PLACE ATTACHMENT AND WILLINGNESS TO PAY: HOW DO VISITORS VALUE STATE PARKS?

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Abstract
State parks provide benefits for members of the public who may not have access to natural environments. In this context, it is critical to understand how minority groups value and depend on state parks. To better understand these issues research was conducted during the summers of 2009 and 2010 at three state parks in north Georgia. Intercept surveys were administered to 929 state park visitors. Data pertaining to whether or not visitors perceived themselves as being dependent on state parks and were willing to pay for parks were collected. Results of an exploratory factor analysis suggested that place dependency varied by race/ethnicity, education and income. Results revealed a positive relationship between willingness to pay and place dependency. Results of this study may provide Georgia state park managers with a better understanding of how visitors, in particular minorities, value state parks.

1.0 Introduction and Theoretical Background

Public parks have long been known to provide a myriad of benefits to visitors. Promoting healthy lifestyles and psychological wellbeing in addition to reducing the risk of a number of physical diseases are among these benefits (Sherer, 2005). Many benefits are particularly important to racial/ethnic minority groups who are at a high risk of physical diseases and additionally may have limited access to natural areas and public parks (Abercrombie et al., 2008). As a result, park managers are interested in the attributes that compel people to visit state parks and recreational areas. Many people are motivated to visit state parks and recreational areas as a result of the meaning that they attach to a particular natural setting (Brooks, Wallace, & Williams, 2006).

Attached meanings of this kind can be significant and important to visitor experiences. In fact, bonds between visitors and place are both complex and multidimensional as visitors often demonstrate varying levels of commitment or hold different values for a particular environmental setting (Smaldone, Harris & Sanyal, 2008). The attachment that visitors feel when recreating in natural areas often represents an emotional bond between a visitor and a particular place (Kyle, Graefe, Manning, & Bacon, 2003; Williams & Patterson, 1999). The meanings that certain places have for people could be defined as place attachment (Schreyer, Jacob, & White, 1981). Place attachment may be divided into two components: place identity and place dependence. Place identity generally refers to those "dimensions of the self that define the "individuals' personal identity in relation to the physical environment" (Proshanky, 1978, p. 155). Understanding how different racial/ethnic minority groups attach meaning to specific places is crucial to the future planning and management of many natural resource-dependent recreational areas such as public parks (Kyle, Graefe, & Manning, 2005). By examining how visitors recreate in parks, managers may be able to improve the facilities and services under their direction to better meet their needs.

Equally important to learning more about diverse visitors' place attachment is an enhanced understanding of the economic value visitors place on recreation opportunities. Environmental economic frameworks have been used to estimate public preferences for funding natural areas (White & Lovett, 1999). By determining visitors' willingness to pay and their associated values, researchers are able to capture public opinion and influence policy to act in favor of visitors' preferences. This type of insight may be particularly useful for state park managers struggling to adjust to severe budget cuts that occur as state legislators continue to target park funds as a means to combat budget short falls. By examining how visitors recreate in parks along with the financial support they are willing to bestow upon parks, and the relationship between these two factors, park managers may be able to improve the facilities and services under their direction while acknowledging visitor preferences. Park managers may also be able to more precisely tailor the opportunities they have to offer to all segments of the population.

2.0 Methods

The purpose of this study was to evaluate place attachment across diverse populations of Georgia state park visitors. Because of this we focused on three state parks in northern Georgia (Fort Yargo, Red Top Mountain, and Fort Mountain) known for their high levels of racial/ethnic diversity in visitation. Each park includes a variety of facilities and services available to park users. Meetings with on-site managers of these parks were used to discuss and identify areas best suited for capturing the greatest number of park visitors at any given point in time. These locations included recreation hotspots, or areas where recreation demands were greatest (Cordell & Green, 2001). Each of the focal parks contained common facilities in these parks such as beach and swimming areas, boating, campgrounds, cycling and hiking trails, and picnic areas.

