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An Investigation on Visitors' Expenditure Pattern at Oklahoma State Parks

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Abstract

Based on an online survey, the answers of 355 respondents were analyzed in order to explore the influence of visitors' personal characteristics, the visit characteristics, and purpose of visit on expenditure patterns at Oklahoma State Parks. Three models were developed based on multiple regression analyses. Findings indicated that the visitors' expenditure pattern was most significantly influenced by age, annual household income, number of trips per year and by the particular purposes of visit. Additional information, regarding the most frequently visited Oklahoma State Parks and visitors' preferred recreational activities at the parks provided by visitors, is also presented and discussed. The paper concludes by suggesting improvement in the facilities and recreational choices offered to visitors. Implications of the study for decision makers and park managers are provided.

Keywords: expenditure; state parks; recreation; strategic planning; marketing strategy

Introduction

Oklahoma State Parks provide unique opportunities for those visitors seeking to enjoy the natural park environment and recreational experiences for residents of (and visitors to) Oklahoma (Caneday, 2002; Caneday & Jordan, 2003). As is widely known, state parks exist in natural areas that have tourist appeal and attract millions of recreationists every year. According to Driver's theory of satisfaction, people enjoy visiting natural areas and engaging in outdoor recreation activities for a variety of personal and social motivations, such as nature appreciation, escape from daily routine, rest and relaxation, seeking for adventure, and spending time with others (Kelly, 1982). People voluntarily choose to practice recreational activities for enjoyment, fun, personal satisfaction and revitalization (Dennis, 2001; Weiskopf, 1982). Regardless of their motivations, it is evident that state park visitors are driven by the satisfaction obtained for participating in outdoor recreation activities.

In this context, Oklahoma State Parks provide a valuable recreation resource for residents and out-of-state visitors to Oklahoma which, in turn, become the current and potential market that will bring tourism dollars to the surrounding areas, create new jobs, and contribute to the improvement of the Oklahoma economy. As reported by the National Association of State Park Directors (NASPD) approximately 8.8 million visits were made to the Oklahoma State Parks in 2011; among those visitations, 7.5 million visitations (85.23%) were day visitors and 1.3 million visitations (14.77%) were overnight visitors (Chien, et al, 2013). These data suggest that, the majority of visitors to Oklahoma State Parks are day visitors, who do not spend the night at the parks. Nevertheless, all the revenue associated with lodging, cabin rentals, and camping is generated by the 20% comprised of overnight guests (Chien, et al, 2013). This is a direct result of open access to the state parks with fees charged for specific services provided within each park.

This visitation pattern reflects the characteristics of the Oklahoma State Park system. The system includes 35 state parks distributed across approximately 40 properties indicating that one or more of the parks include multiple properties (OTRD, 2014). These parks were established by state legislation, although several of the properties are leased from other agencies including the U.S. Army Corps of Engineers, the federal Bureau of Reclamation, the Department of Defense, or cities. All of the parks are designated as "game reserves" and each includes natural features ranging from southern pine forest, to Cross Timbers, to prairie, and wetlands. The major attraction in one park is a system of gypsum (alabaster) caverns, while another unique park emphasizes sand dunes available for off-road vehicle activity. The smallest state park in the Oklahoma system is approximately 10 acres in size, but provides access to an adjacent National Forest. The largest state park in the system is 12,496 acres of land and water.

Many of the parks are associated with impounded lakes. These parks tend to focus on water-based recreation activity. All of the parks include opportunities for camping, hiking, picnicking, viewing wildlife, and participating in other outdoor activities. Five of the parks include lodges that offer hotel-style overnight accommodations. Seven of the parks include state-operated golf courses, while eight of the parks also include cabins as a lodging option. The Oklahoma Tourism and Recreation Department (OTRD) operates all the parks, but does contract some operations to concessionaires. These concessionaires provide such services as management of swimming pools, stables, convenience stores, marinas, and boat rentals.

