

PLACE SATISFACTION, PLACE ATTACHMENT AND SENSE OF COMMUNITY IN NEIGHBORHOODS: A CASE STUDY ON TRABZON, TURKEY

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Abstract

Along with urban modernization, the changing needs and requirements introduced rapid urban growth and irregular construction. The pressures that economic and technological developments introduced, along with the increasing housing requirements, also changed and transformed the collaborative environments that communities built. One of the places where this change was most obvious was the transformation of the traditional neighborhood patterns into neighborhood units. Thus, the present study aimed to reveal the correlations between neighborhood satisfaction level, community satisfaction and sense of community of the neighborhoods. The research was carried out in Çukurçayır neighborhood, one of the new settlement areas in Trabzon province. All study participants were selected with random sampling and Satisfaction Scale, Neighborhood Attachment Scale and Sense of Community Scale were used to analyze the physical and social properties of the study community. The study data demonstrated that there was a positive and significant correlation between satisfaction, neighborhood attachment and sense of community.

Keywords: satisfaction; neighborhood attachment; sense of community.

1. INTRODUCTION

Urban spaces are places where individuals with different socio-cultural backgrounds interact with each other and their surroundings. One of the settings where the most intense interactions are experienced is the neighborhoods. The rapid urban development and the increase in the number of people living in cities led to the construction of new settlements. In addition to increased housing needs, the pressures due to economic and technological developments also change and transform the built environments that societies create. This case, which is frequent in metropolitan cities, led to the formation of new neighborhood units.

The neighborhood unit is a place with a specific location and population size with pedestrian, health, recreation, commercial, cultural and religious facilities and aims to create user experience and interaction by meeting user needs (Zainol et al., 2017). The new gated residential units, which are very popular especially in Turkish metropolitan cities, affected the associations with the place and led to changes in the level of neighborhood attachment and sense of community. Neighborhood units should be regarded not only as building areas, but also based on the relationships, meanings and experiences established by the residents with the physical and social features they offer.

As a result of the contact with the environment, humans assess the environment based on their needs and requirements and develop cognitive and affective insights about their environment over time (Canter, 1977). If

the environmental features could fulfill the needs and requirements of the individual, the behavior of the individual leads to a sense of satisfaction. The end result of the satisfactory relationship established with the environment is an emotional bond between the individual and the environment and resulting sense of community.

The present study addressed the concepts of satisfaction, sense of community attachment and sense of community in the context of human-place interaction based on the question of what are the factors that lead to attachment and sense of community among the users. In search for an answer to this question, the study attempted to acquire user assessments about the physical and social facilities offered by Çukurçayır neighborhood, one of the new urbanization areas in Trabzon province, and to determine the effects of these facilities on the attachment and sense of community of the users.

1.1. The concepts of place, human-place interaction and satisfaction with the place

Gür (1996) defined space as "a three-dimensional narrative of the distance and gap between human and human, between an object and another, in short, the void that surrounds us". This definition demonstrates that the space is defined as a place limited by voids. This space contains different scales; the room, house, street, neighborhood, quarter, city, country and even the rest of the world are all spaces. The space acquires meaning with the human factor. Experiences occur as a result of the interactions and relations between the space and the individual, and the purely physical structure "the space" turns into a meaningful "place." This difference between the meanings of the space and the place leads to the understanding of the individual and social behavior patterns in the space and the discussion of the individual and the meanings that the individual assigns to the space.

According to Tim Cresswell (2004), places are where individuals establish relationships, contact, and connect; they are meaningful settings". In this context, Canter (1983) suggested that the experience related to a particular place is a combination of both physical and social components. In other words, place as an environment can deepen and facilitate the relationship between the individual and the place, with its physical and social properties. Thus, the following question arises: What are the features that transform a space into a place? When researchers were looking for answer to this question, they first analyzed the process of interaction between individuals and their physical and social environment.

The concept of place is quite prominent in current studies in terms of the recognition that an individual establishes similar relationships with the place when compared to other individuals or objects. When individuals encounter the environment, they experience a process where they assess the environment based on their needs and requirements and develop cognitive and emotional conceptions about the environment in time. If these conceptions stipulate that the environmental features fulfil their needs and requirements, the behavior occurs (Canter, 1977).