During the 2009 pilot study, researchers approached every third park user over the age of 18 (n = 415) and asked if they would be willing to fill out a brief (four to five minute) self-administrated survey. All researchers were bilingual and surveys were available in both English and Spanish, thereby allowing researchers to gain greater access to a diverse population. The surveys asked visitors about their attachment to the specific state park and their willingness to pay to support both the specific state park and Georgia state parks in general. All place attachment items originated from previous studies dealing with place identity and place dependency were included and were rated on a five-point Likert scale ranging from one (strongly disagree) to five (strongly agree). Visitors were also asked if they would be willing to pay more than the current five-dollar entrance fee to support Georgia state parks. If they responded affirmatively they were then asked how much more they would be willing to pay.

After the pilot study, surveys were revised based on response patterns (see Results for explanation). New data were then collected between Memorial Day and Labor Day during the summer of 2010. In this sampling period, park visitors (N=929) were asked to rate six revised items focused on their dependency upon Georgia state parks to provide outdoor recreation opportunities. All items were rated on a five-point Likert scale ranging from one (strongly disagree) to five (strongly agree). Two of the six items were reverse coded to check for internal consistency and inter-rated reliability. In addition to examining visitors' place dependency, visitors were also asked about their willingness to pay for the Georgia state parks. These attitudes were assessed using items that focused on visitor's willingness to donate to parks, their responses to hypothetical entrance fee increases, and payment format preferences. General visitation questions were also used to capture the number of visits and duration of recreation activities, incorporating important elements of experience use history (Hammitt, Backlund, & Bixler, 2004). Visitors were also asked several socio-demographic items that included their race and ethnicity, education and income. Refusal rates were recorded and used to calculate the response rate (92%).

Data from these questions were analyzed using PASWS Statistics 18.0. Reliability of survey scales was assessed using Cronbach's alpha. Place attachment data were analyzed using exploratory factor analysis. Demographic group means for place attachment and willingness to pay items were compared using analysis of variance (ANOVA). An independent-samples t-test was conducted to compare place dependency between those willing and not willing to pay more for visiting state parks.

3.0 Results

Prior to performing an Exploratory Factor Analysis (EFA) of the place attachment items on the pilot test, the suitability of data for factor analysis was assessed and resulted in the Kaiser-Meyer-Olkin value of 0.944 and Bartlett' Test of Spherecity [χ^2(df=45) = 4323.3, $p < .001$)] indicated an EFA was appropriate. Catell's scree test and principal axis factoring showed a single factor (eigenvalue = 7.39) that accounted for 71.1 % of the total scale variance. All ten items loaded strongly on the single factor ($\geq$ 0.77). In the examination of a two factor solution, discriminant validity was not evident (Table 1) and the factors were highly correlated (r = 0.764). The reliability of the single-factor, ten-item scale was high (Cronbach alpha = 0.961). Based on the results of the EFA and the saliency of the place dependence items for park managers, we selected place dependency as the major component for future investigations of place attachment in state parks visitors.

<<Insert Table 1 Here>>

In the larger second round of data collection, visitors responded to the place dependency items consisting of the following statements: this state park is a special place (M = 3.84, SD = 0.865), I'm happier visiting this state park than other north Georgia parks (M = 3.49, SD = 0.878), this state park is the best place for me to recreate (M = 3.47, SD = 0.889), recreation at this state park is more important to me than recreation anywhere else (M = 3.17, SD = 0.885). The two reverse coded item statements were: there are other places nearby where I can do the things I do at this state park (M = 3.08, SD = 1.097), and this state park is pretty much like any other state or local park (M = 2.95, SD = 1.032).

Socio-demographic items were compared to a combined place dependency item (containing the revised six dependency items) using a series of one-way between-groups ANOVA (Table 2). For all three comparisons there were statistically significant differences ($p < .05$): Race/ethnicity by place dependency, F (5, 1022) = 5.41, $p < .001$; Education by place dependency, F (2, 1019) = 8.20, $p < .001$; Income by place dependency, F (5, 991) = 5.68, $p < .001$. While gathering

data, researchers discovered lower income, less educated, Hispanic/Latino visitors seemingly more dependent upon state park resources for their recreational experiences. These observations were noted as the trends continued throughout the data collection periods.

