Research Article

OPEN SPACE IN THE CONTEXT OF SPATIAL ORGANIZATION

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ABSTRACT

Designers should not neglect human psychology in their designs. Outdoor spaces that are not suitable for user needs could not promote individuals to visit and participate in activities in these spaces. Spaces that are not utilized by individuals are dead spaces. For the designs to succeed and to create inhabitable spaces, user needs should be recognized. Thus, the present study aimed to investigate spatial organization that recognizes human needs as a basis for spatial construction. In this context, an open space design model was constructed in the present study. The constructed model demonstrated that users need to perform adequate activities to fulfill their needs and adequate activities require available and suitable spaces. In other words, the study correlated the user needs, related activities and spatial facilities based on spatial organization. This model would be used in outdoor design to help create successful spaces.

Keywords: Spatial organization, open space, needs, activities, space.

INTRODUCTION

Designers aim to understand potential user needs when designing spaces. For successful designs and to create habitable spaces, user needs should be recognized. Lang (1989) believes that environmental designers should understand the harmony between human values and the environment. The objective of the designer is to provide individual and social happiness. The accurate information on the environment should also be obtained from the users, since the environmental order would not make sense without the presence of humans (Ertürk, 1979). As a user, individual expects the space to be designed based on her or his needs and objectives (Günal and Esin, 2007). Thus, designers should determine the user needs. The activities conducted by users and the usage types and features in the spaces are also important issues that should be investigated by the designers (Bayramoğlu, 2017).

Consequently, user needs, activities conducted to fulfill these needs, and spatial characteristics that enable these activities should be determined. The concept of spatial organization addresses the need-activity-space relationship and establishes the development of spatial components and elements based on this system (Düzenli et al., 2010). In this context, spatial organization constituted the basis of the present study. Spatial organization is defined as a system of elements and components of the "spaces," where the “activities” would be conducted to meet human “needs.”

Spatial Organization

Enabling the most adequate realization of user experiences adds a real value to the spaces (Akkul, 1998). The spaces create a social and psychological environment that individuals inhabit (Erkan, 1996). Space is not just a mathematical void. Its actual value cannot be assessed by measuring its length, area and volume. Space, which is the object of architectural performance, is a limited void where individuals realize their physical and sensory and that goes beyond the mathematical dimensions. The space does not acquire a value by the impressiveness of its dimensions and outer shell. Accurate realization of the user experiences provides the space its true value (Akkul, 1998). Thus, the needs of users should be examined for the assessment of open spaces.

The spaces are not solely physical constructs, but physical environments that would enable the individuals to meet all physical and psychological needs at the personal and social levels and enable them to conduct necessary activities. Spatial planning means creating a space that reflects the activity, value and purpose of the community or individual, independent of the scale. Spatial formation is an answer to spatial needs (Ünlü, 1998, Ünlü and Yıldırım, 2015).

Space that can also be defined as volumes limited to accommodate user activities and needs is a whole with its structure, furniture and user and should be organized in the most accurate manner to be sustainable (Akkul, 1998; Düzenli et al., 2017). Gür (2000) stated that space includes indicators designed for human activities and

behavior based on the user. According to Ozbilen (1983), human beings determine all their activities as a product of their interaction with the environment.

Organization is a complementary and continuous structure that defines predetermined behavioral patterns, tasks and responsibilities for the realization of interrelated actions to meet specific needs (Gür, 1996).

The organization of the space is the definition and structuring the elements and components of the spaces where the actions or "activities" of the individuals will be conducted to meet their "needs". In other words, spatial organization provides the conditions necessary for a space to enable an activity and or provide availability for that activity based on the objectives and motives of the individual (Gür, 1996).

Spatial organization consists of systems within the system and these systems maintain a complex and dynamic balance. Individual's objectives and motives consist a sub-system, activities and behavior consist another system, and determinants of the space consist another system. These systems responsible for the organization change and provide internal harmony. In other words, the balance of the system is established within a dynamic process (Gür, 1996).

In other words, spatial organization is the provision of an activity at a space and the facilities that ensure suitability of the space for the activity (Düzenli et al., 2016; Düzenli et al., 2018). In brief, human needs, activities and spatial characteristics must create a balance through interaction. Thus, it is very important to determine the user needs, the activities associated with these needs and the spatial organization that would enable these activities in order to design successful open spaces with high usage levels. In summary, in order to maximize the habitability and the use of open spaces, these spaces should meet the needs of individuals and various activities should be planned within these spaces.

