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Effects of Different Space Types in Urban Parks: A Study on Ankara's Urban Parks

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Abstract:

This study aims to analyze the necessary criteria of the urban parks which are the breathing points of the city, to feel both physically and psychologically happier, comfortable and safer for the users and to plan them in a right way.The main material of this study consists of 25 images of various spatial types in four different urban parks which are Seğmenler Park, Botanical Park, Göksu Park and Altınpark in Ankara.The descriptions of the spaces and feelings of these images were asked to the users.During the evaluation phase, the users were asked to define space types and the feelings these spaces made them felt were examined. As a result, it has been observed that these spaces have similar psychological effects on the users.

Keywords **—Urban Parks, Environmental Psychology, Relation Between People and Space.**
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I. INTRODUCTION

Environmental psychology is a branch of psychology that studies human interaction with their physical environment. The design and features of a space undoubtedly affect human behaviour visibly. Parks, which are one of the important outdoor elements, are places where people spend their free time, engage in various activities, socialize with other people, be in touch with nature and have a healthy time despite the crowd of the city. Urban parks are one of the important elements of the urban environment [1].

Design examples found in the urban environment affect human psychology in different ways. Due to the crowd and density especially in big cities, people meet their needs for relaxation with the parks, which are big green parts of the city. The sub-spaces in each park itself affect human psychology in different ways. Spatial behaviours are affected by the images of people related to space. If the principles of how people perceive and shape the physical environment can be known, the environmental behaviour of individuals can be better understood [2].

Urban parks, have public green spaces equipped with specific service facilities to meet the daily functional needs of citizens for recreation, viewing, recreation and fitness. The plant landscape in the park not only creates a beautiful and comfortable living environment, the spatial level of the urban landscape also has various ecological benefits such as air purification, dust control and noise reduction, and adjusting the local microclimate [3].

Traditional plant landscaping uses the principle of artistic compilation to literally play trees, shrubs, plants, vines and other plants, beautiful landscapes and natural beauty features such as lines, posture, color, texture and plant for people to enjoy. In modern society, as the landscape gains more importance and expands, the plant landscape deepens from the original taste experience of the visual level to the multi-level and multidisciplinary comprehensive expression of human-oriented landscape guidance[4].

The rest of this paper is organized as follows. In Section 2, literature review on environmental psychology is discussed for urban parks; then material and method are presented in Section 3. Results about this research are presented in Section 4respectively. Finally, we conclude the paper with some future research directions in Section 5.

II. LITERATURE REVIEW

Urban parks, within the urban green space system; They are green areas that have different scales, different purposes, functions and facilities and serve the whole city [5].

Urban parks are defined as large green areas equipped with some group members, serving the people of the city in terms of physical, psychological and health in a larger framework than the neighbourhood park [5].

Urban parks have been designed to reduce environmental and air pollution, which has reached dangerous levels especially in our big cities in recent years, to increase the number of green areas per person, to ensure the regular and planned development of our cities, to give our people the love of the forest and the environment, to establish resting places, to increase the tourism potential of our country and to conserve soil. These are recreation areas built to protect settlements from flood and overflow damages by taking precautions [6].

Urban parks increase the image and perceived value of the society and are also places where recreational activities and leisure time are spent appropriately [7].

Urban parks are generally centrally located in urban settlements, visually a part of the city and providing the city people with the opportunity to escape from the noise and chaos of the city without traveling much, at the same time, people can walk, jog, sit outdoors, picnic, play, etc. These are areas that allow individual or group actions [8].

In many developing countries, urban green spaces may be the only reference for poor city dwellers to experience "nature", providing important social and psychological functions. It significantly improves the quality of city life. Urban parks are also important areas for flora and fauna habitats. In addition, they make valuable contributions to ecosystem services in terms of providing clean air, ensuring microclimatic buffer changes, creating lower noise levels and regulating water flows [9].

In this study, the psychological effects of spaces on users were investigated by examining the concept of space, space types and urban park concepts.

III.   MATERIAL AND METHOD

A. Material

The main material of the study is the Seğmenler Park, Botanical Park, Göksu Park and Altınpark urban parks in Ankara and 25 photographs related to them, which include different space types and uses. In environmental preference model studies similar to this, it is thought that making surveys based on photographs provides economic and time savings benefits for the researcher. Showing the different types of spaces previously determined in the parks through photographs to the participants quickly helped to understand the impact of the physical environment on people.

From previous studies, Kaplan et al. Taking the example of the work in his book With People In Mind (1998), it is aimed to evaluate a similar study in terms of the spatial designs of urban parks in Ankara. It was provided by the selection of Seğmenler Park, Botanical Park, Göksu Park and Altınpark urban parks in different regions of Ankara. The fact that each of these four parks of different scales in Ankara has different types of spaces in itself and the parks are used for different purposes in different time periods, it has been useful to provide visual materials to the questionnaires.