<<Insert Table 2 Here>>

Overall, 46.1% of visitors responded that they would be willing to pay more to enter a state park. Of these visitors, 89.1% claimed they would be willing to pay $2 or more, 35.3% claimed they would be willing to pay $5 or more, 18.5% claimed they would be willing to pay $10 or more. As expected, results showed that visitors from households with higher annual income reported being more willing to pay for state parks ($25,000 or less = 39.7%; $25,000-$50,000 = 45.9%; $50,000-$75,000 = 55.3%; $75,000-$100,000 = 52.1%; $100,001 or more = 72.2%). The majority of visitors (88.8%) preferred to pay a per-vehicle parking fee over a per-person activity fee (7.9%) or a per-person entrance fee (3.3%). When visitors were asked how their annual visitation patterns would change if the park entrance fee was to hypothetically increase, the amount of decreased visits increased with the hypothetical rise in entrance fees. For example, at a $5 entrance fee only 7.9% of visitors said their visits would decrease. Larger proportions of visitors said that their state park visits would decrease as the proposed entrance fee increased to $7 (20.2% of visitors said their visits would decrease) $10 (45.5%) and $15 (56.5%).

To examine the relationship between placed dependence and willingness to pay, we split visitors into two groups: those willing to pay more for state parks and those who were not willing to pay more. Data showed a significant positive relationship between place dependence and willingness to pay t (985) = -2.99, p = .003. Visitors willing to pay more displayed higher levels of place dependency than individuals who were not willing to pay more (Figure 1). Visitors who were not willing to pay more showed higher scores on the items reflecting a lack of place dependency.

<<Insert Figure 1 Here>>

4.0 Discussion

The EFA of the ten-item scale used in the pilot study did not reveal two distinct components of place attachment (i.e., place identity and place dependence) that had emerged in previous studies. Instead, all items appeared to reflect a single place attachment construct. Therefore, all items were represented as a single factor (i.e., place dependency). To better understand the relative importance of state parks as a recreation destination in the lives of north Georgia residents, the place dependence scale may be the most relevant as many visitors reported not having other natural areas to participate in outdoor recreation activities. Furthermore, a concise subset of place dependence might be more relevant for use in intercept surveys to examine how state parks fit into the greater context of recreational pursuits in other areas. Hence, additional research could emphasize the influence of place dependence on the relationship between ethnically diverse visitors and public lands in Georgia.

The average mean scores of place dependency items suggested that, at a minimum, visitors were at least slightly dependent on Georgia state parks for providing outdoor recreation opportunities. While levels of place dependency were elevated among all visitors, analysis of the socio-demographic variables of race/ethnicity, education, and income resulted in slight differences that may provide insight to park managers developing management policies. For example, simply understanding that Hispanic/Latino visitors and lower educated visitors with low income are more dependent upon state parks for outdoor recreational opportunities may assist managers in reaching out and developing programs specifically for these demographic groups. Likewise, data showing visitors' willingness to pay for state parks can allow park managers to develop economic preference matrices to optimize fees associated with the parks they oversee. A positive relationship between place dependency and willingness to pay suggests that visitors dependent upon state parks to provide outdoor recreational opportunities may have more economical incentive to support state parks. Further analysis of these data, both place dependency and willingness to pay, may assist park managers in understanding their constituents and making park programs and general visitation more accessible to diverse visitors who rely on state parks for their outdoor recreational needs.

5.0 References

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8.0 Tables

Table 1
Pattern and Structure Matrix Coefficients for Principal Axis Factoring With Oblimin Rotation of Two-Factor Solution (Factor A=Place Identity, Factor B=Place Dependence) for Place Attachment Scale Data Obtained via Surveys of State Park Visitors in Georgia During Summer 2009 (N=415)

