status and age, gender, number of children, marital status and student status can be considered as important. For instance, while married couples care about neighborhood relations, participation-decision making variable is a priority for students.

Among the economic variables, 'income' affects many need dimensions. As income increases, relative importance of 'housing affordability', 'housing characteristics', 'urban infrastructure', 'status neighborhood', and 'display personal

skills' rises. A negative coefficient was found between income and 'neighbors relations', 'psychological safety' and 'shopping'. As income level decreases, importance of neighborhood relations rises. The very same results have been found in the analysis conducted with Kano Model. The analysis illustrated that neighborhood relations was 'indifferent' in the region where high-income people lives. Yet, as income level decreases to secure daily needs from the nearby housing environment becomes important. Indeed, housewives involved the survey pay greater attention to obtain daily needs from a walking distance of home. On the other hand, while retired people care about nature and existence of green areas, 'neighborhood relations', 'place attachment' and 'neighborhood status' have the greatest priority for home owners.

A limited numbers of coefficient have been determined between mobility and need dimensions. For a person, who lives in Izmir for a long time, availability of recreation areas, satisfaction income and learning opportunities were found as important need dimensions. The variable of 'duration of stay in the neighborhood' has found positive relation with 'psychological safety'.

5.8. Summary

In this chapter, using Kano's Model, needs and priorities affecting quality of life of urban residents were determined. Also, perceptions of users were evaluated. As case study area, İzmir-Bornova-Evka 3 Neighborhood was selected. The neighborhood has been divided into four nearly homogenous sub-regions. For each region household surveys were conducted and the field findings were evaluated statistically.

Kano's model, effective in measuring service and product quality in quality management studies, for the first time, has been used in the evaluation of urban needs and priorities of users. Using the Maslow's 'Hierarchy of Needs' pyramid urban needs were listed and analyzed with Kano's Model to identify their impact on satisfaction. Finally, results of empirical field research suggested that valid and accurate results were obtained related to use of Kano's Model in urban studies.

On the other hand, to compare results of Kano's Model, socio-demographic, economic and mobility features of users were scrutinized upon the scale of home-neighborhood and the city. In this analysis, multivariate regression analyses were used to examine the relationship between urban satisfaction and socio-demographic features.

In the following chapter, to reach a conclusion, implications for QoUL research and urban decision making process will be scrutinized derived from initial research questions, the field research and the associated literature survey.

CHAPTER 6

CONCLUSION

The final part of the thesis is devoted to evaluate the research questions developed in the preceding chapters under the guidance of case study research findings. This chapter also discusses the potential role of Kano Model, a useful tool in urban decision making and strategy making process in general, and proposal of a new research agenda that guides further studies on the nature of QoUL.

In the introduction part of the thesis, the research questions were put forward. Findings regarding to these questions were discussed in the main case study presented in Chapter five. In this section, restatement of case study results will be given concerning the research questions stated. The first three research outlined below has focused on 'understanding' the quality of urban life in a neighborhood scale.

The first research question asks '**how do we analyze needs and priorities of people in a heterogeneous neighborhood**? In the study, QoUL is defined as the performance level of urban life towards the needs and expectations of residents'. QoUL is a multidimensional construct emerging from the evaluation of multiple needs on the individual, community, urban, national, and global levels. Each need is assumed to contribute to different degrees (that vary across time) to QoUL that at any point in time is a function of (a) the degree of the fulfillment of each identified needs and (b) the importance of the need to the respondent regarding to its relative contribution to their subjective well-being. In the simplest of strategies, measurement would consist of two distinct scales to assess each item regarding a human need; one of the scales would record the degree of fulfillment and the other would record the relative importance of the need. The analysis mehod and techniques used in this study (Kano's Model) corresponds to those two above-mentioned strategies of scale. For the first time, Kano's Model used in this study to measure impacts of urban need dimensions on user satisfaction and priorities. Kano's Model has been used to code subjective perception of QoUL to meaningful categories that help to way forward to further implementations and strategy making. In the application of the model, to maximize the consistency of results, homogenous character areas should be preferred in the modest but meaningful geographical scales. According to findings of the empirical study, quality categories of the sub-regions are

partly differing from the neighborhood as a whole. Creating micro-zoning concerning socio-demographic characteristics and unique environmental attributes could give more consistent Kano results when working in urban context.

The second research question regards to **specific attributes of urban environment of which users most satisfied or dissatisfied with**. The highest priority urban need dimensions effective on satisfaction is 'must-be' groups in Kano categorization. For two groups owning to similar environmental, economic and educational status, rather than the physical characteristics of urban environment, community belonging, participation to decision making and display of personal skills have the highest priority. While housing characteristic and social relations are the highest priority for high-income socio-economic groups, life-long learning and educational status among the leading priorities of low-income communities in the case study area. Behavior pattern of people's perception and evaluation are associated with the features of their living environment. According to Maslow's theory, needs direct the people's attitudes. Personal needs follow a hierarchical order. Each lower need (i.e. shelter, food) must be met before moving to the next higher level. Afterwards, this model has been revised by Yoshio Kondo. According to him, people have met all the needs at the same time, but the relative importance of those needs may vary related to living standards of people. Findings of this study confirm these two explanations on human needs at the same time. Urban residents in the case study area have similar responses to basic level needs. When climbing to the upper levels of needs pyramid, quality perceptions of people has differentiated and diversified. On the other hand, users with bad environmental conditions, put life-long learning and educational status forward (as basic need) instead of prioritizing their physical living conditions.

Selected need dimensions **creating satisfactory character of urban living** (one-dimensional) are as follows: safety (psychological and physiological), access to urban services, marketing opportunities at walking distance, comfortable public transportation, life-long learning opportunities, aesthetically pleasing and well-designed urban environment, existence of cultural activities, adequate income and working conditions. If they are met, user satisfaction will rise in a linear manner. Consequently, a good quality of urban life can be thought in such kind of environment.

All survey respondents in the case study area have found 'affordable housing' crucial among the features **making urban life attractive**. Another common thing in attractive category is that provision of regular outdoor sports opportunities. Neighbors

relations, contact with the nature, aesthetic appearance of built environment are among the most prioritized needs bringing urban life satisfaction to the highest levels.

The third research question asks **the effect of socio-demographic characteristics on people's perception of quality of urban living**. Income and education are the top socio-demeographic variables affecting need priorities and satisfaction. 'Age' confirms positive relationship with perception of satisfaction in housing environment, neighborhood and the city levels. When people get older, level of satisfaction rises from above-mentioned needs. There was found no significant relationship between income and satisfaction with housing environment and the neighborhood. On the other hand, negative coefficient was determined between income and urban satisfaction. Similar results could be replicated for education status. In other words, the lower the income and education status are, the more satisfaction from urban living becomes.

When looking the relationships between basic level needs (or known as deficiency needs) and socio-demographic variables, as income takes the front, significant level of relationships were found with the age, education, occupation (retired, unemployed, housewife), child number and marital status (see Chapter 5.7). Higher level needs category, on the other hand, relates to variables like education (primary), age, gender, occupation (student, housewife, employee). Self-esteem and self-actualization, too, are closely connected because they are characterized as the growth needs. Practicing cultural facilities, aesthetic and design living environment, ecological behavior, satisfaction income and working condition, participation decisionmaking are the higher-order urban needs that have strongly been coincided with the rise of education status.

The last research question tries to find the answer of '**how Kano model informs urban decision making process**. Substantive approaches are needed to fulfill the gap between QoUL research and the urban decision making. Only describe the QoUL means to urban residents is not enough without seeking the advantages to sustain additional information to urban decision making process. To engage this additional information in hand, urban decision makers and planners need to interpret it, and to apply it to the specific context of their activities. Urban planning and design not only just do with understanding cities but also designing them. Therefore, normative dimensions should add to the research and application. The Kano model is good at understanding of people's needs and expectations for quality living. However, as a powerful strategy tool, it needs to be transformed into a hands-on knowledge for decision makers to describe the notion of QoUL as meaningful and measurable categories informing planning policy and

practice. In this respect, as a policy tool, Kano Model has evaluated here within the frame of ‘quality improvement quadrant’ (Figure 6.1).

