

# Relationship between place attachment and user satisfaction at some national parks in Turkey

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## Abstract

Environmental and natural preservation has become a common problem for all societies of this century. Much scientific research is being done and many methods are being devised to analyze the balance between the recreational use and preservation of natural spaces. It appears that the basic purpose of these methods is to achieve recreational satisfaction. User satisfaction is a concept that lies at the core of many sectors and work areas. Place attachment is another concept that has been covered in many research studies conducted until today. Place attachment is a concept that is closely related with satisfaction and includes symbolic and emotional expressions. To see which factors effect visitor satisfaction and attachment will benefit future studies in national parks. In this scope, 5 national parks in Marmara region with different characteristics and highest user density rates have been chosen. The questionnaire forms have been accordingly designed to identify tendencies and evaluate attachment and satisfaction degrees with suitable analysis techniques. The first objective was to identify overall satisfaction and attachment levels and ratings. It was found that the visitors were satisfied with their overall visiting experience and also found that the attachment of the visitors to national parks was high. We observed that as the overall satisfaction increases, the overall attachment increases, as well. Second objective was to determine place attachment and its sub-categories. As a result of the analyses, 4 sub-factors with high reliability values obtained.



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## Keywords

Factor analysis, National park, Place attachment, User satisfaction.

## 1. Introduction

The use of resources in order to meet the needs without considering what will happen in the future has led to a number of problems about the relations between man and nature. Almost all the definitions related to sustainability and sustainable development require the inclusion of the next generation in the current decision making process. The main objective of the methods developed through studies on the protection of natural areas and balanced use for recreational purposes is to maintain recreational satisfaction.

User satisfaction is a concept that lies at the core of many sectors and work areas these days. Place attachment is another concept that is handled in various studies. Place attachment refers to attachment to a special place and is defined as positive emotional bond to a specific place (Low and Altman, 1992). Place attachment is closely related to the concept of satisfaction, which has also been tested with studies. Certain studies especially highlight a variety of reactions and behaviors that individuals and groups may demonstrate depending on emotions, meanings and values especially when a place is under threat. (Eisenhauer et al., 2000; Williams and Stewart, 1998). This is true especially when an individual or a group has a positive bond with that place. (Mesch and Manor, 1998; Stedman, 2003a). Some researchers have expanded Altman and Low's definition of place attachment by emphasizing the functional and psychological attachments. (Williams et al., 1992).

This study has been prepared for the purpose of measuring place related satisfaction and attachment of the national park visitors. The first objective was to identify overall satisfaction and attachment levels and ratings. Second objective was to explain place attachment and its sub-categories and also to identify their relation with each other. The questions that were prepared for that purpose and intended to constitute the attachment scale. Place attachment is taken as the basic and integrating concept and the elements that make up place attachment are explained along with their sub categories.

Through an analysis of the data ob-

tained by questionnaires given in the national parks within the research area, we have put forward a perceptual evaluation gauging the site-specific satisfaction and attachment of national park visitors.

## 2. The relationship between visitor satisfaction and place attachment

The interest in the relation between people and place is growing day by day. Studies on people's emotional relations with places are full of various key concepts that are similar to each other. This kind of terminological complexity sometimes makes it hard to understand whether we discuss the same concept or different concepts. Pretty et al., (2003), claim that each term is related to the other: "There is considerable overlap between factors such as emotional bonds, affiliation, behavioural commitment, satisfaction and belonging, which are loosely associated with theoretical descriptions". The analysis of the attitude of the individual towards a specific place depends on measuring one's emotional, cognitive and activity-based responses and evaluations of that place (Jorgensen and Stedman, 2001).

In the course of time, the term satisfaction has become the primary concept to measure the quality of visitor experiences. Today, we use a number of methods for satisfaction measurement such as interviews, questionnaires, observations etc. Understanding the visitor satisfaction has enabled the managers to meet the visitor expectations and develop various services and facilities for their satisfaction during their visit.