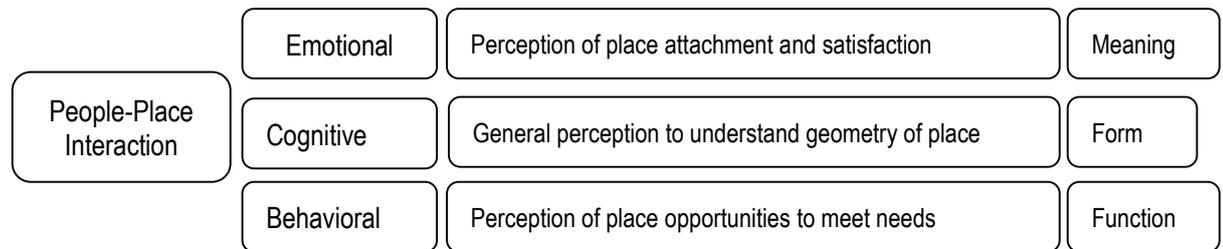


FIGURE 1 - DIFFERENT DIMENSIONS OF PEOPLE-PLACE INTERACTION AND RELATION TO DIFFERENT COMPONENTS OF PLACE (ADAPTED FROM INFORMATION IN CANTER, 1977; JORGENSEN, 2001 VE HASHEMNEZHAD VD., 2013).

As Canter indicated in the theory of place, individuals have emotional relations with places, similar to the emotions they have for other individuals and objects (Figure 1). The physical and social properties of the place lead to an interaction between the individual and that space, to individual behavior and satisfaction or dissatisfaction of the individual. Satisfaction with the relationship established with environment leads to an emotional bond between the individual and the environment.

Especially, as a result of irregular and rapid building of new neighborhoods, it was observed that the human-place interaction is adversely affected and the sense of attachment of the individual to that place almost disappears. Thus, in recent years, "attachment" was among the most prominent topics in several disciplines, especially environmental psychology, architecture and landscape architecture.

1.2. Neighborhood scale place attachment

The concept of place attachment refers to the emotional bond between the place and the individual (Raymond et al., 2011; Scannell & Gifford, 2010a; b). This concept has been expressed as a result of the experiences that arise from human-place interaction (Tuan, 1980) based on the theory of attachment (Bowlby, 1969). In other words, individuals create their own "place" by assigning various meanings to that place through individual, group and cultural processes. One of the most important interactions between individuals and the place is the place attachment

Researchers defined place attachment in general as the active bond that individuals establish with specific physical and social environments that meet the individuals' objectives, expectations and needs and make them feel permanent, comfortable and safe (Hidalgo, 2001; Stanman, 2002; Scannell and Gifford, 2010a; Brown, Altman & Verner, 2012). This bond can vary between small scale places such as rooms and residences and large-scale places such as a country and the world. Today, however, the majority of studies on attachment are conducted at neighborhood level and within neighborhood units. Certain research examined the relationship between place attachment and the physical characteristics of the place (Stokols and Schumaker, 1981), the social characteristics of the place (Milligan, 1998), or both (Rigers and Lavarkas, 1981). In the present study, the effects of physical and social properties of the place on place attachment and sense of community was investigated.

In order to make the place attachment of users measurable, researchers categorized the attachment into different subdimensions. Although most studies included place dependency and place identity subdimensions (Williams et al., 1992), there are also multidimensional models, where several subdimensions were used to explain the sense of place attachment (Raymond et al., 2010; Ramkissoon et al., 2013).

One of the issues that has been most emphasized over the last decade about place attachment was related to the factors that lead to the sense of place attachment. In this scope, in the most general sense, there are three categories of place attachment indicators. These are socio-demographic indicators, physical indicators and social indicators (Lewicka, 2010). Researchers focused on these three variables as independent variables in order to investigate the effects of each of these indicators on the level of attachment.

Since the present study aimed to investigate the effects of physical and social properties of the place on place attachment (neighborhood attachment) and the sense of community, sense of community will be defined in the next section.