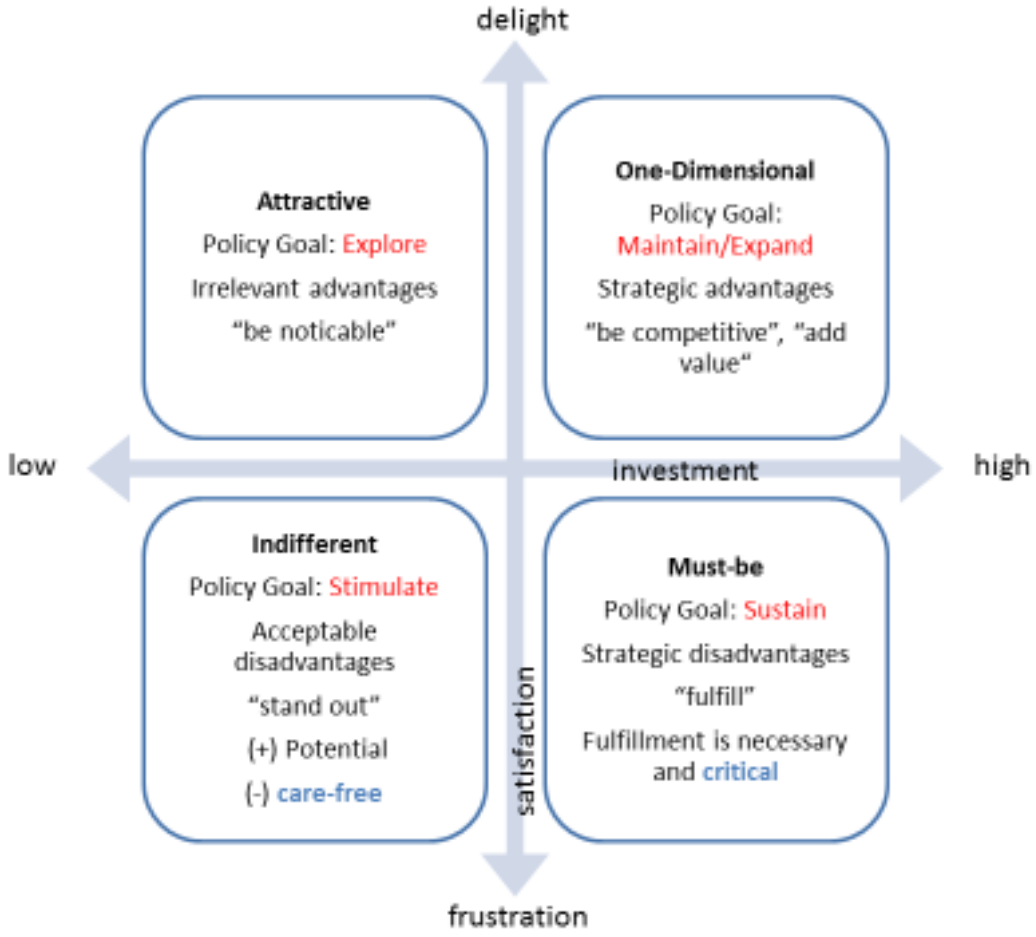


Figure 6.1. Kano-based quality improvement quadrant for urban decision making

The two axes of the quality improvement quadrant are based on typical Kano: investment versus satisfaction. The horizontal axis represents the investment the organization makes. As investment increases, the organization spends more resources on improving the quality or adding new capabilities. Given the limited public resources, urban decision makers need to find the most effective way of distributing scarce resources in line with the needs and the priorities of people. In our case, this can be achieved by using the results of Kano’s Model as input in the decision making processes. For investment, to listen up ‘voice of people’ also key to participatory way of governing places. The vertical dimension represents the satisfaction of the user, moving from an extreme negative of frustration to an extreme positive of delight. In this study, in a

neighborhood scale needs and expectation affecting satisfaction of user was determined. Time is important driver here. It should be remembered that delight faded over time. Exciment needs become performance needs, and then basic needs. Therefore, continuously observing and measuring urban need dimensions have the utmost importance. Kano Model should be the part of urban observation.

'Attractive' part of the quadrant resembles to 'unknown' need category. The most part unforeseen by the residents but may yield utmost satisfaction. In this respect, policy goal should be explore these unforeseen/irrelevant advantages and to reveal them to make 'noticable' by urban decision makers. Being pioneer in this area will always give unexpected advantages to the urban decision makers. Therefore, to exploit opportunities a well conducted urban Kano research is beneficiary.

'One-dimensional' part of the quadrant can be thought as 'strength' of the organization. To maintain these strategic advantages and to expand them highly increases the level of satisfaction from QoUL. Unless needs in this category met, satisfaction level decreases very fast. Therefore, to add value for the need dimensions in this category make the service organization (i.e. municipality) competitive.

Must-be' part of the quadrant corresponds to 'basic' needs. The value of quality perception will be extremely reduced if urban residents are dissatisfied when the must-be attributes are not met, even though they have no effect to their satisfaction when fulfilled. The best strategy option here is to eliminate disadvantages in this category and to 'sustain' user fulfillment which are utmost necessary and critical for the respected service organization.

'Indifferent' part of the quadrant can be seen as 'acceptable disadvantages' since their fulfillment do not result in either satisfaction or dissatisfaction (neutral position). Thus, one possible strategy is to accept the non-performance and to counter them as 'care-free'. An alternative path to take indifferent needs positively and to see them as 'potential' candidate to transform into desired categories.

QoUL for urban strategy making process could be evaluated in two ways: 'how opportunities are created to meet human needs' and 'how capacities of people are improved'. To tackle with these questions, providing usable information to urban policy and decision makers has been the center of the QoL research. A far greater problem is to ensure that such information is presented in a simplified format and then used.

Echoing this problem, **regarding to decision makers**, the current study has developed an analytical tool, using Kano's Model to inform urban planners and decision

makers one way to better understand the needs and priorities of urban users. It helps to allocate scarce organizational resources on the targeted needs accurately. Too often, however, local politicians make decisions without sufficient study of the most pertinent information on the issue (intuitive rather than reasoned). Although it is difficult to encourage them to decide policy, based on indicators of relationship, it is hoped that they would keen to use such data in order to gain a better intuitive grasp of the dynamics of the human experience in the community. Such usage should heighten their sensitivity to the community, and it should give them a better feeling for the likely outcomes resulting from their decisions. In this respect, Kano's two-way quality model, particularly useful and easy to use with other method and techniques, could be adapted to urban strategy making process.

Regarding to urban planning and design process, the concept of QoL could be exploited at least three stages: First stage is when planners try to have a correct and reliable perspective from the existed conditions of the city. In fact, planners intend to specify the issues which have more priorities, so knowledge about the different dimensions of QoL is an appropriate guide in this stage. Second stage is when the projects and plans should be investigated to be confirmed for their efficiency and usefulness. At this stage, the impact of different projects on the QoL could be very important for the planner and decision makers. Clearly plans and projects with more efficiency which increase the QoUL and especially be able to upgrade the aspects of planner's concerns. Third stage is related to public participation. To know which residents are most satisfied or dissatisfied with their urban needs and to compare their views with the other stakeholders (i.e. housing associations, municipalities, policymakers) help to define and interpret a neighborhood's problems and success factors and can bring to light about the consensuses/conflicts of opinion between these stakeholders.

Regarding to improve QoUL research, several outputs of this study are of value to researchers in the field which are given below (derived from Androvski, 2009 and Pacione, 2003):

- assessing the spatial differentiation of selected territory(ies) from the QoL viewpoint,
- producing territorial comparisons of the levels of QoL and identifying the most "problematic" areas to enhance problem-solving in effective decision making,
- comparing knowledge about how satisfactions/dissatisfactions are distributed through individuals and across space,

- identifying problems deserving special attention and possible socio-spatial action,
- monitoring the effects of policies on the ground,
- promoting public participation in the policy making,
- respecting the reality of heterogeneity in the treatment of QoUL,
- instead of 'one-size fits all' approach to QoUL, producing solutions on local basis (making use of local –tacit- knowledge)

Regarding to use of the method, the main question is: How does the Kano method work in the urban context? Does it produce concrete results which can be used for urban planning and decision making process? Kano's Model make it useful and simplifies the use of subjective QoL assessment for urban strategy making process. Although measuring and assessing subjective data are more time consuming and costly, the results are more logical and create additional valuable information to strategy makers.

This study aimed at elaborating the notion of QoUL by using Kano's Model and therefore gives additional information in using urban strategy making process. In the application of Kano's Model into the case study area some limitations were reported that the Kano questionnaire was too extensive due to the number of attributes. Additionally, the respondents characterized the questionnaire as monotone. Some of them got tired and unmotivated. It has been seen that, since each attribute has to be judged twice (functional/dysfunctional questioning method) Kano questionnaire is mainly suitable for a limited number of attributes. For the study, it was found that 21 attributes are already too many. Another problem stated for the application of Kano method is its complex analysis technique. There are many answer combinations which are classified as 'indifferent' although the user has a slight tendency towards a positive or negative opinion of the attribute. Due to the many indifferent cells in the Kano evaluation table, many of those attributes become indifferent requirements. Therefore, for future researches refinement and extension of Kano categories should be considered (see Yeh, 2010).

In conclusion, for future researches in this field, the results of Kano's Model should be triangulated with other methods both in QoL research and quality management research. Usability of the Kano's Model need to be confirmed in different geographical scales (i.e. rural areas, non-metropolitan cities), in different urban contexts (i.e. urban regeneration areas, inner city neighborhoods), with different user profile (i.e. gender, elderly) or provision of different/novel urban services (i.e. transportation, recreation) by the local governments.

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APPENDIX A

FOCUS GROUP STUDY SURVEY

Anketi dolduranın

Eğitim Durumu: Yaşı: Cinsiyeti:

Odak grup çalışması

Günlük yaşamınızda kentsel çevre ile ilgili ihtiyaç duyubileceğiniz 5 temel ihtiyaç kategorisi belirlenmiştir. Bu kategorilerin altında açıklayıcı bilgiler yer almaktadır. Bu özelliklerin her biri için 'çok önemli', 'önemli' ve 'önemli değil' kategorilerinden birini seçiniz.

Ev ile ilgili İhtiyaçlar	**Çok önemli**	**Önemli**	**Az Önemli**
Satın alma/kiralama gücüne uygun ev bulmak			
Güvenli ve depreme dayanıklı bir evde yaşamak			
Yeterli büyüklüğe ve konfora sahip evde yaşamak			
Otoparkı olan bir evde yaşamak			
Bahçesi olan bir evde yaşamak			
Konut ile ilgili ihtiyaç duyduğunuz diğer özellikler nelerdir?			