Visitor satisfaction contributes to an increase not only in regular visits but also in preservation of the loyalty and acquisition rates, which results in the realisation of the economic objectives with the rise in the number of visitors and income. There is usually a positive relation between satisfaction and long-term economic success of the target area. What is more, the relation between the visitors and the area they go gets stronger. Therefore, the quality of the services provided has a significant impact on visitor satisfaction (Akama & Kieti, 2003). Yet, another perspective defines place satisfaction as a multidimensional concept.

mensional and concise judgment about the perceived quality of a place (Stedman, 2002).

As Rosenberg and Hovland defines, when the different components of behaviour (cognitive, affective and behavioural) are taken into account, some researchers hold the view that user satisfaction is composed of affective constituents, while some others claim that perception is a more influential factor. The definitions that rely on the affective constituents identify user satisfaction as satisfaction with the place one lives in and reflection of happy feelings on the place where one lives. However, the definitions that rely on the cognitive constituents define user satisfaction by comparing the existing situation with the standards, in terms of expectations and demands (Berköz et al., 2009). The opportunity to participate in activities that one likes is a factor that increases the place satisfaction of those in recreation (Bricker and Kerstetter, 2000; Kyle et al., 2004a; Manning, 1999). Ecologic and environmental conditions, also, help the formation of satisfaction one feels for a certain place (Eisenhauer et al., 2000; Kaltenborn, 1998; Kyle et al., 2004a, 2004b; Stedman, 2002; 2003a).

Studies on place attachment have also enabled us to understand the meanings that people attach to their physical environment. Any literature review on place attachment, place identification or related terms shows that these topics have been studied and measured with different scales for the last 40 years. Place attachment is one of the essential concepts that this study deals with. The term attachment mostly refers to the sense of place that a person has; it also includes both symbolic and emotional manifestations. In a more general sense, the idea of place attachment has been used for thousands of years. In the ancient times, it was very common for people to introduce themselves with their names and the place they come from (Relph, 1976). Besides, the concept has been applied to the studies on natural resource management in the last 15 years. (Warzecha and Lime, 2001; Kaltenborn and Williams, 2002; Kyle et al., 2003, 2004b; 2004c; 2004d; Hwang

et al., 2003; Halpenny, 2006; Sivalioğlu and Berköz, 2012a; 2012b).

Morgan (2010), emphasizes that place attachment refers to the emotional bond and its meaning which one establishes with a certain geographical place after a long-term experience. He claims that the bonds and memories of childhood significantly affect bond-establishing process. Yet, people might establish emotional/symbolic bonds without visiting a certain place. As Tuan (1977) suggests, "people may develop passion for a certain type of environment without holding the advantage to be in direct contact" (p.184). Therefore, emotional/symbolic attachment may refer to identification with a symbolic meaning or thought. For a while, the main difficulty that researchers have to deal with has been the variety of current approaches at the theoretical and empirical level (Hidalgo and Hernandez, 2001).

Williams et al. (1992) show the relation between satisfaction due to place characteristics and place attachment in their study. Williams et al. (1992), while studying the effect of social and physical conditions on determining the quality of wild nature trips, ascertained that place attachment is identified with the sensitivity about ecological effects such as garbage or destruction of the flora of that place.

This study handles place attachment as attitude and perception shown for a specific place. The feeling of attachment towards a place can affect place satisfaction. For instance, the strong love one feels for a place could overshadow his evaluation of the environmental conditions of that place. However, one's comprehensive experience in a recreational place which contributes to a deep formation of attachment for that place provides profound information about the previous condition and predicted situation of that place. The predicted situation relates to one's perception of right and wrong and identification; it may result in a highly critical evaluation of the environment of that place. Both responses are possible. (Halpenny, 2006).

