

## Urban Living Area Satisfaction And Public Preference

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### Summary

The aim of the present study, which was carried out in three different cities of Turkey (Erzurum, Artvin, Tokat), is to determine satisfaction degree of urban people with the environment they live and to bring about their demands and biases for their living environs. The study includes totally 300 questionnaires conducted over subjects from each city. As the consequence of the study it was found that people in Erzurum and Tokat are satisfied with the urban environment they live (59.0 % and 64.0% respectively) whereas those in Artvin are not (69%). Among the living area types people prefer, if they are given adequate time and money, are coastal areas in the first row (M:6.64), which are followed by the areas near water surfaces, lakes and river banks.

While people generally prefer residential areas in the cities far from the centres (M:5.79) the most, they prefer the areas again far from centres and close to parks and green sites in the second row (M:5.64). It was concluded from the study that regardless of their income, education, age, gender, and occupation, urban people tend to prefer natural areas by escaping from the stresses in urban areas (e.g. dense urbanisation, traffic, pollution, population density, psychological stress and lack of green areas).

**Keywords:** Landscape, landscape preference, landscape planning

### Kentsel Yaşam Alanı Memnuniyet ve Kamu Tercihi

#### Özet

Türkiye (Erzurum, Artvin, Tokat) üç farklı şehirlerde yürütülen bu çalışmanın amacı, yaşadıkları çevre ile kent halkının memnuniyet derecesini belirlemek ve onların yaşam çevresi için onların istek ve önyargılarını ortaya koymaktır. Çalışma, Artvin, Erzurum ve Tokat şehirlerinde gerçekleştirilmiştir. Bu 3 şehirde konu ile ilgili soruları içeren toplam 300 anket yapılmıştır. Çalışmanın sonucunda Erzurum ve Tokat'ta insanlar (% 59.0 ve 64.0 sırasıyla%) yaşadıkları kentsel çevreden memnun olduğu Artvin'de ise (% 69) yaşadıkları kentsel çevreden memnun olmadıkları tespit edilmiştir. Katılımcılara yeterli zaman ve para verilirse yaşayabilecekleri alanlar nereler olabilir sorusuna; (6.64 M) Su yüzeyleri, göl ve nehir kıyısı gibi kıyı alanları ilk sırada çıkmıştır. İnsanlar genellikle şehir merkezinden uzak yerleşim alanlarını (M: 5.79) tercih ederken, ikinci sırada parklar ve yeşil alanlara yakın olan yerleşim alanlarında (M: 5.64) yaşamayı tercih etmektedirler.

Çalışmada; yoğun kentleşme, trafik, kirlilik, nüfus yoğunluğu, psikolojik stres ve yeşil alanların eksikliği gibi sebeplardan dolayı farklı gelir, eğitim, yaş, cinsiyet ve meslek gruplarından kent merkezlerinde yaşayan insanların doğal alanlarda ya da doğal alanların yakınlarında yaşamak öncelikli tercih nedeni olduğu ortaya çıkmıştır.

**Anahtar kelimeler:** Manzara, peyzaj tercihi, peyzaj planlama

#### Introduction

A quality living area and urban tissue is the result of a balanced spatial relationship between structures, transportation facilities and open and green areas. The effects of open and green areas with different characteristics, sizes, equipments, functions and services on the quality of urban life vary depending on their features (Emür and Onsekiz 2007). Urban areas which are composed of natural and cultural elements are the whole parts different from their parts. Environment which is formed either by structures or open and green areas should not

only have functionality which meets biological needs of human, but also aesthetical qualities to meet psychological and intellectual needs (Erdoğan 2006). The requirements of a society for the creation of a healthy green space community should be perceived as complete and accurate. Balanced distribution within the distances of accessible green space to meet the needs of both recreational and will make a significant contribution to the urban ecosystem. Green spaces contribute as urban ecological and recreational venues (Esbah 2006; Doygun

and Ilter 2007; Doygun 2009; Cengiz 2012; Çetin 2015).

Today the basis of environmental problems in cities lies in distorted and irregular urbanisation. In general, traditional housing structures with gardens constitute a significant portion of the city's green spaces. However, in the city where there is intensive construction ongoing, these existing houses are turned into apartment blocks (Çetin 2015). Application of construction activities without considering structure – space relationships can cause urban people to live far from green areas among dense and high building blocks. If considered air and noise pollutions in addition to these problems, citizens can not be happy with their environment and tend to escape from these areas due to their physical and psychological features (Yılmaz 1994).