B. Method

While creating the method of the study, the study subject was determined first. After the domestic and foreign sources on the subject were collected, it was ensured that their summaries were prepared and

evaluated. After the summaries were drawn, the study method was determined and it was found appropriate to conduct the survey study. The necessary locations for this survey study were decided and images were obtained from these spaces. After the images were selected, the questionnaire questions were created. Afterwards, the questionnaires were applied and then the findings were evaluated together with the analysis and comparison results. These evaluations are handled within the scope of results and recommendations.

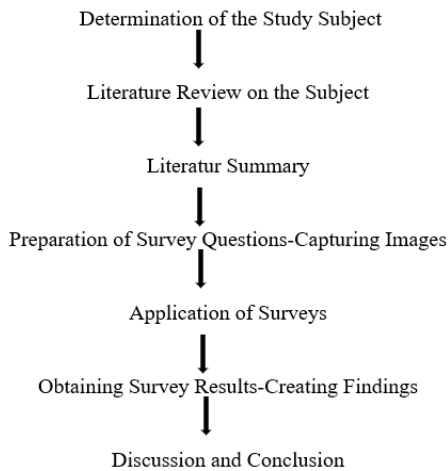The general work plan of the study is given in Figure 1.

Fig. 1 A sample line graph using colors which contrast well both on screen and on a black-and-white hardcopy

Due to the fact that there are similar places in the parks that have been investigated, these spaces are grouped and a solution is provided. Accordingly, the spaces inside the parks have been evaluated in four main groups, differentiated and grouped in a way that includes similar spaces within themselves. The first of these groups is the group where the hard landscape is more intense. The second group is the group that includes narrow and thin pedestrian roads. In the third group, it is the group that includes spaces where natural landscape elements and vegetal landscape elements are used more intensely. Finally, the fourth group includes spaces that have a higher perception as a space that is designed far from the natural landscape, where structural and vegetative landscape elements are used together; for example, ponds and pond side promenades.

IV.   RESULTS

According to the values in Table 1, in the study conducted with n = 75 people, 5 people did not state their age and 4 people did not indicate their gender. According to these values; age has a mean and standard deviation of 30.94 ± 8.59. 74% was determined as 20-35, 20% as 36-49, and 2.9% as 50 years and over. Gender; 64.8% of them were women and 35.2% were men. Gender and age variables are for information purposes only and do not play any role in the method.

TABLE I
DESCRIPTIVE STATISTICS FOR PARTICIPANTS

	Average	**Standart Deviation**
Age	30,94	8,59
Age Range	**Frequency**	**Percentage (%)**
20-35	54	77,1
36-49	14	20
50+	2	2,9
Total	**70**	**100**
Gender	**Frequency**	**Percentage (%)**
Female	46	64,8
Male	25	35,2
Total	**71**	**100,00**

The limitation of the study within the province of Ankara has made it easier to conduct the survey study. By selecting sample urban parks with different usage purposes, examining the sub-spaces within each of them and evaluating their effects made it exciting for the users. Due to the lack of time, the questionnaires were not applied one-on-one in the field, and they were applied to the users through photographs. In addition, a questionnaire study was conducted using the electronic mail method, which is a more economical and environmentally friendly system due to time constraints. While conducting the research, it was thought that it would be healthier in terms of the return of the questionnaire if it was done with individuals who received their education in this field, since the definition of the place and the emotion recognition it makes is a little more

technical and visually strong. Otherwise, each definition should be passed on to users separately; However, it was concluded that this would not be possible due to time constraints and people from certain professions were preferred. In the group in which the survey was applied, gender and age ranges were obtained only in terms of determining the frequency and specific density; but it was not used as a comparison value in the evaluation of psychological effects.

The study was examined in 4 different groups. In the images in the first group, it has been revealed that the spaces where large and leafy trees are used, and ivy plants used as top covers make the users feel the feeling of being surrounded / surrounded. In addition, it has been understood that it has the highest percentage as "Open Space" and "Readable Space" as the definition of space.

In the second group, two views were selected, S-shaped roads and openings. While the Feeling of Familiarity was obtained in the open image, the "Fear Sense" was obtained in the S-Shaped roads image. It is understood that both images fit the definition of "Open Space" and "Surrounded / Covered Space".

In the third group, the places where natural elements are collected more, the surface of the topography is used more effectively, and the places with more regular (vegetation not covered with bushes) ground cover are examined. Spaces with proper ground cover are also evaluated in two subgroups, images with grass and similar ground cover plants are evaluated in one group, and images with soil visible in places or only with soil ground are evaluated in the second group. According to the results of the first subgroup, all of the spaces are defined as "open space" as the highest common percentage ratio. In the second subgroup; In all of the images, Open Space and Complexity yielded

It has been observed that the percentage of "legible space" is high in natural landscapes and parks, and in places with smooth ground cover, so the feeling of being safe, "learning and exploring" is high.

the highest value according to the common percentage ratio.