### 3. Method

As study area, 5 national parks in the

**Table 1.** Common attributes of study area national parks.

| National Park                                | Location  | Established | Area (ha) | Common Attributes  |
|--|-----------|-------------|-----------|--|
| Birdparadise Park                            | Balikesir | 1959        | 17.058    | Various bird populations, bird watching, flora, tourism, outdoor museum  |
| Uludağ National Park                         | Bursa     | 1961        | 12.762    | flora and fauna, winter and mountain sports, accommodation, tourism, ecotourism, geological structure, view.       |
| Gallipoli Peninsula Historical National Park | Çanakkale | 1973        | 33.000    | Battle history, monuments, flora and fauna, geological structure, outdoor museum, accomodation, tourism, education |
| Kazdağı National Park                        | Balikesir | 1994        | 20.935    | Flora and fauna, accomodation, daily visits, picnic, tourism, education  |
| Troy Historical National Park                | Çanakkale | 1996        | 13.350    | Historical ruins, outdoor museum, battle history, cultural diversity and heritage, education                       |

Marmara Region, with different characteristics and highest user density rates both local and foreign have been chosen. They are also important natural areas for tourism and ecotourism. These 5 national parks that are chosen as sample area can be divided into two groups: National parks with natural qualities (Uludağ National Park, Kaz Dağları - Ida Mountain National Park, Kuş Cenneti National Park) and national parks with historical qualities (Gallipoli Historical Peninsula National Park and Troy Historical National Park). Comon attributes of study area national parks are listed at Table 1.

Uludağ National Park located inside the borders of Bursa and it is one of the most important winter sports center in Turkey. National park has rich in species and vegetation that both Alpine and endemic plants specific to Turkey and Uludağ . It has also scientific importance in the world forestry literature.

Bird Paradise National Park located inside the borders of Balikesir. It is a popular migrating spot for birds from Europe and Asia and its very famous bird-watching location in the world. Estimated 246 different species of birds are visiting Bird Paradise National Park.

Kazdağı National Park located located inside the borders of Balikesir, between the Sea of Marmara and Gulf of Edremit. It has historical, geological, mythological values and recreation opportunities and it is an important place for ecotourism with streams, deep val-

leys and canyons.

Gallipoli Historical Peninsula National Park located inside borders of Çanakkale and it has a great historical value both for local and foreign people. Sea and land wars made in inside the borders of the park during the First World War. War sites, cemeteries, monuments and ruins are registered as “historical preservation areas” and “ cultural wealth”. National park also has geological and geomorphological formations with attractive sighths.

Troy Historical National Park located inside the borders of Çanakkale and it has a historical and mythological value coming from ancient Troy and Aka settlements. National park is one of the important archaeological site in the world with its 4000 years of history.

We have distributed questionnaire forms to visitors in 5 National Parks within the study area in the summer of 2010. We have formed the questionnaire forms depending on the literature review and designed to provide relevant data to identify tendencies and evaluate attachment and satisfaction degrees with suitable analysis techniques. 400 questionnaires equally distributed among the national parks inside the area of research. The data is evaluated with a bidirectional analysis at the significance level of  $p < 0,05$  and with the SPSS statistical software of 95% confidence interval. With the survey question designed to measure the general satisfaction of national park, we have planned to measure the visitors' satisfaction in terms of their vis-

iting experience in general, the natural and social environment quality of the national park, the possibility of joining their favourite activities in the national park; and we have applied a factor analysis for the required comparisons. The applied factor analysis aims at grouping and reducing the question which is composed of 26 postulates in order to show the extent of attachment. We have used Likert scale ranging from 1 to 5 for all these questions that are prepared for factor analysis. Factor analysis refers to the process of inventing new concepts such as factorisation or common factor or creating new functional definitions for concepts by using the factor load value of the items (Büyüköztürk, 2005). Also another question was formed to measure general attachment level of park visitors and to be used for correlation analysis.

The scale used to measure the place attachment in the measurement of attachment of National Park visitors to National Parks depends on the early attempts of Williams and Roggenbuck (1989) to measure place attachment. This scale has been inspired by the studies of Prohansky (1978), Stokols and Shumaker (1981), Jorgensen and Stedman (2001), Halpenny (2006) and Warzecha and Lime (2001).