All of the park properties are in rural settings at some distance from the major population centers of Oklahoma City and Tulsa. A few of the park properties are adjacent to or within a few miles of small rural communities. In these rural settings, the state park is the primary attraction for tourists

and is often the most important draw for visitors. Employment through the state park system is frequently the best employment opportunity in these rural communities and the parks are the primary stimulator of tourism in the local economy.

In contrast to parks in some settings, these parks may have residences for park management personnel, but these parks do not have internal communities. While the parks vary in size, attraction, and services provided, the parks are managed under the mission of the OTRD to "advance Oklahoma's exceptional quality of life by preserving, managing, and promoting our natural assets and cultural amenities."

The spending of visitors in and around Oklahoma State Parks generates economic impact in the communities neighboring the parks due to its multiplier effect in the development of new entrepreneurial ventures and the creation of job positions, increasing thus the income that accelerates the local economy. These multiplier effects are demonstrated by the initial expenditure of money by a park visitor in a local economy, a direct effect. Then, that expended money is utilized by businesses in a local economy to pay employees, to buy goods for resale, to pay for operating expenses, to expand the business, and many more financial transactions. These are indirect multiplier effects. As a result, state park visitors who spend money while in a host community become very important economic influences as their expended money moves through the local economy. Hence, it is important to identify the factors that influence visitor expenditure to implement strategies that may increase and enhance the economic value of that revenue.

Clearly, public agencies require objective and quantitative criteria to evaluate investments and allocate public funds in outdoor recreation development (Burt & Brewer, 1971). In order to maximize the effects of the visits by state park visitors, appropriate data and tools are needed to examine the mar-

kets and thus direct private sector supply and policy-maker's actions (Brida & Scuderi, 2013). Further, the appropriate statistical analysis is required. Kim, Prideaux, and Chon (2010) have demonstrated the advantages of conducting multiple alternative statistical approaches in gaining a full understanding of the determinants of tourism expenditures. More recently, Hung, Shang and Wang (2012) have developed a novel approach to determine tourism expenditure by introducing quantile regression as a superior analysis to OLS, cluster and factor analysis.

Visitor and visit characteristics are considered important variables in explaining recreation activity patterns. The importance of these variables has been documented in several studies (Hughes & Morrison-Saunders, 2003; Roovers, Hermy & Gulinck, 2002) at different recreation settings. For example, Togridou, Hovardas, and Pantis (2006) utilized these variables to identify visitors' profile to the National Marine Park of Zakynthos in Greece; researchers asked respondents to complete a section ascertaining gender, age, level of education, monthly income, and whether they have children. In the same study, for visit characteristics, respondents were asked to indicate place of residence, travel organization, visitor group size, duration of stay, and past visit to Zakynthos. It has also been found that visitor expenditure is influenced by the type of trip taken and the purpose of trip when visiting parks or forests. White and Stynes (2008) reported that trip type, i.e. non-local day trips, nonlocal overnight trips, local day trips, and local overnight trips, have a greater role in influencing the level of recreation visitor expenditures than recreation activity in a National Forest recreation visitor spending study.

Research about visitors' spending in natural recreation settings in the United States is usually conducted with the intent of being reported to the management agencies. According to Stynes and White (2006) the majority of spending studies are applied studies that are not published in formal outlets. However, the findings of such spending studies

contribute to knowledge development by allowing comparison among recreation settings and agencies and aid in quality of management decisions.

Purpose of Study

This study aims to contribute to the identification of visitors' expenditure determinants at Oklahoma State Parks and assist decision makers to develop a recreational experience and marketing strategy that can help boost revenue at Oklahoma State Parks. The study seeks to identify which variables can be used as predictors of visitors' expenditures. More specifically, the research explores the following questions:

- Are personal demographic characteristics of visitors' significant predictors of expenditure patterns at Oklahoma State Parks?
- Do characteristics of the visit (group size, length of stay, etc.) predict visitors' expenditure at Oklahoma State Parks when controlling for personal characteristics?
- Is the purpose of visit to an Oklahoma State Park a significant variable for explaining expenditure patterns of visitors?