Fiziki Çevre ve Kentsel Hizmetler ile ilgili İhtiyaçlar **Bu ihtiyaç kategorisini cevaplandırırken mahalle ölçeğini düşünebilirsiniz.**	**Çok önemli**	**Önemli**	**Az Önemsiz**
Sağlık açısından temiz bir çevrede yaşamak (gürültü, hava ve su kalitesi vb.)			
Altyapısı tamamlanmış bir çevrede yaşamak (doğalgaz, elektrik, telefon, kanalizasyon vb.)			
Fiziksel egzersis yapabilme olanağı sunan bir çevrede yaşamak (yürünebilir sokaklar, bisiklet yolları, spor alanları vb.)			
Doğa ile bütünleşmeye imkan tanıyan bir çevrede yaşamak (Açık yeşil alanlar, kent parkları, oyun bahçeleri vb.)			
Alışveriş olanakları açısından çeşitlilik sunan bir çevrede yaşamak (yiyecek, giyecek vb.)			

Eğitim, sağlık, çocuk bakımı gibi hizmetlere kolay erişim imkanı sunan bir çevrede yaşamak			
Yerel yönetim hizmetlerinin iyi verildiği bir çevrede yaşamak (çöp toplama, aydınlatma, temizlik vb.)			
Düzenli toplu ulaşım olanaklarına erişilebilen bir çevrede yaşamak (otobüs, metro vb.)			
Kentsel servisler ile ilgili ihtiyaç duyduğunuz diğer özellikler nelerdir?			

Güvenlik İhtiyacı	**Çok önemli**	**Önemli**	**Önemsiz**
Fiziksel güvenliği sağlanmış bir çevrede yaşamak (iyi aydınlatılmış, trafik düzeni sağlanmış, acil durumlara ve afetlere hazırlıklı)			
Psikolojik olarak güvende hissedilen bir çevrede yaşamak (Sokaklarında gece-gündüz yürünebilen, suç korkusu duyulmayan vb.)			
Güvenlik ile ilgili ihtiyaç duyduğunuz diğer özellikler nelerdir?			

Sosyalleşme İhtiyacı	**Çok önemli**	**Önemli**	**Önemsiz**
Komşuluk ilişkilerinin iyi olduğu bir konut çevresinde yaşamak			
Sosyalleşmeye, insanlarla buluşmaya olanak tanıyan bir çevrede yaşamak (parklar, toplu merkezi, etkinlikler vb.)			
Toplumsal ilişkiler ile ilgili diğer özellikler neler olabilir?			

Saygınlık ihtiyacı	**Çok önemli**	**Önemli**	**Önemsiz**
Kişisel mahremiyetin korunduğu bir çevrede yaşamak			
Bağlılık duyduğunuz, aidiyet duygusu veren bir çevrede yaşamak			
Sosyal statünüze (gelir, eğitim, yaşam tarzı vb.) uygun bir çevrede yaşamak			
Çalışma hayatı ve kazanç açısından potansiyeller, uygun olanaklar sunan bir çevrede yaşamak			

Kentin ve mahallenin geleceği ile ilgili konularda söz hakkının verildiği bir çevrede yaşamak			
Öğrenme ve gelişme sürecini destekleyen bir çevrede yaşamak (bilgi-beceri kursları, klüp etkinlikleri vb.)			
Bilgi ve becerilerinizi kullanabilme olanağı sunan bir çevrede yaşamak (el sanatları, hobiler vb. açıdan)			
Saygınlık ihtiyaçı açısından önemli olabilecek diğer özellikler nelerdir?			

Gelişim ihtiyacı	**Çok önemli**	**Önemli**	**Önemsiz**
Estetik ve görsel yönü tatmin edici bir çevrede yaşamak			
Tarihi ve doğal özellikleri korunmuş bir çevrede yaşamak			
Kültürel ve sosyal açıdan aktif olma olanağı sunan bir çevrede yaşamak (konser, tiyatro, açıkhava etkinlikleri vb.)			
Doğayı ve çevreyi koruma anlayışına sahip bir toplumda yaşamak			
Hak ve fırsat eşitliği anlayışına sahip bir toplumda yaşamak			
Kişisel gelişimi destekleyen diğer özellikler neler olabilir?			

APPENDIX B

KANO QUESTIONNAIRE

Lütfen aşağıdaki soruları özelliklerinize uygun olarak doldurunuz.

1. Yaşınız: ☐ 15–19 ☐ 20-24 ☐ 25–29 ☐ 30-34 ☐ 35-39 ☐ 40-44 ☐ 45-49 ☐ 50-54 ☐ 55-59 ☐ 60-64 ☐ 65-69 ☐ 70+
2. Cinsiyetiniz: ☐ Kadın ☐ Erkek
3. **Medeni haliniz:** ☐ Bekar ☐ Evli ☐Diğer(belirtiniz)_____
4. **Eğitim Durumunuz:**

   ☐ İlkokul ☐ İlköğretim, ortaokul veya dengi okul ☐ Lise ve dengi okul ☐ Yüksekokul, üniversite ☐ Lisansüstü (Y.Lisans, Doktora) ☐ Okur-yazar, okul bitirmemiş ☐ okur-yazar değil

5. Sahip olduğunuz çocuk: ☐ Yok ☐ Var ⟶ ise birlikte yaşadığınız çocuk sayısı:_____
6. **Çalışma durumunuz:**

   ☐ ücretli/maaşlı ☐ işveren☐ yevmiyeli ☐kendi hesabına çalışan ☐ Ev kadını ☐ Öğrenci ☐ Emekli ☐ Mevsimlik çalışan ☐ İşsiz ☐ Diğer _____

7. **Toplam hanehalkı geliriniz (ortalama):**

   ☐ 600 TL kadar ☐ 601-1500 ☐ 1501-2500 TL ☐ 2501-3500 TL☐3501-4500 TL

   ☐ 4501-5500 TL ☐ 5501-6500 TL ☐ 6500 TL üzeri

8. **Yaşadığınız evin mülkiyet durumu:**

   ☐ Ev sahibi ☐ Kiracı ☐ Ev sahibi değil ama kira ödemiyor ☐ Diğer _____

9. **Yaşadığınız evin büyüklüğü :**

   ☐ 100 m^2 ye kadar ☐ 100-140 m^2 arası ☐ 141-180 m^2 arası ☐ 180 m^2 nin üstü

10. **İzmir'de yaşama süreniz:**

    ☐ 0-5 yıl ☐ 6-10 yıl ☐ 11-15 yıl ☐ 16-20 yıl ☐ 21 yıl ve üzeri

11. **Bu mahallede oturma süreniz:**

    ☐ 0-5 yıl ☐ 6-10 yıl ☐ 11-15 yıl ☐ 16-20 yıl ☐ 21 yıl ve üzeri

12. **Bu mahalleyi tercih etme nedeniniz**: _____

A. <u>Anketin bu bölümünde özel bir değerlendirme tekniği kullanılacağı için sorular bu amaça uygun olarak hazırlanmıştır. Her bir nitelik için biri olumlu, diğeri olumsuz olmak üzere 2 soru bulunmaktadır. Her iki sorunun cevap seçenekleri birbirinin aynıdır. Olumlu ve olumsuz soru için düşüncenizi yansıtan cevabı lütfen işaretleyiniz.</u>

1. Öncelikli ihtiyaçlarınızdan (yiyecek, giyecek vb.) <u>fedakârlık etmeden</u> ev sahibi olmak istermisiniz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

1a. Öncelikli ihtiyaçlarınızdan <u>fedakârlık ederek</u> ev sahibi olsanız ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

2. Ö<u>zelliklerini beğendiğiniz</u> bir evin maliyeti yüksek bile olsa ister misiniz? (evin güvenli olması, büyüklüğü, görünümü vb. özellikleri)

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

2a. <u>Özelliklerini beğenmediğiniz</u> bir evin maliyeti uygun olsa bile ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

3. **D**oğada yapılan faaliyetlere (dinlenme veya spor amaçlı) zaman ayırmak istermisiniz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

3a. **D**oğada yapılan faaliyetlere zaman ayıramadığınızda ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

4. Günlük hayatınızda egzersiz olanağı yaratan düzenlemelerin olmasını istermisiniz? (yaya yolları, bisiklet yolları, spor ve aktivite alanları vb. düzenlemeler)

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

4a. Günlük hayatınızda egzersiz olanağı yaratan düzenlemeler olmadığında ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

5. Suç korkusu duymadan kentte dolaşmak ister misiniz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

5a. Suç korkusu duyuyor olsanız kentte dolaşmak istermisiniz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

6. Fiziksel güvenliğinizi arttıracak duzenlemelerin olmasını ister misiniz? (trafik kazaları, su baskınları, deprem, çevre tahribatı vb.)