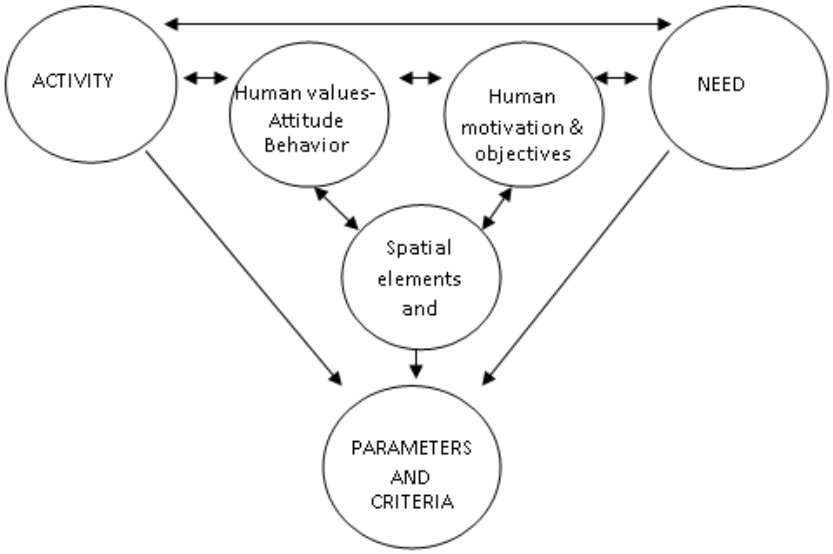


Figure 1. Dynamic Balance of Spatial Organization (Gür,1996)

The first stage of spatial organization is the identification of user needs. In the following sections of the present study, the objective is to determine human needs to obtain certain clues that can help open space design.

Human Needs

Creation of successful urban open spaces depends on meeting human needs. Most psychologists refrain from researching human needs due to several reasons. Some of these reasons were revealed by Kurt Lewin (1951). According to Lewin (1951), several needs arise dur to special and differentiated demands, which are difficult to investigate. However, these needs can be grouped or categorized to render more functional and definable urban designs (Lang, 1994). Several models (Alexander, 1969, Mikellides, 1980) were developed by designers (Lang, 1994). These models overlap each other, but each emphasizes a different aspect of human life. Abraham Maslow's "hierarchy of human needs" (Maslow, 1987) is the most dominant among these models. Alexander Leighton (1959) considered the needs as a part of basic human ideas (Lang, 1994).
Leighton (1959) ranked needs as follows:

1. Physical safety
2. Interest in the opposite sex
3. Expression of hostility
4. Expression of love
5. Attaining love
6. Attaining repudiation
7. Expression of self
8. Orientation in a social community in terms of an individual's and others' – adaptation to environmental conditions
9. Establishing and maintaining group membership
10. Belonging to a social class

Erickson (1959) analyzed personal identities at every level of human life. Hadley Cantril (1965) also focused on the stages of life as the basic determinant of human needs.

All these authors conducted significant analyses on human behavior and needs, however Maslow provided the comprehensive approach. Urban planners and architects who prioritize user needs in their designs adapted Maslow's (1987) hierarchy to their work. Maslow grouped human needs in six categories and argued that these categories were hierarchical. Thus, the behavior of the individual includes two main baselines: first, every behavior aims to fulfill a certain need, and second, these needs are hierarchical. The levels of this hierarchy is as follows:

1- Physiological Needs; Basic requirements of human life such as nutrition, clothing, shelter, leisure, movement and reproduction.

2- Safety-Security Needs; fear, oppression, safety against accidents and injury and trust.

3- Belonging and Affiliation Needs; needs of joining a group, requiring love.

4- Esteem Needs; desire to be valued by an individual and others, desire to be acknowledged and approved

5- Self-actualization: Needs such as self-satisfaction as a result of success in a significant task

6- Aesthetical Satisfaction: Hunger for knowledge and need for self-beauty, visual satisfaction (Maslow, 1987).

According to this theory, rate of individuals' accomplishments in these stages differ from one individual to another, and the rate of fulfillment decreases as the individuals climb the hierarchical ladder.

