

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. Questions pertained to whether or not visitors perceived themselves as being dependent on state parks and were willing to pay for parks. 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, and minorities in particular, value state parks.

1.0 Introduction and Theoretical Background

Public parks have long been known to provide a myriad of benefits to visitors. They promote and encourage healthy lifestyles and psychological wellbeing in addition to reducing the risk of a number of physical diseases (Sherer 2005). Many benefits are particularly important to racial/ethnic minority groups who are at a high risk of physical diseases and 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 et al. 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 et al. 2008). The attachment that visitors feel when recreating in natural areas often represents an emotional bond between the visitor and the particular place (Kyle et al. 2003, Williams & Patterson 1999). The meanings that certain places have for people are defined as place attachment (Schreyer et al. 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 individual’s 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 et al. 2005). By examining how visitors recreate in parks, managers may be able to improve the facilities and services under their direction to better meet visitor needs.

An enhanced understanding of the economic value visitors place on recreation opportunities is also important for learning more about diverse visitors’ place attachment. 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 target park funds to combat budget short falls. Examining how visitors recreate in parks, the financial support visitors are willing to bestow upon parks, and the relationship between these two factors, may help park managers improve facilities and services under their direction. Park managers may also be able to more precisely tailor the opportunities they 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 the racial/ethnic diversity among their visitors. 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 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 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 about their dependence on 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-rater reliability. In addition to 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 (Hammit et al. 2004). Visitors were also asked several socio-demographic questions about 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 PASW 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 those 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 the data for factor analysis was assessed. The Kaiser-Meyer-Olkin value was 0.944 and Bartlett's Test of Sphericity [$\chi^2(df=45) = 4323.3, p < .001$] indicated that 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 (≥ 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 about 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 ($M = 3.47, SD = 0.889$), and 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, $F(2, 1019) = 8.20, p < .001$; and Income by place dependency, $F(5, 991) = 5.68, p < .001$. While gathering data, researchers discovered that lower income, less educated, Hispanic/Latino visitors seemed to be more dependent on state park resources for their recreational experiences. These observations were noted as the trends continued throughout the data collection periods.

<Insert Table 2 about 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, 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 number of visitors who said their visits would decrease went up with the hypothetical rises 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 place 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 had 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 about 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 since many visitors reported not having other natural areas to go to for 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 for park managers developing management policies. For example, simply understanding that Hispanic/Latino visitors and less-educated visitors with low income are more dependent upon state parks for outdoor recreational opportunities may assist managers in reaching out to and developing programs 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 of an economic 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

Abercrombie, L. C., Sallis, J. F., Conway, T. L., Frank, L. D., Saelens, B. E., & Chapman, J. E. (2008). Income and racial disparities in access to public parks and private recreation facilities. *American Journal of Preventive Medicine, 34*(1), 9-15.

Brooks, J., Wallace, G., & Williams, D. (2006). Place as relationship partner: An alternative metaphor for understanding the quality of visitor experience in a backcountry setting. *Leisure Sciences, 28*(4), 331-349.

Cordell, H. K., & Green, G. T. (2001). Sustaining outdoor recreation in the United States. In: Palo, M., Uusivuori, J., and Mery, G. (Eds.). *World forests, markets and policies (3rd Edition)* (pp. 395-406). Dordrecht, The Netherlands: Kluwer Academic Publishers.

Hammitt, W. E., Backlund, E. A., & Bixler, R. D. (2004). Experience use history, place bonding and resource substitution of trout anglers during recreation engagements. *Journal of Leisure Research, 36*, 356-378.

Kyle, G., Graefe, A., & Manning, R. (2005). Testing the dimensionality of place attachment in recreational settings. *Environment and Behavior, 37*(2), 153.

Kyle, G., Graefe, A., Manning, R., & Bacon, J. (2003). An examination of the relationship between leisure activity involvement and place attachment among hikers along the appalachian trail. *Journal of Leisure Research, 35*(3), 249-274.

Proshansky, H. M. (1978). The city and self-identity. *Environment and Behavior, 10*(2), 147.

Schreyer, R., Jacob, G., & White, R. (1981). Environmental meaning as a determinant of spatial behavior in recreation. In Frazier, J. & Epstein, B. (Eds.), *Proceedings of Applied Geography Conferences*, Vol. 4.

Sherer, P. M. (2005). *The Benefits of Parks: Why America Needs More City Parks and Open Space*. San Francisco, CA: The Trust for Public Land.

Smaldone, D., Harris, C., & Sanyal, N. (2008). The role of time in developing place meanings. *Journal of Leisure Research, 40*(4), 479-504.

White, P. C., & Lovett, J. C. (1999). Public preferences and willingness-to-pay for nature conservation in the North York Moors National Park, UK. *Journal of Environmental Management, 55*(1), 1-13.

Williams, D. R., & Patterson, M. E. (1999). Environmental psychology: Mapping landscape meanings for ecosystem management. *Links*.

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 (≥ 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		3.45	0.72
	118		

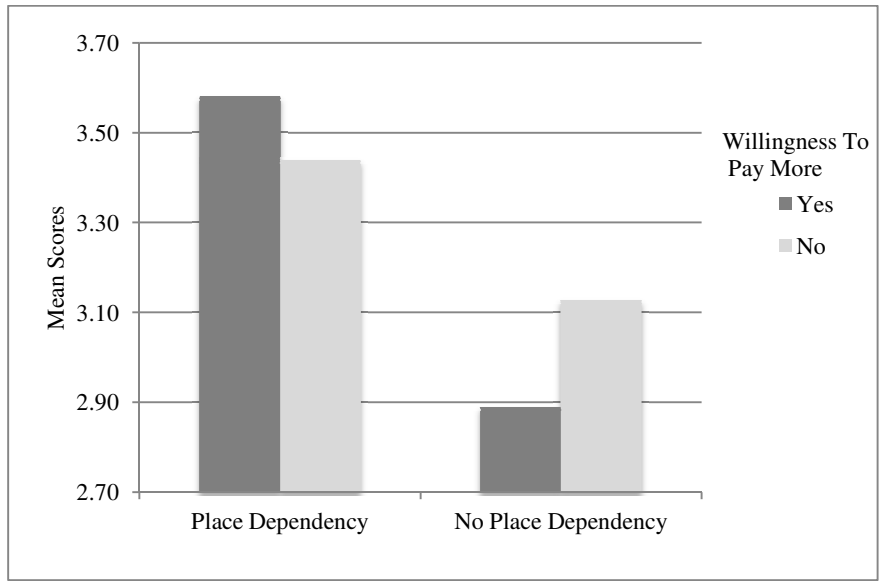


Figure 1. Willingness to Pay by Place Dependency across Total Park Visitors