Data Collection

The primary data collection was conducted by an online survey that was developed by a research team at Oklahoma State University for a project funded by OTRD. Park visitors were contacted by an email invitation to participate in the survey from an email contact list maintained by OTRD and generated from guest's reservation requests for accommodations at Oklahoma State Parks. The data collection was conducted from March 15th to April 15th, 2013 from a sample of 355 Oklahoma State Parks visitors within the last twelve months. All participants in the sample were voluntary respondents. The survey included a section with four standard demographic questions to identify the profile of the respondents (i.e. gender, age, annual household in-

come, and level of education) and five other questions related to the characteristics of the visit (i.e. the size of the group of visitors, the frequency of visits to any of the Oklahoma State Parks within the last 12 months, the length of stay, previous trips to the parks, and average expenditure per visit per person). Visitors also completed a section indicating the main purpose of their trips when visiting Oklahoma State Parks. Furthermore, respondents were allowed to provide additional information about their most visited Oklahoma State Park and their preferred recreational activities.

Data Analysis

The data were submitted to the following statistical procedures:

- i) Descriptive statistics and relative frequency analysis of the variables was performed to reveal the characteristic of the available data.
- ii) A correlation matrix between the ratio/interval variables was conducted to reveal the association between the variables.
- iii) The probability of predicting visitors' expenditure pattern was modeled as a function of visitors' personal characteristics, the characteristics of the visit experience, and the purpose of the trip to Oklahoma State Parks.

A multiple regression analysis was conducted to show which factors determine or significantly affect the expenditure of the visitors. Dummy coding was used for nominal variables. After the data were tested for statistical assumptions of multiple regression analysis (i.e., normality, heteroscedasticity, multicollinearity, extreme values, etc), the expenditure (as the continuous dependent variable) was transformed to natural logarithm to account for the skewness in its distribution. The data were analyzed using Microsoft Excel (Microsoft Corp.) and Stata statistical software (Stata/IC v.12, StataCorp LP).

Results and Discussion

Visitors' Profile

Regarding visitors' characteristics (see Table 1). From the total of the 355 respondents, 202 (57.18%) of them were females and 152 (42.82%) males. The mean age of the respondents was 49.80 years old, with 63.1% being older than 45 years old. The majority of the respondents, nearly 90%, reported having a high educational level. As shown in Table 1, 28% of the respondents were postgraduate degree holders while another 38% were college graduates; the respondents with low level education (up to high school) were about only 10%. According to the Almanac of Higher Education 2013 (Anonymous, 2014), in the state of Oklahoma the general population has a lower level of educational attainment (31.4% possess a high school diploma, 23% have a college degree, and only 7.7% have postgraduate education). The findings of the study reveal the high association of traveling with education level. As is widely known, education broadens interests and stimulates travel. Household income was not evenly distributed across the respondents, with 39.15% of them having an annual income less than \$75,000, 48.17% of them having an income from \$75,000 to \$150,000, and 12.8% had an income greater than \$150,000 per year. For comparison purposes, the median household income in Oklahoma is \$44,287 while the mean household income is \$59,961 (U.S. Bureau of Census). As a result, more than 60% of the respondents were well above the mean household income for residents of the host state. It is also recognized that Oklahoma attracts many out-of-state visitors particularly from northeast Texas. This finding confirms the high correlation of travelling with income and occupation.

As for the visit characteristics of the sample (Table 1), the majority of the visitors (nearly 60%) arrive at Oklahoma State Parks in relatively small groups (less than 4). Respondents tended to be repeat visitors; over 60% of them have visited the parks at least twice within the last 12 months. Only

1.69 % of the respondents were visiting for the first time. The majority of the respondents (74.64%) stay at Oklahoma State Parks at least for two nights. This means that the parks are quite attractive to those who know about them. In a previous study, it has been found that Oklahoma State Park visitors tend to be repeat visitors, highly familiar with their chosen park, and they tend to be weekend visitors (Caneday & Jordan, 2003). This information suggests that the parks have a touristic value that is not widely understood by the general public, but is extremely important to the respective local economies. Day visitors have established a sense of local ownership for their preferred park and tend to use those preferred parks as a local park, travelling short distances from their home location (Caneday & Jordan, 2003). Local agencies, hence, have to reveal the existent touristic value, infrastructure, amenities and activities of the park to the public to increase visitation and length of stay. Increased guest sophistication, however, may require an adjustment and update in the type of amenities and facilities, e.g. business centers, exercise and recreational facilities offered to state park visitors that may contribute to lengthen their stay. The visitors' expenditure per visit to Oklahoma State Parks ranges from about \$20 to about \$1000, with a mean of \$178.10 per person per visit (Table 1). Obviously, a significant percentage of this expenditure will benefit directly or indirectly within the local community.