Prrosshansky (1974) categorized the needs in two groups, also in a hierarchy.

1- Primary Requirements; physiological and biological needs of individuals.

2- Secondary Requirements; human psychology and psychological needs.

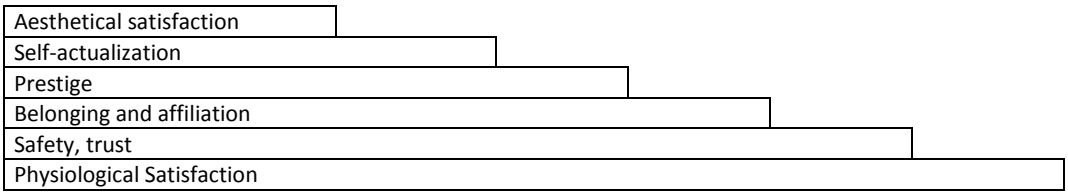


Figure 2. Maslow's Hierarchy of Human Needs (Lang,1987)

Kaplan argued that there are two important cognitive needs that affect individuals' environmental preferences. These are participation and comprehensibility. Participation is defined as the attraction of the user by the space. Comprehensibility is the ease that the individual could grasp the space. The user spends more time in comprehensible open spaces. Such spaces guarantee that the user will not get lost as she or he moves on and make it easier for the user to acquire distant information. However, easily comprehensible spaces could not encourage people for participation. According to Kaplan and Kaplan, participation and comprehensibility are synchronous needs; individuals need to be engaged in their environment and at the same time desire to understand what is happening around them (Campell, 1994). John Lang (1987) developed Maslow's hierarchical model and demonstrated the relationship between the model and design. The Lang (1987) model can be described as follows.

1. Basic Human Needs

Physiological Needs

Security Needs

Belonging and Affiliation Needs

Prestige Needs

Actualization Needs

2. Cognitive and Aesthetical Needs

Cognitive Needs

Aesthetical Needs

Since the concept of spatial organization is the basis of the present study, the next section discusses open space activities based on the transition from the need component to efficiency component in spatial organization.

Open Space Activities

Since open space activities are based on user needs, it is important for designers to determine which needs overlap with which activities. The related model is presented below.

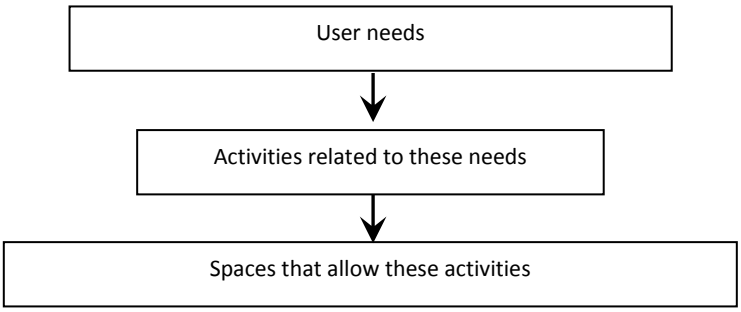


Figure 3. The Relationship Between User Needs and Spaces

Outdoor activities offer a variety of possibilities for learning, exploration and research. Furthermore, they have positive physiological, psychological and social effects on individuals, increasing their self-esteem and self-respect (Mansuroğlu, 2002). Thus, outdoor activities are very important for the psychological and social development of users (Düzenli et al., 2012).

Activities are categorized as active and passive activities. Active activities allow individuals to interact directly with the space and the people in that space. Carr (1992) demonstrated that open urban spaces play an important role in establishing social relations with other people. Whyte (1980) argued that stimuli available in open spaces encourage individuals to relate to each other and allow strangers to talk to each other. Active spatial activities (playing, sports, socialization) develop the sense of joy, improve enjoyment and pleasure (Crowhurst-Lennard and Lennard, 1987). Passive activities enhance the feeling of leisure. These activities enable the individual to experience the environment without active participation. According to Whyte and Linday, watching people is the most popular passive activity in urban centers. Another passive activity is the appreciation of the physical and aesthetic qualities of the environment (Huang, 1998).