1.3. Sense of community / community attachment

Studies on place and place attachment emphasized the role of the society in the formation of place attachment. In this context, Kasarda and Janowitz (1974) defined the concept of the sense of community as the social ties that develop among individuals as a result of their experiences in a certain place. The concept of the sense of community, conceptualized by Mc Millan and Chavis (1986), was explained by a four-dimensional model. These dimensions were membership, influence, fulfillment of needs, and shared emotional connection. Membership corresponds to the feeling of being part of a society and includes the perception of shared borders, common history, symbols and the sense of security. Influence includes the personal perceptions on the interaction between the individual and the place. Fulfillment of needs reflects the positive achievements and relationships that the environment and community membership provide. Finally, the shared emotional connection relates to the sharing of the common past such as history and important events and enforces the quality of social ties (Talò et al., 2014).

Hidalgo and Hernandez (2001) found that social attachment was stronger than setting attachment in homes, neighborhoods, and cities. This result has led the studies on place attachment and sense of community to a

focus on neighborhoods and neighborhood units in recent years. Especially the destruction of physical spaces and local identity in the neighborhoods with rapid urbanization prevented the development of neighborhood attachment in new neighborhood units. Within the context of this issue, the present study intended to explore the physical and social characteristics of the environments that allow the development of place attachment and sense of community, and the correlations between these characteristics and place attachment and sense of community.

2. MATERIAL AND METHOD

The study was conducted in Çukurçayır neighborhood in Trabzon province central district. The population of Trabzon was 786,326 in 2017. The surface area of Trabzon province is 4.662 km² and the population is 169 per square kilometer. The population of the central district Ortahisar was 332.504. Population of the study area Çukurçayır neighborhood was 15,647 in 2013 and 26,763 in 2017 (TÜİK, 2017). Çukurçayır neighborhood is the most populated neighborhood in the Eastern Black Sea region when compared to other neighborhoods (Figure 2). This neighborhood was selected as the study area, since it was the fastest growing neighborhood in the region and due to the rapid changes in physical and social environment of the neighborhood.



FIGURE 2 - LOCATION OF TRABZON IN TÜRKİYE AND THE LOCATION OF THE ÇUKURÇAYIR NEIGHBORHOOD IN TRABZON

In the present study, a face-to-face survey was conducted with users, who were residents in Ortahisar Çukurçayır Neighborhood in Trabzon. The survey was conducted between September and November 2017. The users were selected with simple random sampling and the survey was applied to 140 individuals who were 15 years old and older. The valid number of surveys entered into the SPSS 24.0 database was 137.

The data collection instrument that was developed through a literature review and based on the research objectives included three main sections. The first section aimed to collect data about the user satisfaction, the second section on the sense of neighborhood attachment, and the third section on the sense of community. The first section of the data collection tool that aimed to determine user satisfaction levels was a 5-point Likert type scale including 11 items. The scale was based on the studies by Oktay et al. (2009) and Göregenli et al. (2014). The second section that aimed to measure the neighborhood attachment levels of the users was based on the attachment scales developed by Göregenli et al. (2014), Ramkisson et al. (2012) and Lewicka (2010) and the scale included 15 statements. The third section of the survey was based on the sense of community scales by Mc Millan and Chavis (1986), Long and Perkins (2003), Lund (2002) and Karaçor and Akçam (2016) and the scale included 11 items. Factor analysis was conducted on the developed scales to analyze the responses of the residents in Çukurçayır neighborhood, and then, the correlations between the above-mentioned factors were explained by correlation and multiple linear regression analyzes.

3. FINDINGS

3.1. Satisfaction of the users with the neighborhood

The first part of the survey aimed to reveal the satisfaction levels of neighborhood residents with Çukurçayır neighborhood. The mean user satisfaction levels and factor analysis results are presented in Table 1. It was determined that the mean score on the scale that included 11 statements and aimed to determine the user satisfaction level with the neighborhood was 2.24. The Kaiser-Meyer-Olkin (KMO) coefficient and the Bartlett test were conducted to determine whether the data obtained was consistent with the factor analysis. It was found that the KMO coefficient was 0.711, Bartlett test result was 3098.241. These findings demonstrated that sample size and the data were adequate for factor analysis.