#### 4. Findings

This section includes the factor analyses, the data regarding the measurements of satisfaction and attachment and the general findings obtained in the study.

##### 4.1. General findings

We observed that 170 (42,5%) of the national park visitors who participated in the study are female, 230 (57,5%) of them male and 64,1% of them within 20-40 age group. 270 (67,5%) of the visitors are from the middle income group. University and high school graduates constitute the majority of national park visitors by a ratio of 78.7%.

In order to measure the general attachment level of national park visitors, and later, to be used in correlation analyses they were asked to choose a number within a scale of 1-10. We found that 11 of the national park visitors who participated in the study were not attached to the park (2,8%) at all, while 93 (23,8%) of them were very attached. The average general attachment point is 6.24 and its standard deviation is 3.124. When the attachment ratios for the national parks covered in the study were analyzed by means of crosstab analysis, the highest attachment ratios were observed in Gallipoli and Troy Historical National Parks. It is also possible to explain this situation as a manifestation of the attachment of individuals to their history and roots. We found the highest attachment degree in Gallipoli National Park where one of the most important wars for the history of modern Turkey took place.

##### 4.2. Satisfaction factor analysis

The question that was designed to measure general satisfaction and which is composed of four postulates was first analyzed totally and then was applied factor analysis, which was, later, to be used in correlation analyses. It was found that, of all the national park visitors who joined the survey 67,3% were satisfied with their general visiting experiences.

Four postulates of the question have been bundled under 1 factor, to be used in the correlation analysis and called overall satisfaction. As a result of the KMO analysis conducted to test the suitability of it for the factor analysis, we found a KMO value of 0,757 (Table 2) and this shows that the data set is suitable for the factor analysis.

The 1 factor that was obtained explains 60,5% of the total variance (Table 3). The general reliability coefficient is (Cronbach Alpha)  $\alpha=0,776$  and it shows that the scale is reliable. The findings of the general factor analysis are presented in table 4 and we see that the loads of the first three factor items are over 0.7.

##### 4.3. Place attachment factor analysis

We applied factor analysis on the 26 postulates that were designed to

**Table 2.** KMO & Bartlett test results.

|                               |                    |         |
|-------------------------------|--------------------|---------|
| Kaiser-Meyer-Olkin            |                    | ,757    |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 436,415 |
|                               | Df                 | 6       |
|                               | Sig.               | ,000    |

**Table 3.** Total variance explained (satisfaction).

| Component | Initial Eigenvalues |               |              | Extraction Sums of Squared Loadings |               |              |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
|           | Total               | % of Variance | Cumulative % | Total                               | % of Variance | Cumulative % |
| 1         | 2,421               | 60,513        | 60,513       | 2,421                               | <b>60,513</b> | 60,513       |
| 2         | ,676                | 16,898        | 77,411       |                                     |               |              |
| 3         | ,531                | 13,279        | 90,690       |                                     |               |              |
| 4         | ,372                | 9,310         | 100,000      |                                     |               |              |

**Table 4.** Satisfaction factor loads.

| Factor name                 | Factor Items                                   | Factor Loads | Variance      | Reliability  |
|-----------------------------|--|--------------|---------------|--------------|
| <b>OVERALL SATISFACTION</b> | Natural Environmental Quality of NP            | ,833         | <b>60,513</b> | <b>0,776</b> |
|                             | Social Environmental Quality of NP             | ,816         |               |              |
|                             | General Experience                             | ,768         |               |              |
|                             | The possibility of joining favorite activities | ,687         |               |              |

form the sub-dimensions of place attachment. We also designed scales and various reliability tests that show the suitability for the factor analysis. We measured the general reliability coefficient for place attachment dimensions as  $\alpha=0,948$ , which shows that the question has a high degree of reliability. As a result of the KMO analysis that was conducted to test the suitability of the question for the factor analysis, on the other hand, a KMO value of 0,939 (Table 5) was found, which is a very high value and shows that the data set is perfect for the factor analysis.