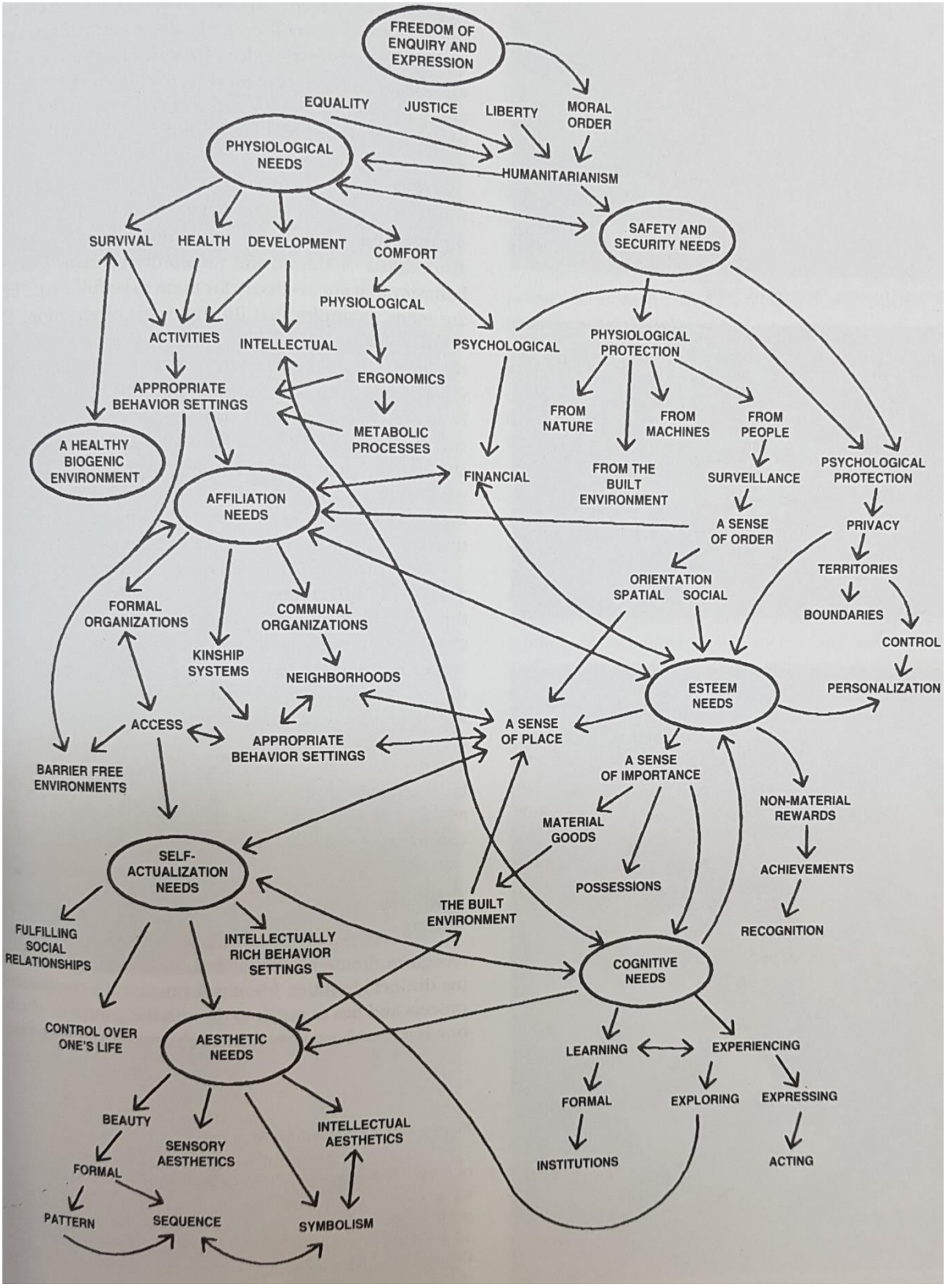


Figure 4. Lang's (1987) Human Needs Hierarchy and Design Relationship

Gehl (1987) grouped the activities that take place in urban open spaces in 3 categories:

1. Obligatory activities: these activities are more or less compulsory such as commuting to work, shopping, waiting for a bus or an individual. These events occur all year round under all circumstances.
2. Elective activities: activities that are conducted on a voluntary basis when time and space are adequate. they include recreational activities such as going out for fresh air, sitting, sunbathing, relaxing. These activities take place only under positive external conditions. These activities are particularly dependent on outdoor conditions.
3. Social activities: social activities take place in public spaces based on the existence of other activities. These include greeting each other and chatting, collective activities and passive interactions such as watching and hearing other individuals. These activities occur in almost all cases based on the activities in the other two activity categories.