Table 1 demonstrates that two sub-dimensions explained 68.246% of the variance in the participant satisfaction level with the neighborhood. As a result of the analysis, the first factor was named as "satisfaction with social properties". This factor alone explained 39.723% of the total variance and the related Cronbach Alpha coefficient was 0.832. The

second factor was called "satisfaction with physical properties". This factor explained 28.523% of the total variance and the related Cronbach Alpha coefficient was 0.821.

TABLE 1 - SATISFACTION FACTORS WITH ÇUKURÇAYIR NEIGHBORHOOD

| Factors | X | Factor Load | Explained Variance | Cronbach's Alpha |
|---|------|-------------|--------------------|------------------|
| Satisfaction with Social Properties | | | 39,723 | 0,832 |
| Satisfaction with the life in the neighborhood | 2,48 | 0,873 | | |
| Sense of security | 2,33 | 0,824 | | |
| Satisfaction with the relations with neighborhood residents | 2,18 | 0,796 | | |
| Social activities in the neighborhood | 1,82 | 0,723 | | |
| Satisfaction with Physical Properties | | | 28,523 | 0,821 |
| Walkability | 2,54 | 0,854 | | |
| Recreational facilities | 1,76 | 0,828 | | |
| Care - cleanliness | 2,06 | 0,813 | | |
| Existing green areas | 2,12 | 0,796 | | |
| Vehicle circulation | 2,36 | 0,794 | | |
| Traffic intensity | 2,34 | 0,717 | | |
| Noise level | 2,62 | 0,709 | | |
| Total Variance (%) | | | 68,246 | |

3.2. Users' neighborhood attachment levels

The second section of the survey aimed to determine the place attachment levels of neighborhood residents about the Çukurçayır neighborhood. The mean values and factor analysis results for user attachment levels are presented in Table 2. It was determined that the mean score on the scale that included 15 statements and aimed to determine the users' neighborhood attachment levels was 2.14. The Kaiser-Meyer-Olkin (KMO) coefficient and the Bartlett test were conducted to determine whether the data obtained was consistent with the factor analysis. It was found that the KMO coefficient was 0.759 and the Bartlett test result was 3121.254. These findings demonstrated that sample size and the data were adequate for factor analysis. Since the "I am proud of this neighborhood" statement was loaded to more than one factors with similar values, the analysis was conducted with only 10 statements. As a result of the analysis, the first factor was named as "place dependency" and it explained 24.468% of the total variance. The second factor was called "place identity" and it explained 17.453% of the total variance. The third factor was called "sense of place" and it explained 15.733% of the total variance. The last factor was called "social connection" and it explained 11,247% of the total variance (Table 2).

TABLE 2 - ATTACHMENT FACTORS ABOUT ÇUKURÇAYIR NEIGHBORHOOD

| Factors | X | Factor Load | Explained Variance | α |
|--|------|-------------|--------------------|--------------|
| Place Dependence | | | 24,468 | 0,866 |
| 3. I cannot think of a better alternative than the facilities provided in this neighborhood for the things I enjoy doing | 2,56 | 0,911 | | |
| 1. The facilities provided by this neighborhood are sufficient for the activities I enjoy the most | 2,47 | 0,882 | | |
| 2. I enjoy visiting this place more when compared to other places | 2,05 | 0,768 | | |
| Social Connection | | | 17,453 | 0,826 |
| 13. People usually know each other in this neighborhood | 2,41 | 0,854 | | |
| 15. I feel like I am rooted in this neighborhood | 1,82 | 0,736 | | |
| 14. People in this neighborhood share the same values | 2,59 | 0,649 | | |
| 12. People in this neighborhood have ties with each other | 2,11 | 0,476 | | |
| Place Identity | | | 15,733 | 0,844 |
| 4. I identify myself strongly with this neighborhood | 2,41 | 0,831 | | |
| 6. I feel that this neighborhood is a part of me | 2,23 | 0,822 | | |
| 5. Visiting this place provides important clues about my personality | 1,78 | 0,785 | | |
| Sense of Place | | | 11,247 | 0,812 |
| 8. I am strongly connected to this neighborhood | 1,82 | 0,863 | | |
| 7. I feel strong belonging to this neighborhood and its facilities | 1,86 | 0,819 | | |
| 10. I love this neighborhood | 2,08 | 0,735 | | |
| 11. I would not want to move out of this neighborhood | 1,72 | 0,696 | | |
| Total Variance (%) | | | 68,901 | |