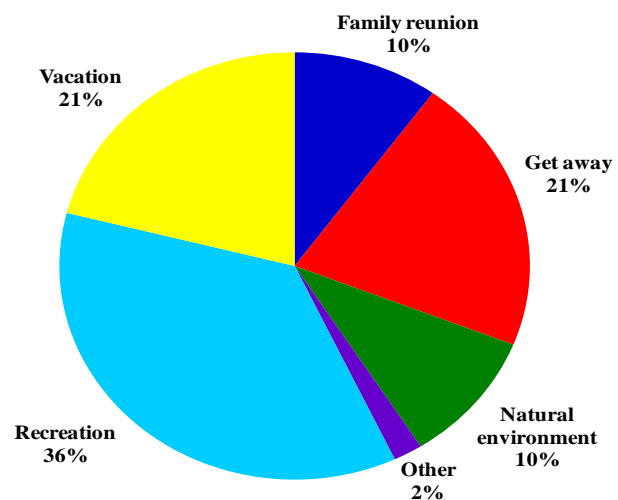
Purpose of Visit

In addition, concerning the purpose of their trip to an Oklahoma State Park, the top three purposes reported by respondents were recreation (36%), vacation (21%) and "get away" (21%) (Figure 1). Family reunions and enjoyment of the natural environment were the next in order, with 10% each. Other purposes mentioned with the lowest frequencies (2%), were attendance at a conference, celebration and road stops incorporated into longer travels.

Table 1. Visitors' profile

Visitor characteristics	%	Visit characteristics	%
<u>Gender (n=355)</u>		<u>Group size (Individuals)</u>	
Female	57.18	1	24.23
Male	42.82	2	21.97
<u>Age (Mean = 49.8; SD=11.75)</u>		3	15.77
18-24	1.13	4	21.41
25-34	10.42	5	8.73
35-44	22.25	>6	7.89
45-54	31.27	<u>Trips within the last 12 months to any state park</u>	
55-64	25.35	1	30.99
>65	9.58	2	29.30
<u>Education</u>		3	16.06
Some high school	0.85	4	10.99
High school graduate	9.30	5	7.61
Some college	23.38	>6	5.07
College graduate	38.31	<u>Length of stay (nights)</u>	
Postgraduate/Professional	28.17	1	11.55
<u>Household income</u>		2	50.70
Less than \$25,000	1.41	3	23.94
\$25,000-\$49,999	15.77	4	7.89
\$50,000-\$74,999	21.97	5	3.66
\$75,000-\$99,999	25.07	>6	0.85
\$100,000-\$149,999	23.10	<u>Prior Visit</u>	
>\$150,000	12.68	Repeat visitors	98.31
		First time	1.69
		<u>Expenditure per person</u>	
		Mean	178.1
		SD	154.4

Fig.1. The relative frequencies (%) of the purposes of visit



Interestingly, respondents were pleased to provide additional information regarding their preferred and most frequently visited Oklahoma State Parks, with Beavers Bend State Park and Lake Murray State Park being the top two mentioned, with a relative frequency of 40.90% and 18.8% respectively (Table 2). According to Caneday and Jordan (2003) these parks are close to the southern border of Oklahoma and attract many Texans for repeat visitation. In the same study, it has been found that approximately 75% of visitors to Oklahoma State Parks are repeat visitors making two or three trips annually to a preferred destination. Oklahoma State Parks' visitors have found their preferred parks, making those selections based upon facilities, services, activities and environmental features.