General characteristics of a city are determined by architectural structures, open and green areas and their interactions. In the shaping of a city, the first noticeable change upon examination is its greenery which influences the city's topography, morphology, climate, and its characteristic structure. In some cities, the distribution of active and passive green spaces is dependent on its public properties, while in others this is seen as being haphazard. Scattered and unplanned green areas are more common in developing cities that lack a land policy. If there are green oases, these are seen as separate areas, large or small (Esbah 2007; Bullock 2008; Muderrisoglu et al. 2010; Çetin 2015). Open and green areas have an important place in balancing the deteriorated relationship between human and nature, and improvement of urban living conditions. Therefore, in developed countries, quality and quantity of open and green areas are accepted to be the indicators of civilisation and quality of life. In this respect, many developed countries are engaged in forming suitable urban areas by considering mental and physical demands of their citizens and by planning their ecologies for human living conditions (Gül and Küçük 2001).

Natural or semi natural areas and their close proximities have significant benefits for humans (Ulrich 1984; Givoni 1991; Kuchelmeister and Braatz 1993; Hartig et. al.

2003; Laumann et.al. 2003), whereas distorted urban environments have many unfavourable conditions under which people can experience stress and other negative effects (Karmanov and Hamel 2008). Naturalness of a landscape is one of the most densely used parameters in the assessment studies related to landscape quality (Habror 1998; Tahvanainen et.al. 2001; Ode and Fry 2002; Arriaza et al. 2004; Clay and Smidt 2004). In some studies it was observed that naturalness increased landscape quality values (Kaplan and Kaplan 1989; Parsons 1991).

The aim of the present study is to determine the satisfaction, demands biases of people with their environment considering different characteristics of the cities. Another aim at this point is to seek answer the question of whether people are satisfied with their living environment or they long for nature.