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

6a. Fiziksel güvenliğinizi arttıracak duzenlemelerin yeterli olmadığı durumunda ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

7. Komşularınızla görüşmek istermisiniz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

7a. Komşularınızla görüşemiyor olduğunuzda ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

8. Toplumsal ve sosyal etkinliklere (hobi kursları, sanat etkinlikleri vb.) katılmak istermisiniz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

8a. Toplumsal ve sosyal etkinliklere katılma olanağınız olmadığında ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

9. İhtiyaç duyduğunuz kentsel hizmetleri yürüme mesafesi içinde bulmayı ister misiniz? (eğitim, sağlık, çocuk bakımı vb. kentsel hizmetleri)

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

9a. İhtiyaç duyduğunuz kentsel hizmetleri yürüme mesafesi içinde bulamadığınızda ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

10. Günlük tükettiğiniz ürünleri yürüme mesafesi içinde bulmak ister misiniz? (yiyecek, içecek vb. diğer ürünler)

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

10a. Günlük tükettiğiniz ürünleri yürüme mesafesi içinde bulamıyor olsanız ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

11. Kent içinde toplu ulaşım araçlarını kullanmayı istermisiniz? (belediye otobüsü, metro, vapur vb.)

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

11a. Toplu ulaşım araçlarını ihtiyaçınız olduğunda kullanamıyor olduğunuzda ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

12. Gelişmiş altyapı hizmetinden yararlanmak ister misiniz?(internet, kablo tv, doğal gaz vb.)

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

12a. Gelişmiş altyapı hizmetinden yararlanamıyor olsanız ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

13. Yaşadığınız yere (mahalle&kent) karşı duygusal bir bağlılık ve aidiyet hissetmek istermisiniz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

13a. Yaşadığınız yere bağlılık ve aidiyet hissedemiyor olduğunuzda ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

14. Konut çevrenizin sosyal konumunuza (yaşam tarzı, eğitim ve gelir düzeyi) uygun olmasını istermisiniz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

14a. Konut çevreniz sosyal konumunuza uygun olmadığında ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

15. Bir kentli olarak kentsel ve çevresel konularla ilgilenmek istermisiniz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

15a. Kentsel ve çevresel konularla ilgilenmiyor olduğunuzda ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

16. Kendinizi ifade edebilmek, sanatsal veya mesleki becerilerinizi kullanabilmek/sergileyebilmek istermisiniz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

16a. Sanatsal veya mesleki becerilerinizi kullanabilme /sergileyebilme olanağınız olmadığında ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

17. Tatmin edici bir çalışma hayatı ve kazancınızın olmasını istermisiniz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

17a. Tatmin edici bir çalışma hayatı ve kazancınız olamadığında ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

18. Bilgi ve becerilerinizi geliştirmek için eğitim fırsatı sunulmasını istermisiniz? (hobi kursları, meslek kursları, teknoloji kursları vb.)

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

18a. Bilgi ve becerilerinizi geliştirmek adına eğitim fırsatı bulamadığınızda ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

19. Sosyal ve kültürel etkinliklere katılmak ister misiniz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

19a. Sosyal ve kültürel etkinliklere katılamadığınızda ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

20. Daha iyi çevrelerde yaşamak adına yaşam çevrenizi ilgilendiren konularda bilgi sahibi olmak istermisiniz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

20a. Yaşam çevrenizi ilgilendiren konularda bilgi sahibi olamadığınızda ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

21. Doğal çevreyi ve yaşamı koruma konusunda sorumluluk almak istermisiniz? (geri dönüşüm faaliyetlerini desteklemek vb.)

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

21a. Doğal çevreyi ve yaşamı koruma konusunda sorumluluk almadığınızda ne düşünürsünüz?

☐ Kesinlikle isterim ☐Tercih edebilirim ☐ Farketmez ☐ Katlanabilirim ☐ Kesinlikle istemem

B. <u>Aşağıda yer alan soruları "1: Önemsiz " den başlayan, giderek artan ve "5: Çok Önemli" ile biten sıralamadan birini seçerek cevaplayınız.</u>

Sorular	**Önemsiz 1**	**2**	**Orta 3**	**4**	**Çok Önemli 5**
Ev sahibi olmak sizin için ne kadar önemli?					
Niteliklerini beğendiğiniz bir evde yaşamak sizin için ne kadar önemli?					
Doğa ile içiçe olmak sizin için ne kadar önemli?					
Günlük yaşantınızda egzersiz yapabilme olanaklarının olması sizin için ne kadar önemli?					
Korku duymadan kentte dolaşabilmek sizin için ne kadar önemli?					
Fiziki tehlikelerden (trafik kazaları, su baskınları, deprem, çevre tahribatı vb.) korunmak ve risk anında yardım alacağınızı bilmek sizin için ne kadar önemli?					
Komşularınızla ilişki kurmak sizin için ne kadar önemli?					
Sosyal iletişimi teşvik eden düzenlemelerin ve etkinliklerin yapılması sizin için ne kadar önemli?					
Gereksinim duyduğunuz kentsel hizmetleri yürüme mesafesi içinde bulmak sizin için ne kadar önemli?					
İhtiyaç duyduğunuz ürünleri ve markaları yürüme mesafesi içinde bulmak sizin için ne kadar önemli?					
Toplu ulaşım araçları ile konforlu seyahat etmek sizin için ne kadar önemli?					
Gelişmiş altyapı hizmetinden yararlanmak sizin için ne kadar önemli?					
Yaşadığınız yere duygusal bağlılık hissetmek sizin için ne kadar önemli?					
Konut çevrenizin yaşam tarzınıza, eğitim ve gelir düzeyinize uygun olması sizin için ne kadar önemli?					

Sorular	**Önemsiz 1**	**2**	**Orta 3**	**4**	**Çok Önemli 5**
Bir kentli olarak kentsel ve çevrsel konularla ilgilenmek ve aktif bir yurttaş olmak sizin için ne kadar önemli?					
Çalışma hayatınızdan ve kazançınızdan memnun olmak sizin için ne kadar önemli?					
Bilgi ve becerilerinizi geliştirmek ve eğitim alabilmek sizin için ne kadar önemli?					
Sanatsal veya mesleki becerilerinizi kullanabilmek veya onları sergileyebilmek sizin için ne kadar önemli?					
Sosyal ve kültürel etkinliklere katılabilmek ve bunlara zaman ayırmak sizin için ne kadar önemli?					
İstediginiz nitelikte bir yaşam çevresi için kentsel konularda bilgi ve sözsahibi olmak sizin için ne kadar önemli?					
Doğal çevreyi ve yaşamı koruma konusunda sosyal bir görev almak sizin için ne kadar önemli?					

C. <u>Duyduğunuz memnuniyet düzeyini "1: memnun değilim" ile başlayan ve "5: Çok memnunum" ile sonlanan yargılardan birini seçerek cevaplayınız.</u>

Memnun Olma Durumu	***Memnun Değilim 1***	***2***	***Orta düzeyde 3***	***4***	***Çok Memnunum 5***
Yaşadığınız konut ve yakın çevresinden					
Yaşadığınız mahalleden, Evka 3'den					
Yaşadığınız kentten, İzmir'den					

D. <u>Yaşadığınız mahallede ve kentte yaşam kalitenizi olumlu ve olumsuz yönde etkileyen faktörleri belirtiniz?</u>

	Memnuniyet yaratan unsurlar	***Memnuniyetsizlik yaratan unsurlar***
Evka3 Mahallesinde	1. 2. 3.	1. 2. 3.
İzmir Kentinde	1. 2. 3.	1. 2. 3.

E. <u>Son 5 yılda yaşam kalitenizin hangi yönde değiştiğini düşünüyorsunuz</u>?

Kötüye doğru _____ Değişmedi _____ İyiye doğru

F. <u>Sizce yaşam kalitesi yüksek bir kenti ve konut çevresini tanımlayan önemli özellikler nelerdir?</u>

Kent;_____

_____

Konutçevresi;_____

_____

Anket Bitmiştir.
Katıldığınız için Teşekkürler.

APPENDIX C

REGRESSION RESULTS

The impact of socio-demographic variables

Method: Ordinary Least Squares

independent variables	dependent variable: housingenvironmentsat	
	coefficients	p-value
(Intercept)	3,22484***	2,24E-12
age	0,12539***	2,97E-05
maritalstatus	-0,06751	0,7287
childnumber	-0,20269**	0,0113
education	0,11179	0,1114
students	0,13524	0,6905
gender	0,02867	0,8411
independent variables	dependent variable: neighborhoodsat	
	coefficients	p-value
(Intercept)	3,84745***	<2e-16
age	0,05453*	0,0527
maritalstatus	-0,08076	0,663
childnumber	-0,06336	0,4024
education	0,02471	0,711
students	0,03786	0,9068
gender	-0,15763	0,2477
independent variables	dependent variable: urbanlifesat	
	coefficients	p-value
(Intercept)	4,6134234/***	<2e-16
age	0,0374838*	0,0977
maritalstatus	-0,2271694	0,1288
childnumber	-0,0005286	0,9931
education	-0,0989339*	0,0664
students	0,2431976	0,3507
gender	0,1355348	0,2171
independent variables	dependent variable: aesthetic	
	coefficients	p-value
(Intercept)	3,695204***	<2e-16
age	-0,001969	0,9316
maritalstatus	0,111932	0,4603

childnumber	0,021705	0,7255
education	0,120613**	0,0278
students	0,166089	0,5301
gender	0,012118	0,9133

independent variables	dependent variable: personalskills	
	coefficients	p-value
(Intercept)	4,67244***	<2e-16
age	-0,03998*	0,0773
maritalstatus	-0,07242	0,6271
childnumber	-0,03974	0,5136
education	0,06228	0,2463
students	0,0269	0,9176
gender	-0,11361	0,3001

independent variables	dependent variable: ecologicalbehaivor	
Coefficients:		
	coefficients	p-value
(Intercept)	3,215509***	2,08E-14
age	0,016932	0,52551
maritalstatus	-0,006381	0,97111
childnumber	-0,030388	0,67262
education	0,187155***	0,00347
students	0,130167	0,67217
gender	0,191694	0,13972