Table 2. The relative frequencies of the most visited Oklahoma State Parks

State Park	%
Beavers Bend State Park	40.90
Lake Murray State Park	18.18
Robbers Cave State Park	13.63
Red Rock Canyon State Park	4.54
Boiling Springs State Park	4.54
Greenleaf State Park	4.54
Fort Cobb State Park	4.54
Lake Eufala State Park	4.54
Keystone State Park	4.54

Furthermore, respondents mentioned their preferred recreational activities at Oklahoma State Parks (Table 3). Fishing (28.93%), hiking (20.75%), camping (17.61%), boating (10.70%), and walking/biking trails (5.70%) were listed as the top five recreational activities which are natural-resource based. The implications of these findings suggest the direct relationship between the purpose and characteristics of the visits and the revenue generated at Oklahoma State Parks from natural-resource based attractions. This finding also constitutes a clear message from the visitors to the local authorities about

their expectations; that facilities covering such needs and preferences of visitors should be developed and maintained in order to make the parks even more attractive. However, from a management perspective, the sustainable use of natural resources should also be of concern when planning for the development and promotion of recreational facilities at State Parks.

Table 3. The relative frequencies of visitor's most preferred recreational activities

Activities	%
Fishing	28.93
Hiking	20.75
Camping	17.61
Boating	10.70
Walking/Biking Trails	5.70
Golf	5.03
Swim	3.15
Wildlife	2.50
Photography	2.50
Bird watching	2.50
Riding Motorcycle	0.62

Correlation Analysis

Table 4 presents an interim correlation matrix among all the interval/ratio variables showing the degree of their interrelation. As shown in table 4, there exists a weak but significant negative correlation between expenditure and age ($r = -0.1345$), a weak to moderate positive correlation between income and education ($r = 0.2843$) and a weak positive correlation between group size and length of stay ($r = 0.1516$); all the other correlations were not found being statistically significant.

Table 4. Correlation matrix (on the raw data) among independent and dependent ratio variables

	Expenditure	Age	Income	Education	Visits	Group Size	Length of Stay
1. Expenditure	1						
2. Age	-0.1345*	1					
3. Income	0.0585	0.0760	1				
4. Education	-0.0435	0.0145	0.2843***	1			
5. Visits	-0.1038	-0.0667	-0.0182	0.0604	1		
6. Group Size	-0.0287	-0.0441	0.1492	-0.0493	-0.0749	1	
7. Length of Stay	-0.0162	0.1022	0.0751	-0.0300	0.0604	0.1516***	1

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$, two-tailed

Table 5. The Unstandardized regression coefficients (b) along with their standard errors (SE) and the Standardized Coefficients (Beta), for the predictors of Expenditure Patterns

Independent Variables	Model I			Model II			Model III		
	F(4, 350)=3.48***			F(8, 346) = 2.53*			F(9, 345)=2.36*		
	R ² =0.038; Adj. R ² =-.106			R ² =0.055; Adj. R ² =-0.033			R ² =-0.058; Adj R ² =-0.034		
	β	SE	Beta	β	SE	Beta	B	SE	Beta
Age	-.038*	0.02	-.135*	-.042**	0.02	-.146**	-.032*	0.016	-.112*
Income	.039***	0.01	.151***	.040**	0.01	.155**	.034*	0.014	.134*
Education	-0.025	0.02	-0.072	-0.025	0.02	-0.071	-0.018	0.019	-0.053
Gender ^a									
Female	0.023	0.04	0.034	0.017	0.04	0.025	0.023	0.036	0.034
Trips annually				-.010*	0.01	-.114*			
Group size				-0.006	0.01	-0.064			
Length of Stay				0.007	0.01	0.031			
Prior visit ^b									
Yes				-0.094	0.14	-0.036			
Purpose of visit ^c									
Recreation							-0.064	0.049	-0.091
Reunion							-0.072	0.068	-0.066
Get Away							-0.063	0.054	-0.078
Natural Environment							-.145*	0.07	-.128*
Other							-.258*	0.124	-.114*
Constant	^a 2.211***	0.11		^{ab} 2.354***	0.17		^{ac} 2.240***	0.107	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$, two-tailed

Regression Analysis

In order to investigate the influence of the independent variables on visitors' expenditure patterns, three multiple regression models were developed, with all the three of them showing statistical significance: Model I ($p < 0.001$), Model II ($p < 0.05$), and Model III ($p < 0.05$) (Table 5).