3.3. Sense of community in neighborhood residents

The third and final section of the survey aimed to determine the sense of community among Çukurçayır neighborhood residents. It was determined that the mean score on the scale that included 11 statements and aimed to determine the neighborhood residents' sense of community was 1.98. The Kaiser-Meyer-Olkin (KMO) coefficient and the Bartlett test were conducted to determine whether the data obtained was consistent with the factor analysis. It was found that the KMO coefficient was 0.745, and the Bartlett test result was 3483.136.

TABLE 3 - SENSE OF COMMUNITY FACTORS FOR ÇUKURÇAYIR NEIGHBORHOOD RESIDENTS

| Factors | X | Factor Load | Explained Variance | α |
|--|------|-------------|--------------------|--------------|
| Fullfillment of Needs | | | 26,423 | 0,822 |
| 3. I consider my neighborhood a good place to live | 2,13 | 0,864 | | |
| 1. Neighbor relationships are extensive in this neighborhood | 2,24 | 0,853 | | |
| 2. My neighbors and I expect the same from the neighborhood | | | | |
| Influence | | | 17,521 | 0,713 |
| 8. If there is a problem in the neighborhood, the residents can solve this problem | 2,32 | 0,844 | | |
| 9. It is very important for me to live in a part of this neighborhood | 2,11 | 0,811 | | |
| 7. People greet each other in this neighborhood | 2,43 | 0,736 | | |
| Emotional Connection | | | 12,329 | 0,856 |
| 10. When someone does a good deed for the neighborhood, that makes me feel good | 2,54 | 0,827 | | |
| 11. I plan to live in this neighborhood for a long time | 1,92 | 0,764 | | |
| Membership | | | 9,135 | 0,818 |
| 4. I recognize most of the people who live in my neighborhood | 1,85 | 0,742 | | |
| 6. I share similar characteristics with most residents in this neighborhood | 2,04 | 0,722 | | |
| 5. I feel at home in my neighborhood | 2,17 | 0,717 | | |
| Total Variance (%) | | | 65,408 | |

These findings demonstrated that sample size and the data were adequate for factor analysis. As a result of the analysis, the first factor was named "fulfilling the needs" and it explained 26.423% of the total variance. The second factor was called "influence" and it explained 17.521% of the total variance. The third factor was called the "emotional connection" and it explained 12.329% of the total variance. The last factor was named "membership" and it explained 9.135% of the total variance (Table 3).

3.4. Correlations between user satisfaction, neighborhood attachment and sense of community

Correlation analysis was conducted to determine the correlations between the sub-dimensions of user satisfaction and neighborhood attachment and the sense of community (Table 4). Correlation analysis findings demonstrated that there was a positive and significant correlation between sense of community and satisfaction with social properties ($r = 0.754^{**}$, $p = .000$), satisfaction with physical properties ($r = 0,711^{**}$; $p = .000$), place dependency ($r = 0.643^{**}$, $p = .000$), social connection ($r = 0,622^{**}$, $p = .000$), place identity ($r = 0,613^{**}$; $p = .000$), and sense of place ($r = 0,602^{**}$; $p = .000$) subdimensions.

TABLE 4 - CORRELATION BETWEEN SATISFACTION, NEIGHBORHOOD ATTACHMENT FACTORS AND SENSE OF COMMUNITY

| Variables | Sense of Community |
|---------------------------------------|--------------------|
| Satisfaction with social properties | 0,754** |
| Satisfaction with physical properties | 0,711** |
| Place dependency | 0,643** |
| Social connection | 0,622** |
| Place identity | 0,613** |
| Sense of place | 0,602** |

* $p < .05$, ** $p < .01$

Regression analysis was conducted to determine the factors that predicted the sense of community (Table 5). The regression analysis results demonstrated that it was not possible to include the place identity and sense of place variables related to sense of community in the model. As seen in Table 5, "satisfaction with social properties", "satisfaction with physical properties", "place dependency" and "social connection" factors predicted the sense of community. The values gradually increased and in the fourth and last step, R2 value was calculated as 0.712. The analysis was consistent with the linear model ($F(4-132) = 158,072$; $p = 0.000$) and there was no auto-correlation. Thus, it was determined that the factors in Table 5 had a statistically significant and positive effect on sense of community.