independent variables	dependent variable: greenrecreation	
Coefficients:		
	coefficients	p-value
(Intercept)	3,40337***	<2e-16
age	0,04626*	0,0561
maritalstatus	0,1539	0,3349
childnumber	-0,04856	0,4556
education	0,09597*	0,0954
students	0,27121	0,3302
gender	0,03894	0,7396

independent variables	dependent variable: housingcarac	
Coefficients:		
	coefficients	p-value
(Intercept)	3,29942***	2,88E-16
age	0,05491	0,03096
maritalstatus	0,04866	0,77127
childnumber	-0,08748	0,20098
education	0,17148***	0,00478

students	0,05195	0,85884
gender	0,06397	0,60306

independent variables	dependent variable: housingaffordability	
	coefficients	p-value
(Intercept)	4,965697***	<2e-16
age	0,022737	0,235
maritalstatus	-0,026147	0,8361
childnumber	-0,092345*	0,0743
education	-0,061661	0,176
students	-0,158036	0,4739
gender	-0,005009	0,957

independent variables Coefficients:	dependent variable: learningopportunities	
	coefficients	p-value
(Intercept)	3,726399***	<2e-16
age	-0,009385	0,7145
maritalstatus	0,024984	0,8828
childnumber	-0,027636	0,6896
education	0,066125	0,2791
students	0,088272	0,7655
gender	0,253376**	0,0429

independent variables Coefficients:	dependent variable: neighboursrelation	
	coefficients	p-value
(Intercept)	4,44506***	0.00
age	0,02102	0,402646
maritalstatus	0,42444**	0,011072
childnumber	0,09638	0,155375
education	-0,21232***	0,000452
students	0,30666	0,290063
gender	-0,13084	0,283647

independent variables Coefficients:	dependent variable: participationdecision	
	coefficients	p-value
(Intercept)	3,5569173***	0.00
age	0,030412	0,24107
maritalstatus	0,2280669	0,18372
childnumber	-0,1275772	0,06886
education	0,1115899*	0,07118
students	0,8156321***	0,00679
gender	0,0006898	0,99563

independent variables	dependent variable: physicalexercise	
Coefficients:		
	coefficients	p-value
(Intercept)	3,74105***	<2e-16
age	-0,01215	0,653
maritalstatus	0,13487	0,45
childnumber	0,07663	0,294
education	0,06539	0,309
students	0,38753	0,214
gender	-0,11771	0,37

independent variables	dependent variable: physiologicallsafety	
Coefficients:		
	coefficients	p-value
(Intercept)	4,5532***	0.00
age	-0,01834	0,11314
maritalstatus	0,08466	0,2679
childnumber	0,086***	0,00617
education	0,05056	0,06661
students	0,16063	0,22853
gender	-0,02532	0,65166

independent variables	dependent variable: placeattachment	
Coefficients:		
	coefficients	p-value
(Intercept)	3,61088***	2,04E-14
age	0,05849*	0,05164
maritalstatus	0,04111	0,83538
childnumber	-0,16531**	0,04149
education	0,04923	0,48947
students	-0,64026*	0,06469
gender	0,41976**	0,00422

independent variables	dependent variable: practicingcultural	
Coefficients:		
	coefficients	p-value
(Intercept)	3,82106***	<2e-16
age	-0,02258	0,3742
maritalstatus	0,13916	0,4073
childnumber	-0,10855	0,1139
education	0,12809**	0,0348
students	0,24975	0,3942
gender	0,18437	0,1359

independent variables	dependent variable: psychologicalsafety
Coefficients:	

	coefficients	p-value
(Intercept)	5,05788***	<2e-16
age	-0,01236	0,3783
maritalstatus	-0,10012	0,2804
childnumber	0,05906	0,1192
education	-0,0566*	0,0906
students	-0,10325	0,5233
gender	-0,02629	0,6994

independent variables dependent variable: publictransport
Coefficients:

	coefficients	p-value
(Intercept)	4,71058***	<2e-16
age	-0,036302	0,107
maritalstatus	0,02111	0,887
childnumber	0,065125	0,283
education	-0,006405	0,904
students	-0,248729	0,337
gender	-0,065944	0,545

independent variables dependent variable: incomesatisfaction
Coefficients:

	coefficients	p-value
(Intercept)	4,35984***	0.00
age	-0,05172**	0,02446
maritalstatus	0,08683	0,56565
childnumber	-0,08106	0,18942
education	0,14253*	0,00929
students	0,02209	0,93323
gender	0,07237	0,51474

independent variables dependent variable: shopping
Coefficients:

	coefficients	p-value
(Intercept)	4,82065***	<2e-16
age	-0,01642	0,3351
maritalstatus	-0,05536	0,6226
childnumber	0,10322**	0,0253
education	-0,0696*	0,0865
students	-0,0649	0,741
gender	0,02604	0,7527

independent variables dependent variable: socialrelationship
Coefficients:

	coefficients	p-value
(Intercept)	4,10702***	<2e-16

age	0,03211	0,2223
maritalstatus	-0,03942	0,8204
childnumber	0,0312	0,6596
education	-0,07694	0,2189
students	0,62369**	0,0405
gender	-0,09887	0,4386

independent variables Coefficients:	dependent variable: statusneighbour	
	coefficients	p-value
(Intercept)	3,789042***	<2e-16
age	0,051005**	0,0457
maritalstatus	-0,002228	0,9894
childnumber	-0,168001**	0,0149
education	0,07642	0,207
students	-0,443535	0,1313
gender	0,267503**	0,0311

independent variables Coefficients:	dependent variable: urbaninfrastructure	
	coefficients	p-value
(Intercept)	4,06079***	0.00
age	-0,03234	0,176289
maritalstatus	-0,02664	0,865932
childnumber	-0,01926	0,764839
education	0,21563***	0,000186
students	0,1618	0,556974
gender	-0,11606	0,317316

independent variables Coefficients:	dependent variable: urbanservices	
	coefficients	p-value
(Intercept)	4,807095***	<2e-16
age	-0,016512	0,4168
maritalstatus	-0,150188	0,2642
childnumber	0,117697**	0,0327
education	-0,078339	0,1061
students	-0,305902	0,1928
gender	-0,007101	0,9426

The impact of socio-demographic variables

Method: Ordinary Least Squares

independent variables Coefficients:	dependent variable: housingenvironmentsat	
	coefficients	p-value
(Intercept)	2,91658***	0.00
homeownership	0,33698**	0,02502
homesize	0,10544	0,21388
housewife	0,49275**	0,03105
income	0,04345	0,3188
retired	0,69383***	0,00354
unemployment	0,24718	0,54595
employee	0,30868	0,17001
employer	0,60591	0,2292

independent variables Coefficients:	dependent variable: neighborhoodsat	
	Coefficients	p-value
(Intercept)	3,7987319***	<2e-16
homeownership	0,180954	0,204
homesize	0,0174364	0,829
housewife	0,0500448	0,817
income	-0,0297674	0,472
retired	0,3138967	0,162
unemployment	0,0008824	0,998
employee	0,1606138	0,452
employer	0,4210329	0,379

independent variables Coefficients:	dependent variable: urbanlifesat	
	Coefficients	p-value
(Intercept)	4,84016***	<2e-16
homeownership	-0,08725	0,4401
homesize	-0,03408	0,5944
housewife	0,08443	0,623
income	-0,08346**	0,0118
retired	0,18178	0,3077
unemployment	-0,07502	0,8083
employee	0,08432	0,6191
employer	-0,04547	0,9048

independent variables	dependent variable: aesthetic	
Coefficients:		
	coefficients	p-value
(Intercept)	4,03381***	<2e-16
homeownership	0,02219	0,847
homesize	0,01224	0,851
housewife	0,05793	0,741
income	0,00576	0,864
retired	0,25309	0,164
unemployment	-0,09141	0,772
employee	0,25059	0,148
employer	-0,50632	0,192

independent variables	dependent variable: personalskills	
Coefficients:		
	Coefficients	p-value
(Intercept)	4,26163***	<2e-16
homeownership	0,10351	0,3647
homesize	-0,06463	0,3178
housewife	-0,22575	0,1939
income	0,07045**	0,0349
retired	-0,16053	0,3724
unemployment	0,18676	0,5499
employee	-0,02198	0,8979
employer	-0,17607	0,6466

independent variables	dependent variable: ecologicalbehaivor	
Coefficients:		
	coefficients	p-value
(Intercept)	3,56897***	<2e-16
homeownership	-0,04582	0,735
homesize	0,11346	0,14
housewife	-0,03159	0,878
income	0,05366	0,174
retired	0,09929	0,641
unemployment	0,20997	0,571
employee	0,0631	0,756
employer	-0,69158	0,13

independent variables	dependent variable:greenrecreation

	Coefficients	p-value
(Intercept)	3,62061***	0.00
homeownership	-0,064449	0,589
homesize	0,154693**	0,0228
housewife	0,223658	0,21809
income	-0,005816	0,86699
retired	0,551894***	0,00363
unemployment	0,405853	0,21446
employee	0,089292	0,61806
employer	-0,089694	0,82312

independent variables	dependent variable: housingcarac
Coefficients:	