Following the needs and corresponding activities in the context of spatial organization, urban open spaces where these activities take place will be examined in the next section.

Open Urban Spaces

The open spaces that are considered as urban void include areas in the physical urban environment excluding spaces reserved for housing, businesses, services, and partially for transportation. These are perceived and make sense together with the closed, structured urban texture. Every open space with positive contributions to collective leisure, health, protection and aesthetics is distinguished with its unique character. These differences in character determine the location, size and cause of existence of open spaces in the urban texture. These spaces can be classified under the categories of Active, Passive, and Other areas based on the nature of the activities that are conducted in these areas (Holden, 1996). Urban open spaces have several effects on people. Open spaces are preferred to enhance the individual's psycho-physical well-being, aesthetic satisfaction and self-actualization, as well as improving socialization among individuals (Aiello, 1998). These spaces connect all functional urban areas and penetrate into the monotonous and geometric system of the physical structure and provide a soft effect to the heavy urban appearance. They provide organized outdoor spaces for recreation and entertainment (Holden, 1996; Mumcu et al., 2010).

Marcus and Francis (1990) demonstrated that successful open spaces are personal spaces. "The personal space" should be suitable for activities desired by different user groups and psychological relaxation (Huang, 1998). Creating unique spaces would lead to preservation of the space and provide joy and delight. Previous studies demonstrated that certain open spaces are abandoned or vandalized. However, these areas are expected to be preferred due to the lack of numerous open spaces under urbanization. This problem indicates that open spaces do not comply with user requirements. According to Carr (1992), open spaces should be democratic, meaningful and adequate. In adequate spaces, people can satisfy their basic needs. These are

comfort, active and passive activities, desire for exploration. Democratic spaces give people freedom to fulfill their desires and conduct activities. Meaningful spaces allow people to establish strong relationships with the space (Huang, 1998). The task of the designer is to create adequate spaces for these activities. The spaces should be physiologically and psychologically adequate.

According to Carr (1992), the most important reason that attracts individuals to open spaces is the fact that they reflect the nature. Being in an open urban space provides the individual a chance to relax and escape from the heavy burden of the city, crowds, noise and chaos. In other words, open urban spaces are healing environments where people can get away from wandering and pressures. Being in an open urban space also reflects the need to "go away" and "emancipation". In such spaces, the individual can establish relations with others and determine the intimacy of these relations based on personal preferences. Users expect personal activities or certain possibilities to be available in spaces (Huang, 1998). According to Heath (1988), the attractivity of open spaces increase for a number of reasons other than only aesthetics. A designed space should be supported with activities, even if it provides visual satisfaction without their presence. In other words, the pleasure of being in an open urban space is not just about looking at something beautiful, but about doing something different. Carr and Lynch (1981) determined that the preference of open urban spaces depends on the ability of individuals and groups to express themselves in that space, free from the routine professional and domestic problems.

Carr demonstrated that open urban spaces play an important role in establishing social relations with other individuals. Whyte (1980) argued that certain stimuli available in open spaces encourage individuals to establish relations with others and strangers to talk to each other. Accordingly, the stimulus could be a physical object, an item or a component in the space. Active activities in the space (games, sports, socialization) enhance the sense of pleasure, increase joy and happiness, which are significantly needed in urban life (Crowhurst Lennard and Lennard, 1987).

Passive activities increase the feeling of leisure. These activities enable the individual to establish a contact with the environment without active participation. According to Whyte and Linday, watching the people is the most popular passive activity in urban centers. Another passive activity is the interest in physical and aesthetic qualities of the environment. People find spaces that contain aesthetic design elements attractive (Huang, 1998).