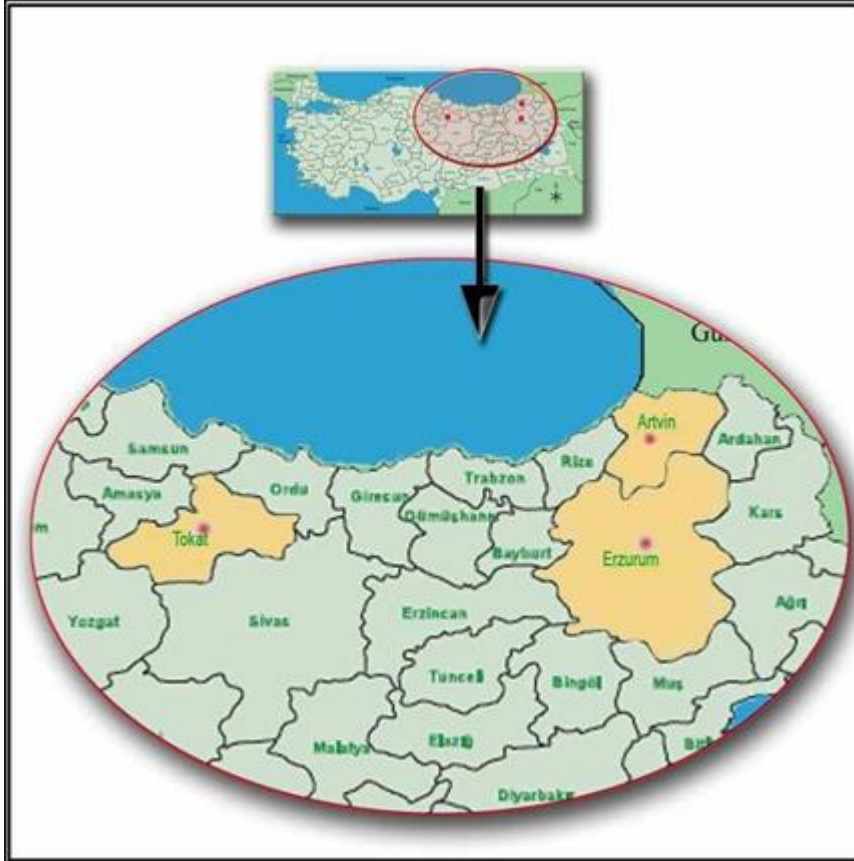
## Material and Method

### Material

The study includes totally three cities; Erzurum (Northeast Anatolia Region), Artvin (East Blacksea region) and Tokat (Middle Blacksea Region). The city of Erzurum is the largest, highest and coldest city of Eastern Anatolia. It is also the city which has the highest elevation and harshest climate conditions. The city of Artvin is a small boarder city located in a forest near Blacksea coastal region. The city of Tokat is located near the middle part of the country and on a passage from interior parts to maritime zones of the country.

Figure 1. Location of the studied cities in Turkey

The city of Erzurum with a surface area of 25.066km<sup>2</sup> is located at an elevation of 1859 m; 39° 55' N, 41° 16' E (Anonymous 2001). Population of the city centre is 338.073 (Anonymous 2008a). long-term mean temperature of the city is 5.4 °C, and rainfall is 411.1 mm and the number of snow covered days is 112.3 days (Anonymous 2008b). The city of Artvin (40° 35'; 41° 07' N and 41° 07'; 42° 00' E) is in the farthest east of Blacksea Region of Turkey and on the border of Georgia. Elevation of the city centre is 520 m (Anonymous 2008c).



**Figure 1.** Location of the studied cities in Turkey

Population of the city centre is 24.502 (Anonymous 2008a). In the city where maritime type climate is prevalent, long term mean temperature is 12.3 °C, rainfall is 689.4mm, the number of snow covered days 36.3 days (Anonymous 2003). It is one of the smallest cities of Turkey with a surface area of 7.436 km<sup>2</sup>. The city of Tokat is located on the passage from Middle Blacksea Region to Middle Anatolia Region therefore its climate represents passage properties. Mean elevation of the city, which is located on 39° 52' - 40° 55' N, 35° 27' - 37° 39' E coordinates with 9.958km<sup>2</sup> (Susam 2006) is 650 m. Population of the city is 127.988 (Anonymous 2008a). Mean annual temperature 12 °C is, mean rainfall is 456.4 mm and mean number of snow covered days is 29 days (Anonymous 2008b).

#### **Method**

This study deals with the results of the questionnaire surveys carried out in three cities; Erzurum, Artvin and Tokat. In each city, totally 100 people were interviewed and

completed questionnaire forms and consequently 300 questionnaire forms were completed. Questionnaire form was made up of two parts including the questions of demographic characteristics and living environment. In the analysis of the data obtained from questionnaires nonparametric tests were applied. Significance tests were conducted over the difference between two percentages using Chi -Square(x<sup>2</sup>) test, while multi comparisons were made using Kruskal Wallis H test (Özdamar, 2002).

#### **Results**

Table 1 represents the demographic characteristics of the participants from there cities and the results of Chi-Square test. According to the table, 59.3% of the participants were male and 40.7 % were female. The age group from which the participants came was 26-35 with 34%. Of the participants 48.7 % were officers and their 39.3 % were from the income level group of 1000-1500 YTL. Prevalent education level was university degree with 60.7%. When considered the living area,

52.3% of the participants reported to live in the city centre in houses without gardens. Statistical relationship between demographic

characteristics and their satisfaction with their environment is given in Table 2.

Table 1. Percentage distribution of demographic characteristics and scores of Chi-Square test