	coefficients	p-value
(Intercept)	3,27784	<
homeownership	0,14622	0,23885
homesize	0,09282	0,18698
housewife	0,057	0,7623
income	0,11079***	0,00239
retired	0,18668	0,33972
unemployment	-0,03278	0,92302
employee	0,08767	0,63764
employer	0,40978	0,32637

independent variables	dependent variable: housingaffordability
Coefficients:	

	coefficients	p-value
(Intercept)	4,686104***	<2e-16
homeownership	-0,102523	0,289
homesize	0,005439	0,921
housewife	0,091146	0,535
income	0,009959	0,723
retired	0,107482	0,48
unemployment	-0,025533	0,923
employee	-0,129987	0,37
employer	-0,292329	0,369

independent variables	dependent variable: learningopportunities
Coefficients:	

	coefficients	p-value
(Intercept)	3,78708***	<2e-16
homeownership	-0,01168	0,928
homesize	0,13381	0,0687

housewife	0,20854	0,2894
income	-0,04221	0,263
retired	0,18275	0,3702
unemployment	0,35269	0,3195
employee	0,20359	0,2949
employer	-0,63809	0,1435

independent variables	dependent variable: neighboursrelation	
Coefficients:		
	coefficients	p-value
(Intercept)	4,52745***	0.00
homeownership	0,35398***	0,006864
homesize	0,08022	0,276054
housewife	0,16804	0,395028
income	-0,13016***	0,000682
retired	0,12419	0,544114
unemployment	-0,9116***	0,010889
employee	-0,19561	0,316248
employer	0,21257	0,626703

independent variables	dependent variable: participationdecision	
Coefficients:		
	coefficients	p-value
(Intercept)	4,10495***	0.00
homeownership	-0,04546	0,72352
homesize	0,14825**	0,04263
housewife	-0,61249***	0,00193
income	-0,04313	0,24976
retired	0,05441	0,78818
unemployment	-0,33903	0,33552
employee	0,08398	0,66341
employer	-0,56228	0,19429

independent variables	dependent variable: physicalexercise	
Coefficients:		
	coefficients	p-value
(Intercept)	4,153549***	<2e-16
homeownership	-0,176501	0,197
homesize	0,013179	0,865
housewife	0,047903	0,818
income	-0,007406	0,852
retired	0,218764	0,31

unemployment	-0,27274	0,466
employee	0,056476	0,783
employer	-0,035168	0,939

independent variables	dependent variable: physiologicallsafety	
Coefficients:		
	coefficients	p-value
(Intercept)	4,884236***	<2e-16
homeownership	0,016876	0,7774
homesize	0,02306	0,4954
housewife	-0,061747	0,4964
income	-0,006954	0,6892
retired	-0,055894	0,5526
unemployment	-0,293399*	0,0735
employee	-0,045048	0,6153
employer	-0,106151	0,5973

independent variables	dependent variable: placeattachment	
Coefficients:		
	coefficients	p-value
(Intercept)	3,5186***	<2e-16
homeownership	0,274*	0,0708
homesize	-0,1036	0,2269
housewife	0,48089**	0,0372
income	0,05053	0,2515
retired	0,33758	0,1572
unemployment	-0,56275	0,1745
employee	0,46109**	0,0431
employer	0,66196	0,1938

independent variables	dependent variable: practicingcultural	
Coefficients:		
	coefficients	p-value
(Intercept)	3,952362***	<2e-16
homeownership	-0,132025	0,318
homesize	0,067138	0,37
housewife	0,017291	0,931
income	0,006495	0,866
retired	0,097252	0,641
unemployment	0,500475	0,167
employee	0,144561	0,466
employer	-0,657224	0,14

independent variables	dependent variable: psychologicalsafety	
Coefficients:		
	coefficients	p-value
(Intercept)	4,98991***	<2e-16
homeownership	0,03273	0,6366
homesize	-0,02167	0,5809
housewife	0,14765	0,1618
income	-0,04984***	0,0141
retired	0,05711	0,6009
unemployment	0,18192	0,3377
employee	0,03482	0,7378
employer	-0,08278	0,7225

independent variables	dependent variable: publictransport	
Coefficients:		
	coefficients	p-value
(Intercept)	4,62282***	<2e-16
homeownership	-0,14335	0,1983
homesize	0,02487	0,6931
housewife	0,07746	0,6469
income	-0,03527	0,2768
retired	0,21041	0,2307
unemployment	0,29829	0,3276
employee	0,22238	0,1838
employer	-0,79399**	0,0348

independent variables	dependent variable: incomesatisfaction	
Coefficients:		
	coefficients	p-value
(Intercept)	4,238437***	<2e-16
homeownership	-0,005335	0,965
homesize	0,042903	0,531
housewife	0,112932	0,539
income	-0,006049	0,864
retired	-0,041882	0,826
unemployment	0,454022	0,171
employee	0,289776	0,112
employer	0,504249	0,216

independent variables	dependent variable:shopping
Coefficients:	

	coefficients	p-value
(Intercept)	4,817072***	<2e-16
homeownership	-0,006222	0,9407
homesize	0,008526	0,8572
housewife	0,252617**	0,048
income	-0,061064***	0,0128
retired	0,127244	0,3349
unemployment	0,112434	0,6234
employee	0,114651	0,3617
employer	-0,690136**	0,0149

independent variables	dependent variable: socialrelationship

Coefficients:

	coefficients	p-value
(Intercept)	4,21862***	<2e-16
homeownership	-0,01356	0,918
homesize	0,09122	0,224
housewife	-0,12185	0,545
income	-0,05878	0,128
retired	0,17186	0,41
unemployment	-0,3208	0,376
employee	-0,1761	0,376
employer	-0,48201	0,28

independent variables	dependent variable: statusneighbour

Coefficients:

	coefficients	p-value
(Intercept)	3,6226***	0.00
homeownership	0,31655**	0,01397
homesize	-0,13302*	0,06736
housewife	0,23217	0,23319
income	0,10605***	0,00478
retired	0,17291	0,39135
unemployment	-0,06701	0,84819
employee	0,07095	0,7118
employer	0,48623	0,25921

independent variables	dependent variable:urbaninfrastructure

Coefficients:

	coefficients	p-value

(Intercept)	4,14687***	<2e-16
homeownership	-0,06704	0,588
homesize	-0,03551	0,612
housewife	-0,11312	0,548
income	0,08009**	0,027
retired	0,04914	0,801
unemployment	0,46972	0,166
employee	0,17499	0,347
employer	0,52299	0,21

independent variables	dependent variable: urbanservices	
Coefficients:		
	coefficients	p-value
(Intercept)	4,717446***	<2e-16
homeownership	0,102195	0,3123
homesize	-0,005213	0,9274
housewife	0,250425	0,104
income	-0,07546***	0,0109
retired	0,071048	0,6555
unemployment	0,201494	0,4664
employee	0,12586	0,4071
employer	-0,54472	0,1101

*** denotes significance at 1 %, ** at 5 %, *** at 10 %

The impact of socio-demographic variables

Method: Ordinary Least Squares

independent variables	dependent variable:housingenvironmentsat	
	coefficients	p-value
(Intercept)	3,64202***	<2e-16
izmiryears	-0,03435	0,5789
evka3years	0,1478**	0,0201

independent variables	dependent variable:neighborhoodsat	
	coefficients	p-value
(Intercept)	3,76021***	<2e-16
izmiryears	-0,03939	0,4864
evka3years	0,13263**	0,0226

independent variables	dependent variable:urbanlifesat

	coefficients	p-value
(Intercept)	4,34468***	<2e-16
izmiryears	-0,01956	0,673
evka3years	0,06788	0,153

independent variables dependent variable:aesthetic

	Coefficients	p-value
(Intercept)	4,056489***	<2e-16
izmiryears	0,046849	0,315
evka3years	-0,001603	0,973

independent variables dependent variable:personalskills

	Coefficients	p-value
(Intercept)	4,20061***	<2e-16
izmiryears	0,06646	0,153
evka3years	-0,0201	0,672

independent variables dependent variable:ecologicalbehaivor

	Coefficients	p-value
(Intercept)	3,74858***	<2e-16
izmiryears	0,08853	0,108
evka3years	-0,03173	0,572

independent variables dependent variable:greenrecreation

	coefficients	p-value
(Intercept)	3,93075***	<2e-16
izmiryears	0,09237*	0,0597
evka3years	-0,08294*	0,0978

independent variables dependent variable:housingcarac

	coefficients	p-value
(Intercept)	3,95835***	<2e-16
izmiryears	0,07685	0,144
evka3years	-0,05649	0,293

independent variables dependent variable:housingaffordability

	coefficients	p-value
(Intercept)	4,605608***	<2e-16
izmiryears	-0,003423	0,93

evka3years	0,026099	0,512

independent variables	dependent variable:learningopportunities	
	coefficients	p-value
(Intercept)	3,68256***	<2e-16
izmiryears	0,12783**	0,0143
evka3years	-0,06067	0,2527

independent variables	dependent variable:neighboursrelation	
	coefficients	p-value
(Intercept)	3,97525***	<2e-16
izmiryears	0,04806	0,389
evka3years	0,0645	0,258

independent variables	dependent variable:participationdecision	
	coefficients	p-value
(Intercept)	3,71091***	<2e-16
izmiryears	0,10521*	0,0507
evka3years	-0,02592	0,6362

independent variables	dependent variable:physicalexercise	
	coefficients	p-value
(Intercept)	4,04E+00***	<2e-16
izmiryears	-4,42E-05	0,999
evka3years	2,36E-02	0,674