In conclusion, the findings on the factors about the satisfaction levels of the residents of Çukurçayır with their neighborhood and their neighborhood attachment levels on the sense of community were revealed.

TABLE 5 - REGRESSION ANALYSIS CONDUCTED TO DETERMINE THE FACTORS THAT AFFECTED SENSE OF COMMUNITY

| Variables | B | Std. Err. | β (Beta) | t | p |
|---------------------------------------|-------|-----------|----------------|--------|------|
| 4 Constant | 2,722 | 0,113 | | 69,573 | ,000 |
| Satisfaction with social properties | 0,845 | 0,052 | 0,751 | 24,150 | ,000 |
| Satisfaction with physical properties | 0,713 | 0,047 | 0,344 | 12,693 | ,000 |
| Place dependency | ,0337 | 0,036 | 0,176 | 6,644 | ,000 |
| Social connection | 0,171 | 0,023 | 0,148 | 5,436 | ,000 |

R=0,811; R²0,716; Corrected R²=,0,712; Model F₍₄₋₁₃₂₎ = 158,072; p<0,01

4. DISCUSSIONS AND CONCLUSIONS

The Çukurçayır neighborhood, which exhibited a rapid development in the region, is the most populated neighborhood when compared to other neighborhoods in Eastern Black Sea region. Rapid population growth in the neighborhood created pressures on the physical environment and led to a gradual decline in open spaces and to unplanned construction. The present study that scrutinized the effects of physical environment and social facilities provided by the physical environment on user satisfaction, neighborhood attachment and sense of community in neighborhood units is significant in this dimension.

In the study, it was observed that neighborhood level user satisfaction criteria were grouped under two factors. The factors that affected user satisfaction in Çukurçayır neighborhood were satisfaction with social properties and satisfaction with physical properties, respectively. Recent studies on open spaces were extended to include the life, not only to the space, and thus, the spaces were evaluated not only by their physical properties but also their social characteristics. Thus, the fact that satisfaction with social properties factor was more important when compared to the satisfaction with physical properties factor demonstrated the significance of social properties. This finding supported the results of the studies by Hur et al. (2010) and Elabd (2013) that investigated the correlation between satisfaction with physical and social characteristics and neighborhood level place attachment.

Jorgensen and Stedman (2001) reported a strong correlation between place attachment and sense of community, and social properties and stated that this was due to the behavioral goals of users specific to that place. In the present study, it was observed that the satisfaction with social properties was a more effective factor on neighborhood attachment and sense of community when compared to physical properties.

Analysis of the neighborhood attachment factors determined in the study would demonstrate that the factors were explained by place dependency, social connection, place identity, and sense of place sub-dimensions, respectively. This findings supported the 4-dimensional structure of the place attachment scale by Ramkissson et al. (2012). The great majority of studies on attachment revealed a two-dimensional structure for attachment (Stokols and Shumaker, 1981; Vaske and Kobrin, 2001). It is suggested that these differences could be due to differences between the scales such as park, residence, neighborhood, city, region, etc.

The analysis of the effects of user satisfaction and neighborhood attachment on the sense of community demonstrated that satisfaction with social properties, satisfaction with physical properties, place dependency and social connection factors were effective, respectively. In the present study, it was determined that place identity and sense of place did not have a significant and positive effect on sense of community. This finding was consistent with the view expressed in the literature that users establish a functional connection with a place when their physical and social needs are fulfilled, and consequently establish a social connection, creating a sense of community.

The present study that aimed to explain the correlation between satisfaction, attachment and sense of community demonstrated that the creation of physical spaces that would strengthen the sense of community was a significant task for researchers and planners alike. Furthermore, the present study that aimed to reveal which factors were influential on the emergence of a sense of community could guide future studies on this dimension.

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