In Model I, the personal characteristics of visitors, based on demographic variables, were used as predictors. From these variables, age ($p < 0.05$) and annual household income ($p < 0.001$) were found to be significant predictors of the respondents' expenditure. Conversely, education and gender cannot be considered significant predictors of visitors' expenditure ($p = 0.184$ and $p = 0.525$, respectively). The unstandardized coefficient of the income variable indicated that expenditure patterns of the respondents were positively influenced by annual household income. This finding is consistent with the historical elastic relationship between income and expenditure (Goeldner & Ritchie, 2012). In contrast, the unstandardized coefficient of the age variable indicated a negative relationship with the expenditure of the respondents; hence, older visitors to the parks seemed to spend less money than younger ones. This could be explained by the lower levels of disposable income among retired respondents that account for nearly 10% of the visitors. Moreover, the expenditure of senior visitors may be reduced usually by about a 15% due to the discount offered to seniors at lodge rooms and cabins during some particular periods.

In Model II, along with the demographic characteristics, the visit characteristics were added as predictors of expenditure. It is evident that age ($p < 0.05$) and income ($p < 0.001$) remained important predictors of the expenditure of respondents. As indicated in Table 5, from the characteristics of the visit, only the number of trips to the parks over the last twelve months ($p < 0.05$) was found to be a significant predictor of expenditure when controlling

for the other variables expected to impact expenditure. However, the unstandardized coefficient of the number of trips variable indicated a negative relationship with the expenditure, an indicator that people who frequently visit the parks are not offered additional amenities or recreational facilities and activities that may increase their average expenditure per visit. As reported in Table 1, over 98% of the respondents are repeat visitors to the parks which is an indicator of high frequency of visitation, thus, authorities and park managers should aim to provide additional features in the parks to add to the value of visits, increase visitor's expenditure pattern and generate revenue to Oklahoma State Parks.

Model III is also an alternative modification of Model I in which the 'Purpose of visit' (dummy coded) was added in order to reveal whether or not some particular purposes have significant influence on the expenditure when controlling for the other variables expected to influence expenditure. From this Model, it is clear that age ($p < 0.05$) and income ($p < 0.001$) continued as significant predictors, but also the purpose of visit was found to have some significance in expenditure determination. Particularly, people that visit the parks to enjoy the natural environment ($p < 0.05$) or to participate in other events ($p < 0.05$) (i.e. conference, weddings or other celebration) spend less money in comparison to those visiting for vacation. However, as reported in Figure 1, concerning visitor's purpose for visiting Oklahoma State Parks, there is an indication of a preference for recreation (36%) or social motivation (family reunion 10%) as major factors for visits to parks. Tourism motives such as vacation and get-away, which may influence the spending of visitors, are lower in frequencies. In recent years, however, OTRD has been experimenting with new marketing strategies, such as Groupon packages, with the aim to increase levels of visitation and length of stay at Oklahoma State Parks lodges and cabins.

This study aimed to identify variables which can be used as predictors of visitors' expenditures at

state parks. In summary, from the personal demographic characteristics of visitors' explored in this study, findings indicated that age and income were significant predictors of visitors' spending. Further, the number of trips per year to state parks was also a predictor of visitors' expenditure. Finally, the purpose of visit was also found to be a significant determinant of visitors' expenditures at Oklahoma State Parks.