independent variables	dependent variable:physiologicallsafety	
	coefficients	p-value
(Intercept)	4,85941***	<2e-16
izmiryears	0,008324	0,728
evka3years	-0,013185	0,59

independent variables	dependent variable:placeattachment	
	coefficients	p-value
(Intercept)	3,4357***	<2e-16
izmiryears	0,09936	0,107
evka3years	0,08122	0,197

independent variables	dependent variable:practicingcultural

	coefficients	p-value
(Intercept)	3,94726***	<2e-16
izmiryears	0,08048	0,131
evka3years	-0,05923	0,277

independent variables dependent variable:psychologicalsafety

	coefficients	p-value
(Intercept)	4,78308***	<2e-16
izmiryears	-0,04552	0,1081
evka3years	0,0805***	0,0057

independent variables dependent variable:publictransport

	coefficients	p-value
(Intercept)	4,86558***	<2e-16
izmiryears	-0,04139	0,359
evka3years	-0,05103	0,269

independent variables dependent variable:incomesatisfaction

	coefficients	p-value
(Intercept)	4,13159***	<2e-16
izmiryears	0,09602**	0,049
evka3years	-0,02605	0,6

independent variables dependent variable:shopping

	coefficients	p-value
(Intercept)	4,66949***	<2e-16
izmiryears	0,0181	0,608
evka3years	-0,01842	0,609

independent variables dependent variable:socialrelationship

	coefficients	p-value
(Intercept)	3,79796***	<2e-16
izmiryears	0,01205	0,822
evka3years	0,08033	0,143

independent variables dependent variable:statusneighbour

	coefficients	p-value
(Intercept)	4,05769***	<2e-16
izmiryears	-0,01019	0,848

evka3years	0,04449	0,414
independent variables	dependent variable:urbaninfrastructure	
	coefficients	p-value
(Intercept)	4,43675***	<2e-16
izmiryears	0,05239	0,304
evka3years	-0,07335	0,16
independent variables	dependent variable:urbanservices	
	coefficients	p-value
(Intercept)	4,603425***	<2e-16
izmiryears	-0,010052	0,811
evka3years	0,002934	0,946

*** denotes significance at 1 %, ** at 5 %, *** at 10 %

APPENDIX D

QUALITY OF LIFE INDICATORS MATRIX

NAME	TITLE	REFERENCE	SUBJECT	INDICATORS
Jon Lang	Urban Design: The American Experience	Book, 1994	He used Maslow's framework extensively in his major reformulation of a substanstive theory of urban design, and he carefully develops a neo-modernist, functionalist empiricist, biogenic approach to urban design	Physiological (survival, health, development) Safety and security (physiological safety, psychological security) Affiliation (the nature of the relations) Esteem (sense of place, learning opportunities) Self-actualized (aesthetic needs)
Michael Greenberg	Age, Perceptions, and Neighborhood Quality	Human Ecology Review, Vol. 5, No. 2, 1998	neighborhood quality and its correlates among younger and older populations	Neighborhood quality Environmental Conditions (Crime and physical deterioration of neighborhoods) Resident Characteristics
Frank Oswald, Annette Hieber, Hans-Werner Wahl, Heidrun, Mollenkopf	Ageing and person–environment fit in different urban neighbourhoods	Eur J Ageing (2005) 2: 88–97	distinguishes between basic, higher order and social needs relating to housing; to explain outdoor place attachment as an indicator for quality of life in different urban districts	**amenity-oriented physical conditions and needs,** apartment not too large, cheap, barrier-free, medical care nearby, access to street without stairs, good access to public transport, good access to shops and services **comfort-oriented higher-order physical conditions and needs,** apartment large enough, homely, comfortable, light and sunny, not in a multi-storey building, scenic view, separate bathroom and toilet, balcony available, garage available, garden available, good parking access, clean pavements and streets, safe neighbourhood, quiet residential area, area with greenery, recreation area in the neighbourhood, cultural stimulation in the neighbourhood; **social conditions and needs,** having pleasant neighbours in the apartment block or house, having good relations to neighbours in the street, living close to friends and relatives.

Margaret S. Westaway	Aspects of environmental quality of life that affect neighbourhood satisfaction in disadvantaged and advantaged Johannesburg communities	Development Southern Africa Vol. 26, No. 3, September 2009	which aspects of environmental quality of life affect neighbourhood satisfaction	own house or dwelling, public schools, public clinics, public transport, roads, personal safety, street lighting, household refuse removal, employment opportunities and local government.
Yinshe Sun	Development of neıghbourhood Qualıty of lıfe ındıcators	Community-University Institute for Social Research University of Saskatchewan	to measure specific attributes, the overall status of liveability of neighbourhoods.and comparison of different neighbourhoods	Housing Health, Employment and Income Census, Crime and Safety Police Education Land-use and Environment (City Planning, Leisure Services, Parks) Social Environment and Services
Kung-Jen Tu, Li-Ting Lin	Evaluative structure of perceived residential environment quality in high-density and mixed-use urban settings: An exploratory study on Taipei City	Landscape and Urban Planning 87 (2008) 157–171	identify the residents assess the quality of their residential environment in high-density and mixed-use settings.	**Urban planning and design** (ground flor Access, open space and green area, building appearance and landscape) **Security and social relations** (public security&social interaction) **Transportation and commercial services** **Residential atmosphere** (sense of insecurity, sense of pressure) **Environmental health** (environmental pollution) **Facility and management** (maintenance and management)
Michael R. Greenberg	Improving Neighborhood Quality A Hierarchy of Needs	Housing Policy Debate, Volume 10, Issue 3 (1999)	to measure the association of residents' ratings of neighborhood quality with neighborhood attributes and residents' characteristics	Crime, physical deterioration, feeling safe, parks, schools, mass transportation facilities
Carmen Llinares, Alvaro F. Page	Differential semantics as a Kansei Engineering tool for analysing the emotional impressions which determine the choice of neighbourhood: The case of Valencia, Spain	Landscape and Urban Planning 87 (2008) 247–257	to analyse the structure of citizen' emotional impressions and determine their influence on the choice of neighbourhood by applying differential semantics	Luxury and prestige Emblematic and distinct character Expanding, forward-looking and a good investment Carefree, young and dynamic Spacious and landscaped Peaceful, friendly and pleasant Easy access With traffic and noise Commercial and business Decision to live in the neighbourhood
Nicola Dempsey	Are good-quality environments socially cohesive?	TPR, 80 (3) 2009	How the urban form and features of the built environment influence	Trust and reciprocity Social interaction Sense of community Sense of place attachment Social networks Perceived attractiveness

	Measuring quality and cohesion in urban neighbourhoods Nicola		social cohesion in local neighbourhoods	Maintenance
George Oliver Rogers, Sineenart Sukolratanam etee	Neighborhood design and sense of community: Comparing suburban neighborhoods in Houston Texas	Landscape and Urban Planning 92 (2009) 325–334	the relationship between the neighborhood design and the sense of community by comparing four suburban neighborhoods in the metropolitan Houston area	Well-defined Land uses and activities Density Pedestrian friendly Public space
*Kristin Lovejoy, Susan Handy, Patricia Mokhtarian	Neighborhood satisfaction in suburban versus traditional environments: An evaluation of contributing characteristics in eight California neighborhoods	Landscape and Urban Planning 97 (2010) 37–48	They examine characteristics associated with higher levels of neighborhood satisfaction among residents of traditional versus suburban neighborhoods, using an ordered logit model	Attractiveness, quiet, liveliness, big yards, safety, mixed-use, and good infrastructure.
Matthieu Permentier, Gideon Bolt and Maarten van Ham	Determinants of Neighbourhood Satisfaction and Perception of Neighbourhood Reputation	Urban Studies, 1-20, 2010	how residents perceive the reputation of their own neighbourhood	Dwelling satisfaction Satisfaction with population composition Satisfaction with contact neighbours Satisfaction with social safety Satisfaction with shops Satisfaction with green spaces Most friends live in neighbourhood Family lives in neighbourhood Contact with neighbours
Rionach Casey, Sarah Coward, Chris Allen and Ryan Powell	On the planned environment and neighbourhood life: Evidence from mixed-tenure housing developments twenty years on	TPR, 78 (3) 2007	This paper examines the extent to which the planned environment can help create and sustain socially mixed communities	Shopping local, local leisure facilities, use of facilities and social contact, the landscape and the provision of quality local services such as schools and shops, house price and house type
Rodney H. Matsuoka, Rachel Kaplan	People needs in the urban landscape: Analysis of Landscape and Urban Planning contributions	Landscape and Urban Planning 84 (2008) 7–19	This review paper explores how humans interact with outdoor urban environments.	Social interaction/privacy, Citizen participation, Sense of community identiy, Contact with nature , Aesthetic preference Recreation/play
Tara Smith, Maurice Nelischer, Nathan Perkins	Quality of an urban community: a framework for understanding the relationship between quality	Landscape and Urban Planning 39 (1997) 229-241	This research project is an investigation of the physical elements that contribute to the quality of a community.	Livability, character, connection, mobility, personal freedom, diversity