Demographic characteristics	Erzurum (%)	Artvin (%)	Tokat (%)	Toplam (%)	Chi-Square values	
<b>Gender</b>	Male	43	55	80	59.3	$\chi^2=29.539$ p:0.00<0.05
	Female	57	45	20	40.7	
<b>Age</b>	15-25	41	36	21	32.7	$\chi^2=26.550$ p:0.03<0.05
	26-35	39	32	31	34	
	36-45	15	20	39	24.7	
	46-55	2	6	7	5.0	
	56-65	2	4	2	2.7	
	>65	1	2	0	1.0	
<b>Occupation</b>	Free worker	2	15	19	12	$\chi^2=27.569$ p:0.00<0.05
	Officer	53	42	51	48.7	
	Farmer	0	5	0	1.7	
	Other	45	38	30	37.7	
<b>Income</b>	<500 TL	9	27	13	16.3	$\chi^2=30.350$ p:0.00<0.05
	500-1000 TL	22	21	36	26.3	
	1000-1500 TL	47	36	35	39.3	
	1500-2000 TL	11	15	13	13	
	>2000 TL	11	1	3	5.0	
<b>Education</b>	Primary education	3	8	1	4.0	$\chi^2=18.675$ p:0.017<0.05
	Secondary education	4	7	2	4.3	
	High school	20	20	18	19.3	
	Bachelor	68	53	61	60.7	
	Master	5	12	18	11.7	
<b>Living area</b>	Rural area	3	13	3	6.3	$\chi^2=29.105$ p:0.00<0.05
	Urban area houses without garden	50	39	68	52.3	
	Urban area houses with garden	11	18	14	14.3	
	Urban area apartment without garden	36	30	15	27	

Table 2. Statistical relationship between demographic characteristics and their satisfaction with their environment

Question	City	Gender	Age	Occupation	Income	Education	Living area
satisfaction with the quality of living environment	25.47*	6.34*	13.9	3.79	7.47	7.35	3.67

\*p<0.05(significant with 5% confidence level)

Relation between satisfaction and gender was found to be significant at 5 % significant level. Participants are generally satisfied with their environment quality with 48.7 %,

which was 57.4 % among males and 42.7 % among females. Women are not satisfied with their environments as men (Table 3).

Table 3. Environmental satisfaction rates for gender

Gender	Satisfaction with environmental quality (%)		
	Yes	No	Partly
Male	24.7	42.7	32.6
Female	17.2	57.4	25.4
Total	21.7	48.7	29.7

There is a significant relationship between the city and satisfaction with environment at 5 % significance level. Only the majority of participants in Artvin reported that they were not satisfied with their environment with 69 %.

In other cities, participants were satisfied in majority when added the value of partially satisfied participants (Table 4). Relationship between demographic characteristics and their living area preferences is given in Table 5.

Table 4. Environmental satisfaction and cities

City	Satisfaction with environmental quality (%)		
	Yes	No	Partly
Artvin	13.0	69.0	18.0
Erzurum	24.0	41.0	35.0
Tokat	28.0	36.0	36.0
Total	21.66	48.67	29.67

Table 5. Relationship between demographic characteristics and their living area preferences

Question	City	Gender	Age	Occupation	Income	Education	Living area
Living area preferences	11.57*	1.57	2.16	3.39	12.19*	0.81	2.18

\*p<0.05(significant with 5% confidence level)

As can be seen from Table 5, there is a significant relationship between living area preferences and city (p<0.05). In Artvin and Tokat, participants prefer city centres (70% and 51% respectively) whereas in Erzurum preference was out of the city (near the city; 52 %). When considered all the cities, 56.3% of the participants preferred city centre

(Table 6). It was determined that living area preference of the participants was associated with income level at 5% level. It was found that participants earning less than 1500 YTL monthly preferred to live in or near city centre (73.6, 50.6, 59.3 % respectively) while above 1500 YTL participants preferred to live out of city (54.0 and 66.0 %; Table 7).

Table 6. Living area preference for the cities

City	Living area preferences (%)	
	City centre	Out of the city
Artvin	70	30
Erzurum	48	52
Tokat	51	49
Total	56.3	43.7

Table 7. Income levels and living area preferences

Income	Living area preferences (%)	
	City centre	Out of the city
<500 TL	73.6	26.3
500-1000 TL	50.6	49.4
1000-1500 TL	59.3	40.7
1500-2000 TL	46.0	54.0
>2000 TL	34.0	66.0
<b>Total</b>	56.3	43.7

Preferences of participants for recreational areas were asked with the assumption that they have enough time and money. They were asked to rank the places they prefer. Their scores are given in Table 8. Among the preferred areas by participants sea coast is the most preferred area (M:6.64), which is followed by water, lake and river banks (M:6.55). The least preferred areas are village settlements and rural areas (M:3.92). Relation between preferred areas and demographic characteristics is given in Table 9 prepared using Kruskal Wallis test Chi-Square values. There are several factors effective on the decisions of how to spend one's leisure time. Some of these factors are caused by the special conditions of individuals. For instance, factors such as income level, age, gender, occupation, type of leisure time and cultural values can affect the use of leisure time. There are significant (5%) relations between plateau areas and forest areas with gender, coastal areas with age, occupation and education with water banks, village and countryside with age and

house in city center with garden with income level. Preference for housing types of participants is given in Table 10.