Limitations

This study was part of a research project conducted for Oklahoma State Parks and OTRD in which data were collected for agency needs. As a result, this research was of an applied nature. Thus the researchers acknowledge the limitations in the findings of this study. Among these limitations is the fact that the study did not identify the place of residence of visitors to Oklahoma State Parks. The distinction of visitors to recreation areas between local and nonlocal (tourists) with different spending patterns is important for market segmentation. As has been shown in other research, local visitors and tourists (defined as those living more than 50 miles away from the recreation site) have different socioeconomic characteristics, use patterns, levels of familiarity with the recreation area, and different responses to marketing and management efforts (White & Stynes, 2008, p.19). The identification of visitors' residence should be addressed in a future study to allow a better analysis of niche markets of recreation settings in order to plan for and evaluate marketing and management initiatives.

Another limitation is the fact that the findings of this study are based on the use of OLS (ordinary least square) regression analysis, although conducting multiple alternative statistical approaches may provide additional understanding of the determinants of tourism expenditures as reported in other studies (Kim, Prideaux & Chon, 2010).

The value of this research, however, lies in the inquiry regarding spending patterns of visitors at

Oklahoma State Parks within the context of a specific agency request. Clearly, the applied nature of most spending studies also contributes to the limited methodological and theoretical development in the field of parks and recreation (Stynes & White, 2006).

Conclusions and Implications

Oklahoma State Parks contribute to the local economies surrounding the various properties by attracting visitors to support tourism industries, to create jobs, to stimulate local business, and to generate tax revenues to support state and local government and the services they provide. The financial sources of park-generated revenues for Oklahoma State Parks are related to its well-developed infrastructure, including improved and primitive campsites, cabins, lodges, group facilities, restaurants, pools, and golf courses (Chien, et al, 2013). However, the vast majority of Oklahoma State Parks visitors are day visitors who use only a portion of these developed amenities and generate less revenue for the local park. Therefore, it is recommended that there should be an increase in the planning and marketing of special events programming and/or festivals to be held regularly at State Parks to attract visitors, locals and tourists, for lodging and increased occupancy rates throughout the year. This is particularly true for potentially increasing visitation during the shoulder seasons in the fall and spring.

The success of a tourist destination lies not only in the capacity to attract visitors to come, but to stay and to repeat visits to maximize individual spending. The right mix of business including suitable accommodations, restaurants, attractions, shops, the provision of unique recreational experiences and quality services will lead Oklahoma State Parks to the ultimate goal of getting tourists to visit, stay longer, spend money, and return on repeat visits (Briedenhann & Wickens, 2004; Wilson et al., 2001). As shown, overnight visits and lodging taxes

at Oklahoma State Parks can help to boost the community's level of economic return. For this purpose, it is recommended to conduct research on regular basis to evaluate the satisfaction of visitors about existing services and changing demands that may require adjustment in planning and development of facilities, amenities and recreation programming to cover the needs of the market.

The findings of this study are expected to assist decision makers in the planning and development of recreational activities, services, and additional amenities to be offered to visitors to increase their spending at state parks. The identification of age, household income, the number of trips per year, and the purpose of visit as significant predictors of visitors' expenditures at Oklahoma State Parks can help decision makers to understand the revenue and profit potential of different market segments. It has been suggested that segmentation of visitors based on visitors' expenditures could be more useful to the traditional segmentation of visitors according to the type of activities (Mok & Iverson, 2000).

Therefore, state parks managers can allocate resources and prioritize the development of infrastructure, facilities and services that serve different segments to increase and improve recreational choices that can be shared by Oklahoma residents and tourists alike. In addition, the implementation of a marketing strategy, promoting the unique features of the Oklahoma state park system, can help to build a branding image to attract potential market segments and bring tourism dollars to benefit the local communities. The measurement of the economic benefits along with related impacts of tourism can help tourism and recreation agencies in making efficient and effective marketing and development decisions (Frechtling, 2006). Therefore, the planning, development and promotion of recreational facilities and programs in state parks requires cooperation and collaboration of different agencies to ensure sustainable management of natural resource-based attractions.

Finally, parks and recreation agencies need to be aware of and proactive to the demographic changes in America with an ever increasing diverse population to being able to cater their needs and preferences for outdoor recreation. The demographic changes in society require park and recreation agencies to rethink to whom and how they offer their programs and facilities to increase revenue potential while meeting the needs of a diversity of visitors. In a future study, it would be helpful to know more about the potential impact of other demographic variables, e.g. race and ethnicity, in the spending of visitors at state parks in the multicultural society of the 21st century.