As a result of the analysis, we obtained 4 factors and these 4 factors explain 64.058% of the total variance (Table 6). These four dimensions are called Place identity, place dependence, place familiarity, and place affect. We think that these four factors explain the concept of place attachment well. Reliability coefficients measured for each factor are high.

The first factor called place identity is composed of 7 variables and explains, by itself, 44.544% of the total variance. The studies prior to this have also identified the place identity factor as the leading sub-dimension that best explains place attachment. This study, also, consolidates the validity of the similar findings in the literature. The factor loads of the first four variables out of the 7 variables present in this factor are over 0.7. It is, also, the factor that has the highest alpha value ( $\alpha=0,919$ ) in the analysis.

The second factor is called place dependence. Although this sub-dimension is called place dependence

in literature, it actually refers to the functional relation with a place. This factor is composed of 9 items and explains 8.435% of the total variance. Although there is a significant decrease in the explained total variance, it has a greater explaining value than the other two factors. It must be considered as a secondary factor that explains place attachment. Similar results have been obtained by other previous researches.

The third factor is called place familiarity. Place familiarity is a theme that we previously came across in the 5 dimensional scale used by Hammit et al. (2006, 2009) with the name of place acquaintance. Place familiarity factor is composed of 6 items and the factor loads of the first three items are over 0.7. This factor explains 5.666% of the total variance.

The fourth and the last factor is called place affect. This has been a relatively less developed concept in the relevant literature and it has been analyzed by other studies under the name of sense of place (Stedman, 2003a; Jorgensen and Stedman, 2001, 2006; Halpenny, 2006). To refer to the emotion created as a result of the influence of places on people, the factor has been called place affect. This factor is composed of 4 variables and explains 5.413% of the total variance. The factor loads of the three of the four variables are over

**Table 5.** KMO & Bartlett test results.

|                               |                    |          |
|-------------------------------|--------------------|----------|
| Kaiser-Meyer-Olkin            |                    | ,939     |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 5344,745 |
|                               | Df                 | 325      |
|                               | Sig.               | ,000     |

**Table 6.** Total variance explained (place attachment).

| Component | Initial Eigenvalues |               |              | Extraction Sums of Squared Loadings |               |              | Rotation Sums of Squared Loadings |               |              |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
|           | Total               | % of Variance | Cumulative % | Total                               | % of Variance | Cumulative % | Total                             | % of Variance | Cumulative % |
| 1         | 11,582              | 44,544        | 44,544       | 11,582                              | 44,544        | 44,544       | 4,914                             | 18,898        | 18,898       |
| 2         | 2,193               | 8,435         | 52,979       | 2,193                               | 8,435         | 52,979       | 4,646                             | 17,869        | 36,768       |
| 3         | 1,473               | 5,666         | 58,645       | 1,473                               | 5,666         | 58,645       | 3,919                             | 15,072        | 51,840       |
| 4         | 1,407               | 5,413         | 64,058       | 1,407                               | 5,413         | 64,058       | 3,177                             | 12,218        | 64,058       |
| 5         | ,958                | 3,686         | 67,745       |                                     |               |              |                                   |               |              |
| 6         | ,895                | 3,440         | 71,185       |                                     |               |              |                                   |               |              |
| 7         | ,682                | 2,622         | 73,807       |                                     |               |              |                                   |               |              |
| 8         | ,637                | 2,450         | 76,257       |                                     |               |              |                                   |               |              |
| 9         | ,600                | 2,308         | 78,565       |                                     |               |              |                                   |               |              |
| 10        | ,571                | 2,198         | 80,763       |                                     |               |              |                                   |               |              |
| 11        | ,499                | 1,919         | 82,681       |                                     |               |              |                                   |               |              |
| 12        | ,476                | 1,829         | 84,510       |                                     |               |              |                                   |               |              |
| 13        | ,439                | 1,688         | 86,198       |                                     |               |              |                                   |               |              |
| 14        | ,431                | 1,658         | 87,856       |                                     |               |              |                                   |               |              |
| 15        | ,399                | 1,535         | 89,391       |                                     |               |              |                                   |               |              |
| 16        | ,369                | 1,419         | 90,811       |                                     |               |              |                                   |               |              |
| 17        | ,356                | 1,371         | 92,182       |                                     |               |              |                                   |               |              |
| 18        | ,327                | 1,256         | 93,438       |                                     |               |              |                                   |               |              |
| 19        | ,314                | 1,209         | 94,647       |                                     |               |              |                                   |               |              |
| 20        | ,271                | 1,041         | 95,688       |                                     |               |              |                                   |               |              |
| 21        | ,263                | 1,011         | 96,699       |                                     |               |              |                                   |               |              |
| 22        | ,210                | ,809          | 97,508       |                                     |               |              |                                   |               |              |
| 23        | ,197                | ,757          | 98,266       |                                     |               |              |                                   |               |              |
| 24        | ,186                | ,717          | 98,982       |                                     |               |              |                                   |               |              |
| 25        | ,162                | ,624          | 99,606       |                                     |               |              |                                   |               |              |
| 26        | ,102                | ,394          | 100,000      |                                     |               |              |                                   |               |              |