In the last group, it can be described as spaces with designs that are understood to be more touched by human hands, as in Group 1. But at the same time, the feature that distinguishes this group from the other is that the places where the structural and vegetative landscapes are used more intertwined and where the water element as a more crushing element is selected.

All of the spatial descriptions of the images in this group have been answered as Open Space. Legibility and Consistent / Compatible percentage in places are very close to each other. In terms of the feeling of the place, the feeling of familiarity and the feeling of being safe were the highest preferences in terms of the common percentage ratio in all the images except one.

V. CONCLUSIONS

As a result of this study, it has been observed that the sense of familiarity of the users is dominant in the designs in which human presence is observed more clearly in natural landscape areas, such as the use of hard ground, small parapets, walkways and similar hard landscape elements.

As a result of the correct use of the vegetative landscape, it has been observed that different spaces are created in parks as a result of the crowns of trees or the use of ivy as a top cover. It is concluded that these spaces create the definition of "indoor space" and make the users feel the "feeling of being surrounded".

While designing the walkways in landscape areas, using paths or pedestrian paths that are invisible and invite the users to explore increases the "Feeling of Learning" and enables the space to be defined as a "mysterious space".

At the same time, spaces without a proper ground cover,bushier, neglected or not pruned plants brought the "Feeling of Disappearance" to the fore in the users. It is very clear that "Fear and the Feeling of Disappearance" emerges in spaces where the visual perspective is not comfortable, there is a

complex vegetative texture and there is no guiding element.

On the other hand, the users defined the spaces where the vegetative and structural landscapes are used more similarly and that contain the water element in order to break the hard ground, as "Consistent and Harmonious spaces". The emotions felt by spaces of this quality are the "Feeling of Recognition and the Feeling of Safety".

In summary, in this study, examining the work done abroad, adapting them to the selected urban parks in Ankara, taking into account the psychological effects and factors in the design process of the spaces, increasing the variety of space types and the emergence of more qualified designs. At the same time, the urban parks used for needs such as resting, having fun and socializing in today's conditions will be more livable, sustainable and inviting more use, as well as guiding future studies.

REFERENCES

[1] Çakcı, I., Peyzaj Planlama Çalışmalarında Görsel Peyzaj Değerlendirmesine Yönelik Bir Yöntem Araştırması. Ankara Üniversitesi Fen Bilimleri Enstitüsü, Peyzaj Mimarlığı Ana Bilim Dalı, Doktora Tezi, Ankara., 2007

[2] Göregenli, M., Çevre Psikolojisi: İnsan Mekân İlişkileri. İstanbul Bilgi Üniversitesi Yayınları. İstanbul., 2010

[3] Gu P, Chen T, Gu B, Liu G Research on dividing modeling of female suits based on cognitive psychology. Information Technology Journal 12 (15):3430-3435,2013

[4] Gong W, Wang H, Wang X, et al. Effect of terrain on landscape patterns and ecological effects by a gradient-based RS and GIS analysis 28 (5):1-12, 2017

[5] Kart, N., Emirgan Parkı'nda Kullanıcıların Memnuniyet Derecelerinin Değerlendirilmesi. İstanbul Üniversitesi Fen Bilimleri Enstitüsü, Peyzaj Mimarlığı Ana Bilim Dalı, Yüksek Lisans Tezi, İstanbul., 2002

[6] Eşkil, Ö., Engelliler İçin Dış Mekân Tasarım Özellikleri Bağlamında Ankara Kent Parklarının İrdelenmesi. Bartın Üniversitesi Fen Bilimleri Enstitüsü, Peyzaj Mimarlığı Ana Bilim Dalı, Yüksek Lisans Tezi, İstanbul., 2011

[7] Altman, I. and Zube, E, Human Behavior and Environment: Advances In Theory and Research. Volume 10: Public Places and Spaces.Plenium Press, New York and London. USA and UK., 1989

[8] Karlıer, G, Kent Parkları Kavramı ve Bursa Kent Parklarında Kullanıcı Memnuniyetinin İrdelenmesi, Uludağ Üniversitesi Fen Bilimleri Enstitüsü, Peyzaj Mimarlığı Ana Bilim Dalı, Yüksek Lisans Tezi, Bursa., 2017

[9] Karadeniz, Z., Peyzaj Tasarım Kriterleri Açısından Samsun Kent Parklarının İncelenmesi.Ordu Üniversitesi Fen Bilimleri Enstitüsü Peyzaj Mimarlığı Ana Bilim Dali Yüksek Lisans Tezi, Ordu., 2019