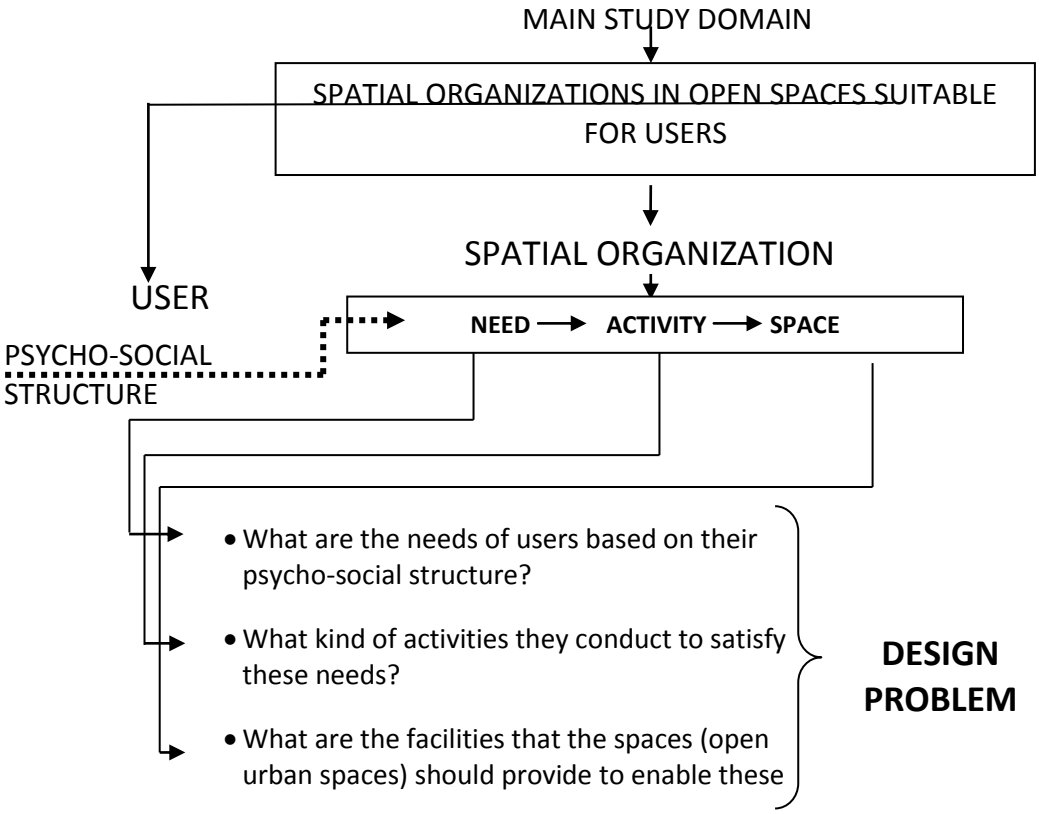
According to Kaplan, urban spaces

- provide environmental conditions where order and chaos are in balance,
- enable individuals to explore and move in comfort and safety,
- help remove “mental fatigue,”
- support physical human movement, and
- enable individuals to acquire various information.

In open urban spaces, when the balance between chaos, order, diversity, similarity, innovation and familiarity is established, both vital needs and psychological desires are satisfied (Pollack, 1996). Thus, in order to maximize the habitability and use of open urban spaces, the needs of individuals should be met and various activities should be planned in these spaces.

CONCLUSION and RECOMMENDATIONS

As a result, the following model was developed for open space design based on spatial organization:



There is a need for spaces that allow activities. According to this model, user types and needs should be determined in the designed spaces and accordingly, adequate facilities should be provided for suitable activities, and thus, adequate open spaces that allow the users to spend time together.

When spaces that are adequate for users are designed, the relationships of individuals with their environment improve, their socialization opportunities increase, and their skill levels develop. In the design of most spaces, the needs that arise due to the psychosocial structures of the users are neglected. The most important feature of the present study is the establishment of the relationship among user needs, the activities they conduct to satisfy these needs, and spatial facilities within the context of spatial organization.

The opportunities and relationships provided by the physical environment can be used

- in renovated and revitalized open urban spaces, and
- in newly constructed open urban spaces.

As demonstrated in the present study, the types of possibilities and richness offered by the environment influence the level of spatial use.