Hypothesized Factor (with Items)	Mean	SD	Pattern Matrix			Structure Matrix	
			A	B		A	B
A. Place Identity*							
1. XXX is very special to me.	4.01	0.91	0.053	**0.856**		**0.707**	**0.896**
2. I am very attached to XXX.	3.82	0.96	0.031	**0.886**		**0.708**	**0.909**
8. XXX means a great deal to me.	3.76	0.98	**0.568**	0.361		**0.844**	**0.795**
10. I identify strongly with XXX.	3.67	1.00	**0.640**	0.267		**0.845**	**0.757**
5. I feel like XXX is a part of me.	3.42	1.02	**0.750**	0.166		**0.877**	**0.739**
B. Place Dependence*							
6. XXX is the best place for me to recreate.	3.61	1.00	**0.888**	-0.006		**0.884**	**0.673**
4. I get more satisfaction out of visiting XXX than visiting any other area.	3.60	0.95	**0.841**	-0.003		**0.839**	**0.640**
7. I wouldn't substitute any other area for what I do at XXX.	3.49	1.04	**0.967**	-0.101		**0.889**	**0.638**
9. Recreation at XXX is more important to me than recreation at any other location.	3.45	1.03	**1.017**	-0.109		**0.934**	**0.669**
3. No other place can compare to XXX.	3.44	1.02	**0.690**	0.118		**0.781**	**0.646**

Note: Major loading coefficients ($\geq$ 0.400) for each item are in bold.
* Cronbach's Alpha for five hypothesized place identity items was 0.927.
** Cronbach's Alpha for five hypothesized place dependence items was 0.939.

Table 2
One-way Between-groups ANOVA with Comparisons of Place Dependency and Race/Ethnicity, Education, and Income.

Social Demographic Variable (with Items)	N	Mean	SD
Race/Ethnicity.			
White or Caucasian	628	3.45	0.70
Hispanic or Latino	252	3.72	0.89
Black or African American	73	3.38	0.79
Asian	28	3.55	0.68
Other	21	3.66	0.64
Education.			
Some high school	101	3.78	0.82
High School or GED	361	3.54	0.82
College, tech. school, or other advanced degree	560	3.45	0.70
Income			
$25,000 or less	203	3.72	0.84
$25,000 to $50,000	245	3.46	0.76
$50,000 to $75,000	138	3.62	0.68
$75,000 to $100,000	98	3.31	0.65
$100,001 or more	118	3.45	0.72

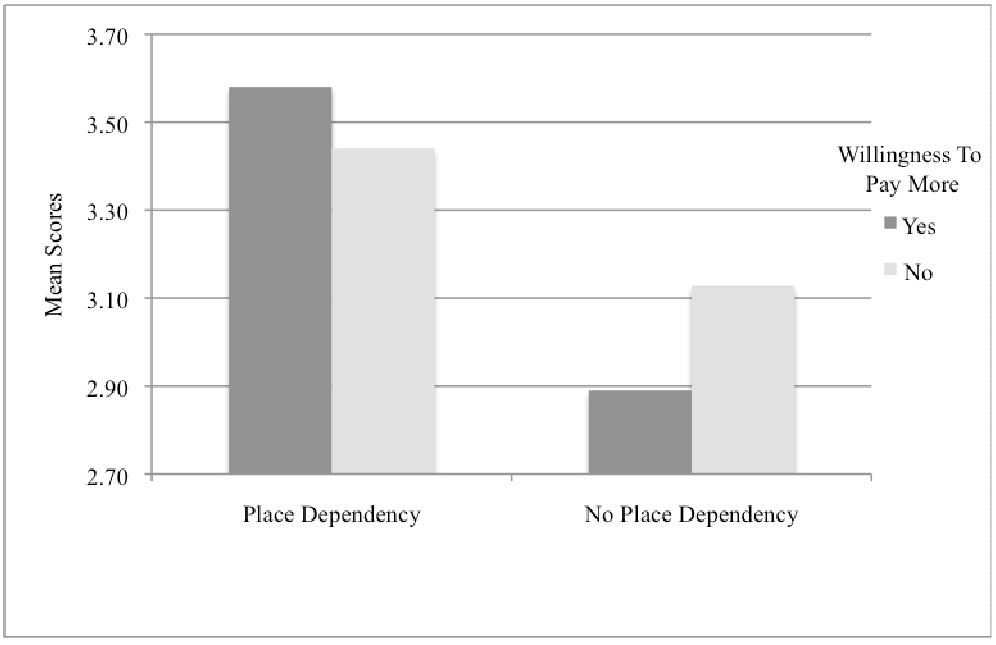

Figure 1
Willingness to Pay by Place Dependency Across Total Park Visitors.