**Table 7.** Place attachment factor loads.

| Factor Names      | Factor Items | Factor Loads | Variance | Reliability |
|-------------------|--------------|--------------|----------|-------------|
| PLACE IDENTITY    | PI1          | ,801         | 44,544   | 0,919       |
|                   | PI2          | ,799         |          |             |
|                   | PI3          | ,784         |          |             |
|                   | PI4          | ,753         |          |             |
|                   | PI5          | ,603         |          |             |
|                   | PI6          | ,544         |          |             |
|                   | PI7          | ,536         |          |             |
| PLACE DEPENDENCE  | PD1          | ,720         | 8,435    | 0,888       |
|                   | PD2          | ,714         |          |             |
|                   | PD3          | ,669         |          |             |
|                   | PD4          | ,669         |          |             |
|                   | PD5          | ,630         |          |             |
|                   | PD6          | ,589         |          |             |
|                   | PD7          | ,572         |          |             |
|                   | PD8          | ,496         |          |             |
|                   | PD9          | ,450         |          |             |
| PLACE FAMILIARITY | PF1          | ,838         | 5,666    | 0,848       |
|                   | PF2          | ,829         |          |             |
|                   | PF3          | ,773         |          |             |
|                   | PF4          | ,625         |          |             |
|                   | PF5          | ,601         |          |             |
|                   | PF6          | ,490         |          |             |
| PLACE AFFECT      | PA1          | ,801         | 5,413    | 0,844       |
|                   | PA2          | ,775         |          |             |
|                   | PA3          | ,734         |          |             |
|                   | PA4          | ,533         |          |             |
| TOTAL VARIANCE    |              |              | 64,058   |             |

0.7. However, it is the factor that least explains the variance. This factor, also, has been identified as the least explaining factor in the other previous studies.

Place attachment factors, variables, factor loads and the variances they explain are listed in detail in Table 7.

#### 4.4. Correlation analysis

In order to see whether there is a relation between the general attachment levels of the national park visitors who participated in the study and their gen-

eral satisfaction levels, we conducted a correlation analysis. Before the correlation analysis, however, a factor analysis was applied to the question that constitutes general satisfaction and is composed of 4 items. As a result of the correlation analysis, we found a significant positive relation between them at a level of 25,4%. ( $r=0,254$ ;  $p=0,000<0,05$ ). As general attachment levels increase, general satisfaction levels increase too.

The positive relationship between attachment and satisfaction that was postulated in the study has been validated by means of analyses too (Table 8).