MEKÂN ÖRGÜTLENMESİ BAĞLAMINDA AÇIK MEKÂN KURGUSU

TÜRKÇE GENİŞ ÖZET

GİRİŞ

Tasarımcılar mekânları tasarlarken potansiyel kullanıcı ihtiyaçlarını anlamayı amaçlarlar. Tasarımların başarıya ulaşması, yaşanabilir mekânlar yaratılabilmesi için kullanıcı ihtiyaçlarının bilinmesi gerekir. Lang (1989) de çevre tasarımcılarının; insan değerleriyle çevrenin birbirine uyumunu daha iyi anlamaları gerektiğine inanır. Tasarımcının amacı, kişi ve toplumun mutluluğunu sağlamaktır. Çevrenin düzeni insan olmadan bir anlam taşımayacağına göre çevre hakkındaki doğru bilgiler de kullanıcılardan elde edilmelidir (Ertürk, 1979). Kullanıcı olarak insan, mekânın kendi ihtiyaçlarını karşılamak ve amaçlarını tatmin etmek üzere tasarlanması gerektiği beklentisi içindedir (Günal ve Esin, 2007). Bu nedenle tasarımcılar kullanıcı ihtiyaçlarını belirlemelidir. Kullanıcıların mekânda gerçekleştirdikleri etkinlikler ve mekânların kullanım türleri ve özellikleri de tasarımcıların araştırması gereken önemli konulardır.

Bunlara bağlı olarak; kullanıcı ihtiyaçlarının, bu ihtiyaçlara yönelik etkinliklerin ve bu etkinliklerin gerçekleşmesine olanak sağlayan mekânsal özelliklerin belirlenmesi gerekmektedir. İhtiyaç-etkinlik-mekân ilişkisini bir sistem olarak ele alan, mekân bileşen ve öğelerinin biraya gelişini bu sisteme dayandıran kavram mekân örgütlenmesidir. Bu bağlamda mekân örgütlenmesi araştırmanın temelini oluşturmuştur. Mekân örgütlenmesi; insan "ihtiyaçlarını" karşılamak için "etkinliklerin" içinde gerçekleşeceği "mekânların" öğe ve bileşenlerinin bir sistem olarak tanımlanmasıdır.

YÖNTEM

Bu bağlamda çalışmada açık mekân tasarımı için bir model oluşturulmuştur. Model; kullanıcıların ihtiyaçlarını karşılayabilmeleri için, uygun etkinlikleri gerçekleştirmeye, bu etkinlikleri gerçekleştirebilmek için de etkinliklere olanak sağlayan mekânlara ihtiyaç duyduğunu ortaya koymuştur. Yani çalışma kullanıcıların ihtiyaçlarını ve bunlara yönelik gerçekleştirdikleri etkinliklerle mekânsal olanakları mekân örgütlenmesi bağlamında ilişkilendirmiştir.

BULGULAR

Sonuçta mekân örgütlenmesine bağlı olarak yapılacak açık mekân tasarımları için, Kullanıcıların ihtiyaçlarını karşılayabilmeleri için, Uygun etkinlikleri gerçekleştirmeye, bu etkinlikleri gerçekleştirebilmek için de etkinliklere olanak sağlayan mekânlara ihtiyaç duyulur. Bu modele göre; tasarlanacak mekânlarda kullanıcı türü ve ihtiyaçları belirlenmeli; buna bağlı olarak uygun etkinliklere olanaklar sağlanmalı böylece kullanıcıların bir arada olmasına imkân veren uygun açık mekânlar yaratılmalıdır.

Kullanıcılar için uygun mekânlar yaratıldığında çevreyle ilişkileri artar, sosyalleşme şansları çoğalır ve beceri geliştirme seviyeleri yükselir. Çoğu mekânlar kullanıcıların psikososyal yapılarına bağlı olarak ortaya çıkan ihtiyaçları göz ardı edilerek planlanmaktadır. Bu araştırmanın en önemli özelliği; kullanıcıların ihtiyaçlarını ve bunlara yönelik gerçekleştirdikleri etkinliklerle mekânsal olanakları mekân örgütlenmesi bağlamında ilişkilendirmesidir.

Fiziksel çevrenin kullanıcılara sunduğu olanaklar, ilişkiler; Yenilenecek, canlandırılacak kentsel açık mekânlarında, Yeni oluşturulacak kentsel açık mekânlarda kullanılabilir.

Çalışmada çevrenin sunduğu olanakların türleri, zenginliği mekânın kullanım düzeyini etkilediği ortaya konmuştur

Anahtar Kelimeler: Mekân Örgütlenmesi, açık mekân, ihtiyaç, etkinlik, mekân.

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