According to the results of the questionnaires participants preferred the house type in the city and far from the centre (M:5.79), which was followed by far from centre and near park and green area (M:5.64). Houses in the centre and near hospital were least preferred (M:3.44).Table 11 represents the relationship between preferred house types and demographic characteristics. A relation was found to exist between gender, age, occupation and income with preferred housing types. Significant relations (at significance level 5%) were found between occupation groups and house on the main street in the centre without garden, age and occupation and house far from centre and near water surfaces, age, occupation, and income an house in the centre near playground, gender and income and house in the centre near hospital.

Table 8. Preferred recreational areas

Preferred recreational areas	Mean	Sum	Standart deviation
Plateau areas	4.8	1441	2.166
Forestry areas	5.63	1689	1.899
Sea shores	6.64	1991	2.149
Water, lake and river banks	6.55	1964	1.792
Villages-countryside	3.92	1176	1.978
Apartment in city centre	4.48	1344	2.260
Apartment in city centre with gardens	5.93	1780	2.221
Houses in city centre with gardens	6.05	1816	2.257

Table 9. Preferred areas and demographic characteristics

Preferred areas	City	Gender	Age	Occupation	Income	Education
Plateau areas	11.814*	1.546	2.528	3.163	5.239	0.110
Forestry areas	5.313*	2.277	3.242	10.942	2.369	2.079
Sea shores	1.995	21.222*	16.451*	2.347	18.587*	1.124
Water, lake and river banks	0.461	8.641	13.285*	3.037	6.153	2.729
Villages-countryside	2.579	14.226*	7.419	9.232	10.891	4.959
Apartment in city centre	2.144	3.985	6.386	2.224	4.465	2.576
Apartment in city centre with gardens	2.946	3.900	7.957	7.323	4.522	1.317
Houses in city centre with gardens	7.673	2.982	6.755	10.729*	5.201	2.512

\*p<0.05(significant with 5% confidence level)

Table 10. Types of preferred houses

Preferred houses	Mean	Sum	Standart deviation
Apartment on the main street in the city centre without garden	4.61	1382	2.337
House far from city centre with garden	5.79	1732	1.590
Far from the centre near the park and green area	5.64	1691	1.532
Far from the centre near the park and water surface	5.23	1569	1.921
In the centre and near playground	4.70	1411	1.858
In the mountain or with mountain view	3.88	1163	2.009
In the centre near hospital	3.44	1031	1.971
Other	2.69	808	2.905

Table 11. Preferred housing types and demographic characteristics

Preferred housing types	Gender	Age	Occupation	Income	Education	Living area
Apartment on the main street in the city centre without garden	1.222	2.983	14.446	4.348	9.125	3.585
House far from city centre with garden	0.014	2.427	5.358	3.163	6.144	5.286
Far from the centre near the park and green area	2.252	3.991	1.655	8.424	4.896	5.520
Far from the centre near the park and water surface	0.308	17.656*	24.151*	4.276	8.882	1.258
In the centre and near playground	0.062	19.283*	16.224*	24.809*	5.401	5.626
In the mountain or with mountain view	3.345	11.252*	19.314*	4.870	2.712	0.330
In the centre near hospital	5.013*	5.779	4.395	10.348*	1.641	2.636
Apartment on the main street in the city centre with garden	5.352*	4.375	14.015*	21.797*	9.452	4.031

### Discussion

Living environment is the area where people survive and perform activities such as housing, feeding, working, relaxing and entertaining in an interaction with their environment. People can survive a regular life if their environment allows it. Satisfaction with environmental quality is an important factor which can affect life and productivity.

With an increased interest in environmental quality in recent years also increased the importance of landscape quality for all people. Today, landscape is considered to be an important natural source from not only environmental point of view but also for economic reasons. Landscape quality can be vitally important for recreation and settling areas, tourism and even for health care (Real et al. 2000).