In order to see whether the general satisfaction and general attachment are in any way related with data obtained about the demographic characteristics, the number of visits to the national parks and the time spent in the national parks, we carried out a correlation analysis with these variables (Table 9). The correlation analysis is significant at the levels of 0,01 and 0,05.

We found no relation between overall satisfaction and age, gender and the time spent in the national park. There was, however, a negative relation with educational status at the level of 16,8%. Thus, it seems, the higher educational status is the lower overall satisfaction

**Table 8.** Correlation analysis - attachment vs satisfaction.

|                    |                      | N   | r     | p     |
|--------------------|----------------------|-----|-------|-------|
| Overall Attachment | Overall Satisfaction | 385 | 0,254 | 0,000 |

**Table 9.** Correlation analysis.

|                      | A    | E     | G    | I    | NVNP | TSNP |
|----------------------|------|-------|------|------|------|------|
| Overall Satisfaction | ,005 | -,168 | ,026 | ,170 | ,179 | ,023 |
|                      | ,926 | ,001  | ,611 | ,001 | ,004 | ,652 |
| Overall Attachment   | ,251 | -,104 | ,057 | ,048 | ,325 | ,040 |
|                      | ,000 | ,044  | ,257 | ,342 | ,000 | ,432 |

\*\*\*A: Age, E: Education, G: Gender, I: Income, NVNP: Number of visits to NP, TSNP: Time spent in NP.

level becomes. As higher education means higher expectations, when a place fails to meet the expectations, a drop in the satisfaction level is fairly normal. A positive correlation was found between overall satisfaction and income at the level of 17%. The higher the income is the higher the satisfaction level gets.

There is also a positive relation between number of visits to the national parks and overall satisfaction at the level of 17,9%. The higher the satisfaction is the bigger the number of the visits reaches.

We did not find any significant relation between general attachment and gender, income and the time spent in the national parks. There is a positive relation between general attachment and age at a level of 25,1%, which means, as age increases attachment level increases as well. We, on the other hand, found a negative correlation between attachment and education at a level of 10,4%.

As educational level increases attachment level decreases. There is a positive relation between the number of visits to the national parks and general attachment at a level of 32,5%, as attachment becomes greater the number of visits becomes bigger too.

We see that the average of the place affect points of the national park visitors who participated in the study is the highest, while the average of their place familiarity points is the lowest (Table 10). In order to see the variables that have an impact on the sub-dimen-

sions that were obtained as a result of the factor analyses, we carried out one-way variance and correlation analyses, independent T-tests, and descriptive analyses of demographic factors and other variables.

The results of these analyses show that the place identity points of young people are lower than those of the visitors from the middle age group.

Similarly, we found that the points of the young were lower than those of middle and upper-middle age groups in terms of place dependence. It may be due to the fact that there are not much activities addressing to the needs of young age group or it may be that the interests of young people tend to change quickly. Generally, all the sub-factors of attachment, excluding place familiarity, received low points from young people. This finding is in concordance with the findings of the relevant literature. Attachment is in direct proportion to age. We observed increase in attachment in proportion with the increase in age. Each attachment factor reflected significant differentiation statistically in relation with educational status and we saw that the points received by the primary school graduates for each factor were high. Thus, we may say that as educational status rises, the attachment ratios decrease.

We, also, saw that almost all the sub-dimensions of place attachment displayed differentiation in relation with income variable. The highest ratios for the sub-dimensions of place

**Table 10.** Place attachment sub-factors medians.

|                   | N   | Min. | Max. | Mean.  | S.s.   |
|-------------------|-----|------|------|--------|--------|
| Place Identity    | 400 | 1,00 | 5,00 | 3,1451 | ,93386 |
| Place Dependence  | 400 | 1,00 | 5,00 | 2,9743 | ,81604 |
| Place Familiarity | 400 | 1,00 | 5,00 | 2,9610 | ,91232 |
| Place Affect      | 400 | 1,00 | 5,00 | 3,6390 | ,91095 |

attachment were observed in low and lower-middle income groups while the lowest ratios were observed in high income groups. There is negative relation between attachment and income level.