	and physical form			
Guillermo Cruces Andrés Ham Martín Tetaz	Quality of Life in Buenos Aires Neighborhoods: Hedonic Price Regressions and the Life Satisfaction Approach	Latin American Research Network Working Paper R-559 September 2008	This paper studies quality of life in urban neighborhoods in the Buenos Aires Metropolitan Area by using hedonic price regressions	Sidewalk conditions, Conditions of streets, cleanliness, forestation, Garbage collection, Access to public transport, Cultural and sports activities in neighborhood, Amount and quality of green areas, Police performance in the neighborhood, lighting at night Traffic in neighborhood, Security, Evaluation of neighbors, noise, pollution, Visual contamination
Jian Ge, Kazunori Hokao	Research on residential lifestyles in Japanese cities from the viewpoints of residential preference, residential choice and residential satisfaction	Landscape and Urban Planning 78 (2006) 165–178	In this paper, they analyzed the characteristics of residential preferential patterns, residential choice factors and residential satisfaction, as well as their interrelationships.	Safety from disasters; Transportation safety; Sunshine/ventilation; Noise, vibration; Safety from criminals; Cleanliness of streets; Enrichment of welfare facilities; Beauty of cityscape; Commuting convenience; Convenience of shopping; Nearness to workplace; Convenient to children commuting; Convenient access to other cities; Enjoying local festivals; Good personal relationships; Attachment to the region; Enjoyment of leisure time; Good layout/construction of house; Economic rent or price of house; Nearness to parents/children; Abundance of natural elements; Good educational environment for children
James J. Potter, Rodrigo Cantarero, X. Winston Yan, Steve Larrick, Blanca Ramirez	Residents' Perceptions of Housing and the Quality of Life in Schuyler, Nebraska	Working paper, 1996	This paper Studies the issues of housing and the quality of life in Schuyler from the perspectives of longtime residents and newly-arrived residents.	Resident Satisfaction, Housing Priorities, Privacy, Contributors to the Current Housing Condition, Stress Related Concerns, Physical Issues, Health Related Issues, Service Issues, Housing Concerns, Social/Cultural Issues, Changes in Schuyler, Economic Issues
Aslı Sungur Ergenoglu, Gülen Çağdaş	Morphology and user satisfaction as components of housing quality	Quality of Urban Life: Policy versus Practice, 2003	This paper, needs and the satisfaction of the users from their houses are explained anf the parameters that effect the users satisfaction are discussed.	Maslow's hierarchy of needs model is used. Physiologic needs, Psychological and social needs parameters (convenience, safety, need for social contact, freedom, activitiy, work and presence, beauty, meaning and value, social approval)
H.D. Türkoglu	Residents' satisfaction of housing environments: the case of	Landscape and Urban Planning 39 (1997) 55-67	In this study, both planned and squatter environments in Istanbul were	Size and physical conditions of the dwelling; accessibility to the city center, work place, hospital, shopping and municipal

	Istanbul, Turkey		evaluated from the residents perception point of view. A household survey was carried out to collect the data	Services; availability and maintenance of social, recreational and educational services; social and physical environmental problems; climatic control of the dwelling, and; satisfaction with neighbors.
M. JOSEPH SIRGY, DONG-JIN LEE and FRANK KRESSMAN N	A NEED-BASED MEASURE OF CONSUMER WELL BEING (CWB) IN RELATION TO PERSONAL TRANSPORTA TION	Social Indicators Research (2006) 79: 337–367	The CWB measure was developed guided by the theoretical notion that the CWB in relation to personal transportation vehicles is significantly enhanced when the consumption of the vehicle meets the full spectrum of human developmental needs.	safety, economic, family, social, esteem, actualization, knowledge, and aesthetics needs.
Theo A. Arentze & Peter J. H. J. van der Waerden & Jochem W. Bergen & Harry J. P. Timmermans	Measuring the Quality of Urban Environments: A Need-Based Micro-Simulation Approach	Appl. Spatial Analysis (2009) 2:195–209	The quality of an environment is measured based on a representative set of daily activity patterns in a studied population.	need for entertainment (e.g., watching shop windows), need for physical exercise (e.g., walking around), need for social interaction (e.g., meeting other people), need for green recreation (e.g., being in the open air)
Natalie Haltrich, Ella Lawton, Geoffrey Stack	Co-Creating Community with a Needs Based Approach to Urban Design and Planning	**Thesis** School of Engineering Blekinge Institute of Technology Karlskrona, Sweden 2008	This paper studies the current approaches to green design and planning.	**Basic human needs**: A comprehensive set of fundamental human needs that are culturally and historically universal, non-overlapping, nonsubstitutable, complimentary to one another, and seek continual satisfaction. They are recognised as: subsistence, protection, affection,idleness, identity, freedom, creativity, participation and understanding. (Max-Neef 1991)
C. Scott Shafer, Bong Koo Lee, Shawn Turner	A tale of three greenway trails: user perceptions related to quality of life	Landscape and Urban Planning 49 (2000) 163±178	The research was based on the human ecosystem concept and was intended to determine if and how such greenway facilities were contributing to quality of life and how people might perceive such contributions based on the way they used the trail (e.g. for transportation or recreation).	Natural areas present , Access to public transportation , Amount of pollution New business development , Opportunity for other transportation use Accessibility to shopping areas , Social interaction among residents Conditions of people's health and fitness , Time spent for shopping Accessibility to work/school , Cost of transportation Residents' pride in community , Time spent on commuting

				Diversity in types of industry , Accessibility to recreation Land use patterns , Equity among different residents Place for wildlife Economic growth Features contributing to community identity
Yung-Jaan Lee	Subjective quality of life measurement in Taipei	Building and Environment 43 (2008) 1205–1215	This study adopts the widespread Detroit Area Study as the basic conceptual structure with modifications to fit the social, cultural and geographical context of Taipei.	
Marıno bonaıuto, antonıo aıello, marco perugını, mırılıa bonnes and anna paola ercolanı	Multıdımensıonal perceptıon of resıdentıal envıronment Qualıty and neıghbourhood attachment ın the urban Envıronment	Journal of Environmental Psychology (1999) 19, 331-352	This work focuses on the relationship between inhabitants' perceptions of residential quality concerning different aspects of their neighbourhood, and attachment to the neighbourhood	(1) architectural and town-planning space (19 items), (2) organization of accessibility and roads (14 items), (3) green areas (12 items), (4) people and social relations (22 items), (5) punctual social-health-assistance services (11 items), (6) punctual cultural-recreational services (13 items), (7) punctual commercial services (5 items); (8) non-punctual (in-network) services (transportation, 5 items) (9) lifestyle (7 items), (10) pollution (6 items), (11) maintenance/care (12 items).
Marino Bonaiuto, Ferdinando Fornara, Mirilia Bonnes	Indexes of perceived residential environment quality and neighbourhood attachment in urban environments: a confirmation study on the city of Rome	Landscape and Urban Planning 65 (2003) 41–52	This paper presents two instruments measuring the quality of the relationship that inhabitants have with their urban neighbourhoods. These instruments consist of 11 scales measuring the perceived environmental qualities of urban neighbourhoods and one scale measuring neighbourhood attachment.	Organization of accessibility and roads, Green areas, People and social relations, Welfare services , Recreational services , Commercial services, Transport services, Pace of life, Environmental health, Upkeep and care, Neighbourhood attachment

Dwayne a. Baker and robert j. Palmer	Examining the effects of perceptıons of Communıty and recreatıon partıcıpatıon On qualıty of lıfe	Social Indicators Research (2006) 75:395–418	The purpose of this study was to test a model that examines the direct and indirect effects of recreation participation, community residency, community attachment and community satisfaction on quality of life.	Self-improvement / Education activities, Outdoor activities, Artistic activities, Active recreation
Nazeem Muhajarine, Ronald Labonte, Allison Williams, James Randall	Person, Perception, and Place: What Matters to Health and Quality of Life	Soc Indic Res (2008) 85:53–80	(a) What are the most important individual and perceived neighbourhood and city related characteristics that are associated with self-assessed health and overall quality of life? (b) Do the significant individual and perceived neighbourhood and city related correlates of health and quality of life differ by the type of neighbourhood in which individuals reside?	Amenities Public programs /services Safety/security Neighbourliness Physical infrastructure Personal relationships Civic interactions

VITA

Date of Birth and Place: 1974, Manisa - Turkey

EDUCATION

2005 - 2014 Doctor of Philosophy in Urban Planning
Graduate School of Engineering and Sciences, ˙Izmir Institute of Technology, Izmir -Turkey.
Thesis Title: ASSESSING SUBJECTIVE QUALITY OF URBAN LIFE AT NEIGHBORHOOD SCALE
Supervisor: Prof. Dr. Cemal ARKON

1991 - 1995 Bachelor of City and Regional Planning
Department of City and Regional Planning, Dokuz Eylül University, Izmir - Turkey.

PROFESSIONAL EXPERIENCE

2012 - 2014 Director of City Aesthetic and Urban Design Department
Izmir Metropolitan Municipality, Izmir - Turkey.

2001 - 2012 Research Assistant
Department of City and Regional , ˙Izmir Institute of Technology, Izmir - Turkey.

1996 - 2000 City Planner
Bornova Municipality, Izmir - Turkey.

PUBLICATIONS

Özdemir S. , Avar A., Sevinç, N., Şenol P., Velibeyoğlu, H., Arıcan, B., Bektaş, B., Güçer, E., Kompil, M., Yankaya, U. (2002). İmar Afları Sonrasında İzmir'de Gecekondulaşma", Yoksulluk, Kent Yoksulluğu ve Planlama, TMMOB Şehir Plancıları Odası Yayını, 8 Kasım Dünya Şehircilik Günü Kolokyumu, 127-155, Ankara.

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