Green urban areas providing habitat for wildlife, urban heat island lessening of the effects, pedestrian and bicycle transportation support, surface runoff and flood control, and erosion prevention are versatile positive contributions. To fulfill the functions of urban ecosystems requires an organized green space system using a holistic approach (Çetin 2015).

A study shows in Kütahya evaluated with regard to the current area of public green spaces and the potential accessibility to meet recreational needs are. In this study showed that this is the size of spots on the fulfilment of ecological functions are effective. But also this study City parks, including the majority of the permeable surface area planted in parks and plant selection, are preferred if the natural vegetation is predicted to melt and could bring ecological functions. Plantation of green space in the park in this context, the workspace preference for natural vegetation types and ecological potential to increase the permeable surface area should be increased (Çetin 2015)

From the results of the survey, it was seen that there was a significant relation between the satisfaction with living environment and city. Participants in Artvin were not satisfied with their environment in this city. In Erzurum and Tokat, participants were found to be satisfied with their living environment when partially satisfied participants were added to the number of the fully satisfied (59.0, 64.0% respectively). Another significant relationship was found between satisfaction with quality of environment and gender, which showed that females were not



satisfied with their environment (57.4%) more than males (42.7 %).

The city of Artvin is located near the sea and rich in natural reserves. However, the city centre is located on a highly rough geographical structure where there are obstacles for the development of the city. Although the city has a huge potential for passive green areas, there are few even no facilities such as parks, squares, circulatory or pedestrian roads in the city. Therefore, people are not provided with alternative social use. Deficiency of infrastructure can also adversely affect the life quality of people.

In the cities of Erzurum and Tokat participants were generally happy with their environment. 23 Even though the city of Tokat is not in the first rows in developmental order, urban life quality is higher in this city than the other two cities. This can be because one of the most important rivers of the country (Yeşilırmak) passes in the city centre. Majority of the city's active recreation areas were constructed along with this river and used densely by native people. Another reason may be that there are almost no pollution sources in the city. The city of Erzurum is the largest and the most crowded city among the studied cities.

However, negative effects of climate and air pollution mainly caused by climate can also adversely affect quality of urban life. Presence of Atatürk University, which is one of the largest universities in the country, can increase social and environmental life quality. Social and technical substructure which may meet public need was found to be adequate by participants.

A significant relationship was found to exist between living area preference and the city at 5% significance level. Urban areas with their dense structures and ineffective green areas can adversely affect daily lives of people and cause many problems such as stress. Therefore participants preferred the areas far from centre or the areas with open green areas. Several important studies on the characteristics related to landscape have been carried out. One of these characteristics is naturalness, which was evaluated in many studies. Natural landscapes have mitigating

effects of stress. Natural landscape is thought to have more scenic values than artificial ones. Moreover, presence of natural elements in an artificial landscape can increase the quality of this landscape and vice versa. If a natural landscape is given as manmade one, perceived scenic beauty value can decrease (Real et al. 2000).

Preference of the areas near water surfaces can be caused by the fact that water can attract people more than other landscape elements. In several studies the same results were found. Raitz and Dakhil (1988) found in the study carried out in the U.S, where they tried to determine the certain physical features for recreational experiences of university age group that the most preferred area was sea coast while plain and deserts were the least preferred ones. Kıroğlu (2007) also mentioned that people preferred the areas with or near a water surface the most.

According to Adler (1993) people survive in a world which is formed by meaningful relations and they perceive objects depending on their importance. It is the requirement of this fact that people realize facts considering the previously made comments instead of realizing them in a simple manner. People do not want to see the world as a complex but try to understand and control it. If people can establish their order in any environment they can feel themselves in security and comfort (Kalin 1997).

It can be said that people in each city are aware of environmental problems and dissatisfied with them. Preference for houses with garden out of the city can be caused from the desire to be alone with nature. It has become an obligation to construct more liveable areas in city centres.

This study shows the importance of the planning of open green areas in the city centres. It can also be concluded that water based landscape and recreational area planning can increase the satisfaction with city quality. Mitigating cares should be taken by making plans in street, neighbourhood and city scales to make urban areas more liveable considering city aesthetics, identity and image. Increase of living quality in cities depends on the increases in the amount of open green spaces. In this respect local authorities are taken

largely responsible. Planning considering public preferences should be made in all three cities.

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