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References

- Anonymous. (2014). Almanac of Higher Education 2013. In *The Chronicle of Higher Education*. Retrieved March 12, 2014, from: <http://chronicle.com/section/Almanac-of-Higher-Education/723/>
- Brida, J. G., & Scuderi, R. (2013). Determinants of tourist expenditure: a review of microeconomic models. *Tourism Management Perspectives*, 6, 28-40.
- Briedenhann, J., & Wickens, E. (2004). Tourism routes as a tool for the economic development of rural areas-vibrant hope or impossible dream? *Journal of Tourism Management*, 25(1), 71-79.
- Burt, O. R., & Brewer, D. (1971). Estimation of net social benefits from outdoor recreation. *Econometrica: Journal of the*

- Econometric Society*, 813-827.
- Caneday, L. (2002). Oklahoma's Public Recreation Estate: Statewide Comprehensive Outdoor Recreation Plan. Oklahoma Tourism and Recreation Department. 2002.
- Caneday, L., & Jordan, D. (2003). *State Park Visitor Study*. Oklahoma State University and Oklahoma Tourism and Recreation Department.
- Chien, H., Caneday, L., Hung, L., Palacios, C., & Soltani, T. (2013). *Self-Sufficiency and Pricing Analysis for the Oklahoma State Park System*. Oklahoma Tourism and Recreation Department and Oklahoma State University.
- Dennis, S. (2001). *Natural resources and the informed citizen*. Champaign, IL: Sagamore.
- Frechtling, D. C. (2006). An assessment of visitor expenditure methods and models. *Journal of Travel Research*, 45(1), 26-35.
- Goeldner, C. R., & Ritchie, J. R. B. (2012). *Tourism: Principles, Practices, Philosophies*. John Wiley and Sons. 12th ed.
- Hughes, M., & Morrison-Saunders, A. (2003). Visitor attitudes toward a modified natural attraction. *Society and Natural Resources* 16, 191-203
- Hung, W. T., Shang, J. K., & Wang, F. C. (2012). Another look at the determinants of tourism expenditure. *Annals of Tourism Research*, 39(1), 495-498.
- Kelly, J. R. (1982). *Leisure*. Englewood Cliffs, NJ: Prentice-Hall.
- Kim, S. S., Prideaux, B., & Chon, K. (2010). A comparison of results of three statistical methods to understand the determinants of festival participants' expenditures. *International Journal of Hospitality Management*, 29 (2), 297-307.
- Mok, C., & Iverson, T. J. (2000). Expenditure-based segmentation: Taiwanese tourists to Guam. *Tourism management*, 21(3), 299-305.
- OTRD - Oklahoma Tourism & Recreation Department. (2014). Oklahoma State Parks. In *Travel OK*. Retrieved on March 13, 2014, from http://www.travelok.com/state_parks
- Roovers, P., Hermy, M., & Gulinck, H. (2002). Visitor profile, perceptions and expectations in forests from a gradient of increasing urbanization in central Belgium. *Landscape and Urban Planning* 59, 129-145
- Stynes, D. J., & White, E. M. (2006). Reflections on measuring recreation and travel spending. *Journal of Travel Research*, 45(1), 8-16.
- Togridou, A., Hovardas, T., & Pantis, J. D. (2006). Determinants of visitors' willingness to pay for the National Marine Park of Zakynthos, Greece. *Ecological Economics*, 60(1), 308-319.
- U.S. Bureau of Census. www.factfinder2.census.gov
- Weiskopf, D. (1982). *Recreation and Leisure: Improving the Quality of Life*. Boston: Allyn and Bacon
- White, E. M., & Stynes, D. J. (2008). National forest visitor spending averages and the influence of trip-type and recreation activity. *Journal of Forestry*, 116(1), 17-24.
- Wilson, S., Fesenmaier, D., Fesenmaier, J., & Van, J. C. (2001). Factors for success in rural tourism development. *Journal of Travel Research*, 40(2), 132-138