### 5. Conclusion

The research question for this study aims to explain the concept of place attachment with its sub-factors and identify their relation with satisfaction. To explain these relations, we used various questions. We, first, designed questions to measure the degrees of general satisfaction and general attachment, and then, as a result of the analyses, we identified a positive relationship between general attachment and general satisfaction, which was one of the hypotheses in this study. As general satisfaction levels increase, general attachment levels increase too.

The positive relation between satisfaction and attachment is in parallel with the results of other researches done in this subject area (Bricker ve Kerstetter, 2000; Kyle et al., 2004a, 2004d; Halpenny, 2006).

As previously pointed out, there is a semantic confusion about the sub-factors of place attachment and many researchers have identified different dimensions. Place identity and place dependence have been identified as dual dimensions by some researchers (Stokols and Shumaker, 1981; Williams and Vaske, 2003; Williams et al., 1992; Kyle et al., 2004a, 2004b; etc.) while in several studies sense of place, that is, place affect has been included in the sub-dimensions (Jorgensen and Stedman, 2001, 2006; Halpenny, 2006) or the concept of attachment has been analyzed multi-dimensionally (Bricker and Kerstetter, 2000; Kyle et al., 2004d; Hammit et al., 2006, 2009). The place familiarity that is identified in this study as one of the sub-dimensions is based on the concept of place acquaintance that is proposed in the 5-dimensional model by Hammit et al. (2006).

To sum up, the findings obtained in this study can be enumerated as follows. We think that this study, along with the concept of place attachment, explains these four factors; Place Identity (individual's emotional and symbolic identification with a place), Place

Dependence (functional attachment to a certain place based on participation), Place Familiarity (familiarity that originates in time and interaction based on experience) and Place Affect (emotions and feelings that a certain place arouses in individuals).

As a result of the comparative analyses made between demographic characteristics and sub-factors of place attachment, we found that place dependence and place familiarity sub-dimensions differs with respect to gender and that the male visitors received higher points. The highest attachment values were observed in low income and low education groups. We, also, found that attachment values decrease in lower age groups. These findings are in concordance with the similar studies in literature.

Although, we found out overall satisfaction level of park visitors was high (67,3%), this satisfaction level can be improved by maintenance and provided service quality in the study area national parks. Feeling secure in the national park also has a positive effect on satisfaction. Satisfaction is a source of motivation for subsequent visits and is very effective in creating attachment to the visited area (Sivalioğlu and Berköz, 2012a). Number of visits also improve place identity level and as a result of the strong place identity, place attachment will increase too.

Many recent studies have strived to form an understanding as to which factors have an impact on individual decision making processes in relation with the preservation of natural areas and resources. It is also claimed that management plans that are realized with the participation of the community will be more successful. Measuring visitor satisfaction and attachment, therefore, is very important.

To conclude, we examined the satisfaction of national park visitors, the concept of place attachment, and the relation between place attachment and satisfaction which is the first study on this subject in national parks, in Turkey. Identification of the relation between satisfaction and place attachment and the differentiations that these concepts display with respect to demographic and socio-cultural characteris-

tics will contribute to future researches in national parks.

And also we think that our findings will contribute to efforts of authorized national park administrators to find solutions for environmental satisfaction and place attachment of park visitors. The best way to measure the performance of a recreational area or service is to conduct visitor satisfaction surveys. With these surveys management and service performance can be identified and user involvement can be achieved. With this purpose, we recommend that every year in each national park, visitor satisfaction surveys should be conducted in order to improve the service quality. It is necessary to take the relation of man and environment and the factors that contribute to satisfaction into consideration in recreational planning. Thus, we may be able to meet the expectations and the needs of national park visitors as much as possible and consequently, the number of protective users who are attached to national parks will increase.

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